Pacific Gas and Electric Company®

Anne P. Conner
Remediation Project Manager
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RECEIVED

10:11 am, Oct 21, 2010

Alameda County
Environmental Health

September 27, 2010

Mr. Jerry Wickham
Alameda County Environmental Health Department
Division of Environmental Protection
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Subject: ***Soil Investigation Work Plan***

Dear Mr. Wickham

Please find enclosed the Soil Investigation Work Plan, dated September 16, 2010, for the Pacific Gas and Electric (PG&E) Oakland General Construction Yard at 4930 Coliseum Way, Oakland, California. This Work Plan was prepared by AMEC Geomatrix, Inc. on behalf of PG&E.

Please contact me at (925) 415-6381 if you have any questions about this Work Plan.

Sincerely,

Anne Conner

Anne Conner
Sr. Remediation Project Manager
Pacific Gas and Electric Company

Enclosure: Soil Investigation Work Plan

DECLARATION:

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached Soil Investigation Work Plan are true and correct to the best of my knowledge.

Anne Conner PG+E
Env Project Manager

Client's signature and Name
Company Name

September 16, 2010

Project 013045007E.00003

Ms. Anne Conner
Senior Remediation Environmental Project Manager
Pacific Gas and Electric Company
3401 Crow Canyon Road
San Ramon, California 94583

Subject: **Soil Investigation Work Plan**
Pacific Gas and Electric Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

Dear Ms. Conner:

AMEC Geomatrix, Inc. (AMEC) is pleased to present this Soil Investigation Work Plan (work plan) for the Pacific Gas and Electric Company (PG&E) Oakland Construction Yard site located at 4930 Coliseum Way in Oakland, California (the site, Figures 1 and 2). Lead is present in soil samples collected at the site as a result of sand blasting and removal of a former above ground low-pressure natural gas holder tank (former GHT; Figure 2). The former GHT was removed in May 1990 and the area delineated to contain lead in soil above 250 milligrams per kilogram (mg/kg) was covered with an asphalt cap in 1993.[1] This work plan presents the investigation rationale and proposed methods to further investigate the lateral and vertical extent of lead in shallow soil identified during investigations completed by Aqua Resources, Incorporated (ARI) and PG&E in 1990 through 1992.[2,3]

Specifically, this work plan includes a description of site background, results of previous sampling activities, and a recommended scope of work for additional investigation. Also included herein is a sampling and analysis plan, a quality assurance/quality control (QA/QC) plan, and a proposed schedule for implementation of the proposed sampling program. The data collected from this program is intended to supersede, as appropriate, data collected from the investigation performed nearly 2 decades ago.

BACKGROUND INFORMATION

This section provides a brief description of the site and setting; site lithology and hydrogeology; and investigation and remedial activities conducted at the site to date.

[1] PG&E, 1993, letter to Britt Johnson, Subject: **Completion** of Lead Contamination Cap for 4930 Coliseum Way, Oakland, California 94601, April 12.

[2] Aqua Resources, Inc., 1992, Preliminary Site Assessment and Work Plan for Additional Investigation, PG&E, ENCON-GAS Transmission and Distribution Construction Yard, Former GHT Area, 4930 Coliseum Way, Oakland, California, March 6.

[3] PG&E, 1992, letter to Britt Johnson, Subject: Summary of Extent Verification Samples and Submittal of Cap Construction Plan for 4930 Coliseum Way, Oakland, California 94601, September 28.

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SITE DESCRIPTION AND SETTING

The approximately 5-acre site is bounded by Coliseum Way to the south, 50th Avenue to the southeast, and industrial properties to the north (Figures 1 and 2). The surrounding area is composed primarily of commercial and light industrial businesses.

The site has been operated by PG&E as a natural gas distribution center and equipment storage facility from at least the late 1930s until 1990, when a former GHT was removed. Since 1990, the site has been used as an equipment and vehicle storage facility. Full-time PG&E personnel occupy a small office on site. The office facilities are connected to the municipal water supply.

SITE LITHOLOGY AND HYDROGEOLOGY

The site is located approximately $^1/_4$ mile east of the margin of San Leandro Bay, on a plain gently sloping toward San Francisco Bay. Based on lithologic logs developed by others from investigations at the site, the uppermost portion of the site subsurface is underlain by interbedded deposits of clays, sands, and gravels to approximately 19 feet below ground surface (bgs), the maximum depth drilled. Based on depth-to-groundwater measurements collected from monitoring wells during the most recent groundwater monitoring event, which took place in November 2009, groundwater depth ranged between approximately 3.0 and 5.9 feet bgs at the site. These depths to groundwater are consistent with previous depth to groundwater measurements, which have been documented between 3.5 and 8 feet bgs.[2]Groundwater level measurements collected during the November 2009 groundwater monitoring event also indicated groundwater flow direction was toward the south with a hydraulic gradient of approximately 0.043 foot per foot (ft/ft; at the northern corner of the property) and toward the southeast with a hydraulic gradient of approximately 0.009 ft/ft (in the central portion of the site).[4]

HISTORICAL DATA

ARI conducted investigations at the site for the purpose of delineating the lateral and vertical extent of lead in soil in 1990 and 1991[2]. ARI noted that 72 cubic yards of soil were excavated and stockpiled during the removal of the former GHT in 1990 and were sampled by ARI in 1991 for off site disposal; however, as stated in the ARI report, two excavated[5] areas of the site may have been backfilled with on-site material affected by lead.

PG&E conducted additional sampling and analysis for lead in 1992 (PG&E, 1992). Analytical results from these investigations are presented in Table 1; Figures 3 through 6 show lead in soil for different depth intervals relative to California Human Health Screening Levels (CHHSLs) for lead in soil for residential (80 mg/kg) and commercial/industrial (320 mg/kg) land use scenarios. These CHHSLs are used to evaluate whether lead in soil is laterally and vertically

[4] Geomatrix Consultants, Inc., 2008, Additional Investigation Report, PG&E General Construction Yard, 4930 Coliseum Way, Oakland, California, April.

[5] In addition to these 72 cubic yards, 2,000 cubic yards of soil containing petroleum hydrocarbons were excavated and off-hauled in November and December 1991. This soil was present in a former UST area, unrelated to the GHT.

delineated.The highest concentrations of lead in soil are detected in the surface samples collected from 0.0 to 0.5 feet bgs. At those locations where vertical sampling was conducted, lead concentrations in soil samples typically decrease with sample depth. The results relative to the depth intervals presented in the figures are presented below.

0.0- to 0.5-foot Depth Interval – More than 35 samples were collected and analyzed from the 0.0- to 0.5-foot depth interval (Figure 3). This sample set is larger than the sample set from other depth intervals. The lateral extent of lead in soil relative to its residential CHHSL is delineated to the west and south of the former GHT. Lead in soil at concentrations in excess of the residential CHHSL was detected in samples collected to the southwest, southeast, east, and north/northeast of the former GHT. Similarly, lead in soil was detected above the commercial/industrial CHHSL to the southeast, east, and north/northeast of the former GHT. Note that most of the soil samples collected within 15 feet of the former GHT were submitted for analysis as composite soil samples and do not have an analytical value associated with a discrete sample location. These composite samples; however, all exceed the residential and commercial/industrial CHHSLs by an order of magnitude or more.

1.0- to 2.5-foot Depth Interval – Eighteen soil samples were collected and analyzed from the 1.0- to 2.5-foot depth interval (Figure 4). The lateral extent of lead detected in soil samples relative to its residential and commercial CHHSLs is defined only to the north of the former GHT. There is not adequate coverage at this depth interval for defining the vertical extent at the locations where elevated concentrations of lead were detected in samples collected at the surface (0.0 to 0.5 feet bgs). At sampling locations A-2, A-3, A-4 and A-5, soil samples collected within the 1.0- to 2.5-foot interval had higher concentrations of lead (in excess of a residential and commercial/industrial CHHSLs) than the sample collected at these locations at the 0.0- to 0.5-foot interval. Because the presence of lead in soil is expected to be primarily the result of surface deposition (except as noted below), these results suggest possible cross contamination during sampling. Two locations, one near T-3-A (and likely SB-20) and one near T-8-A, are suspected to have been backfilled with soil from the ground surface near the former GHT (ARI, 1992). The backfilling was believed to have taken place during the removal of the former GHT and is suspected to extend to depths of 6.0 to 8.0 feet bgs. Soil samples analyzed from these areas have concentrations of lead exceeding residential and/or commercial/industrial CHHSLs within the 1.0 to 2.5 foot interval.

3.0- to 5.0-foot Depth Interval – Ten soil samples were collected and analyzed from the 3.0- to 5.0-foot depth interval (Figure 5). Samples were obtained from locations to the north, east, and west of the former GHT; and two soil samples were collected to the south. To the north, lead is not detected above residential CHHSLs in the soil samples collected in soil 3.0 to 5.0 feet bgs and in soil samples collected at depths greater than 5.0 feet bgs. In the few sample locations to the west, east, and south, soil samples did exceed commercial/industrial CHHSLs. Of significance, the soil sample collected at location SB-20 (west) exceeded the commercial/industrial CHHSL. This soil sample was collected from an area that is suspected to have been backfilled with soil from the ground surface near the former GHT.

Depth Interval Greater than 5.0 Feet – Eight soil samples were collected and analyzed from depths greater than 5.0 feet bgs (Figure 6). Soil samples were obtained only to the north and

northwest of the former GHT. With exception to sample location SB-20, all lead concentrations in soil samples at this depth was below the residential CHHSL.

DATA GAPS

Based on the historical data provided for the site, the following data gaps have been identified:

- Soil samples have not been collected from beneath the former GHT footprint.
- Concentrations of lead in soil are not available for discrete locations along the perimeter within 15 to 30 feet of the former GHT for the near surface (0.0 to 0.5 feet bgs) samples because these samples were analyzed as composites of two locations.
- The lateral extent of lead in soil in the near surface (0.0 to 0.5 feet bgs) is not defined laterally to the southwest, southeast, east, and north/northeast of the former GHT.
- The vertical extent of lead in soil is not defined within the depth interval of 1 to 5 feet bgs in areas west, south, and east of the former GHT.
- The vertical and lateral extent of the potential backfilled excavation areas identified by ARI near T-3-A, SB-20, and T-8-A are undefined and may contain elevated concentrations of lead in soil at depths of 6 to 8 feet bgs, according to ARI.[2]
- Soil samples collected south of the former GHT, particularly A-2 through A-5, have higher concentrations of lead at depth than at the surface and may not be reliable data points because the lead source is at the surface.

PROPOSED INVESTIGATION

Based on the data gaps bulleted in the previous section, additional soil sampling is proposed. This sampling will be conducted using direct push to better define both the lateral and vertical extent of lead in soil. The suggested sampling approach is:

- Collect a minimum of 25 samples from five locations beneath the former GHT footprint at depths of 0.5 foot, 2 feet, 5 feet, 6 feet, and 8 feet. The 0.5 and 2 feet samples will be analyzed for lead and the 5, 6, and 8 foot samples will be placed on hold pending results of the samples collected at the shallower depths. If a concrete foundation is present beneath the former GHT, sample collection will not be conducted as a concrete foundation would prevent transport of sand-blasted lead paint to the subsurface.
- Grid the area of the asphalt cap and areas outside the asphalt cap to the southwest, southeast, east, and north/northeast of the former GHT. The grid will include a 300-foot by 300-foot area and samples will be collected in 30-foot by 30-foot nodes, or approximately 86 sample locations outside the former GHT footprint (Figure 7). Soil samples within the grid will be collected from depths of 0.5, 2, 5, 6, and 8 feet, except as noted below. The samples collected from the first three depths will be analyzed for lead. The samples collected at 6 and 8 feet will be put on hold pending the results from the shallower depths, except near former sampling locations T-8, T-3, and SB-20, where it is suspected that fill may have been placed to a depth of up

to 8 feet bgs. In these areas, an additional sample will be collected at a depth of 10 feet. Soil samples collected up to and including 8 feet will be analyzed, and the 10-foot sample will be placed on hold pending results for the shallower samples.

No sampling is proposed off site, specifically at the property to the northeast of the site. It is our understanding that soil remediation has occurred at the adjacent property (Former AAA property, currently owned by Westside Building Materials Corporation), due to operation-specific impacts and it has been regraded and capped.[6.]

SCOPE OF WORK

This section presents specific tasks to complete the proposed investigation.

Health and Safety Plan

AMEC will update the site-specific health and safety plan (HSP) to address health and safety precautions for known and potential physical and chemical hazards anticipated for the field effort. A map of the route to the nearest hospital and material safety data sheets, or equivalent chemical data information, for chemicals of concern will also be included in the HSP. Prior to initiating field work, an on-site tailgate meeting will be conducted and field personnel will be required to acknowledge, in writing, that they understand the potential physical and chemical hazards that could be encountered during implementation of the sampling effort.

Permitting and Access

Prior to initiating field activities, AMEC will procure a drilling permit from Alameda County Environmental Health Department (ACEHD). As part of the pre-field effort, AMEC will coordinate work with local PG&E personnel and subcontractors.

Utility Location and Borehole Clearance

Prior to conducting field activities, AMEC will mark the proposed drilling locations and contact Underground Service Alert (USA), a private utility locator, and PG&E to identify whether subsurface utilities exist in the vicinity of the planned boring locations. AMEC will also refer to the surveyed utilities map of the site that shows utilities identified by a private utility locator in the first quarter 2010.

Drilling Methods

Soil borings will be advanced to a depth of 8 to 10 feet bgs using direct push technology at the locations shown on Figure 7, and as described in the proposed investigation section.
A subcontractor will be retained to core through the asphalt at most planned boring locations after utility clearance, as most of the site is covered in asphalt. At locations near (within 5 feet) known underground utilities, borings will be completed by hand auger from the surface to 5 feet

[6] LFR, Inc., 2008, Summary Report of Assessment of Dichlorobenzene in Soil and Groundwater, Former AAA Equipment Company Property 745 50th Street, Oakland, California (SLIC Case No. RO0002746; Geotracker Global ID SL0600186350) and Learner Investment Company Property 768 46th Avenue, Oakland, California (SLIC Case No. RO0002478; Geotracker Global ID SLT20150156), June 6.

bgs. The asphalt will be patched with concrete at the conclusion of the soil boring and sampling activities.

Soil will be continuously sampled or cored for lithologic logging; a boring log will be prepared by the field geologist for each soil boring. All fieldwork will be conducted by a trained field geologist working under the supervision of a registered California Professional Geologist or Engineer. At lithologic changes, the field geologist will record the lithologic description on a boring log using the Unified Soil Classification System as described in the American Society of Testing and Materials Standard D 2488-90. The geologist also will record field measurements of volatile organic compounds, sample and core intervals, and soil recovery.

Soil samples will be collected by dual tube direct push sampling tool or by use of an equivalent sampling tool. Each brass tube will be sealed with Teflon™ tape, capped, and stored on ice prior to on-site analysis or shipment to a California-certified laboratory.

Quality Assurance and Quality Control Plan

The validity of the data will be measured in terms of precision, accuracy, and completeness. The ways in which these three parameters will be evaluated for project data are described below.

Precision

For data generated by the laboratory, data precision will be estimated by comparing analytical results from matrix spikes and matrix spike duplicates. The comparison will be made by calculating the relative percentage difference (RPD) as follows:

$$RPD = \frac{2(S_1 - S_2)}{S_1 + S_2} x100\, percent$$

where S_1 is the sample and S_2 is the duplicate. The RPD goals are not applicable when the sample results are less than five times the reporting limit. In those cases, duplicate results are acceptable when the absolute difference between the results is less than the reporting limit. When a compound detected in one duplicate sample is not detected at or above the laboratory reporting limit in the other sample, the results are acceptable when the absolute difference between the detected result and the reporting limit is less than the reporting limit.

Accuracy

Data accuracy will be assessed for laboratory data only and is based on recoveries (R), expressed as the percentage of the true (known) concentration, from laboratory-spiked samples and QA/QC samples generated by the analytical laboratory.

The equation for calculating recoveries is:

$$R = \frac{(A - B)}{T} x100\, percent$$

where A = the measured concentration after spiking;

B = the background concentration; and

T = the known true value of spike.

Completeness

Data generated during the soil sampling program will be evaluated for completeness, i.e., the amount of data that meets project QA/QC goals. If data generated during field operations or via analytical procedures appear to deviate significantly from observed trends, the Project Manager will review field or laboratory procedures with the appropriate personnel to evaluate the cause of such deviations. Where data anomalies cannot be explained, re-sampling may be necessary.

Sample Control

Samples will be collected in the field for analysis by a California ELAP-certified analytical laboratory. As samples are collected in the field, they will be assigned a unique identification with labels showing project number, sample location, and depth interval. Samples will be sent to the laboratory under chain-of-custody (COC) control for lead analysis. The COC will include the sample identification, location, date and time of sampling, number and type of containers, and the analysis to be performed. Samples will be packed in ice chests containing sealed blue ice or wet ice contained in double-bagged sealable plastic bags. Ice chests will be shipped using an overnight service to the analytical laboratory.

Laboratory Analyses

Soil samples will be analyzed by TestAmerica of Pleasanton, California, a California ELAP-certified laboratory, for lead using U.S. Environmental Protection Agency Method 7420.

INVESTIGATION WASTE MANAGEMENT

Soil and water generated during drilling will be temporarily stored on site pending profiling, transportation, and off-site disposal or recycling at an appropriate facility. These wastes may include soil cuttings and equipment decontamination rinseate and will be stored in Department of Transportation-approved 55-gallon drums. All waste containers will be clearly labeled with generator contact and phone number, drilling location(s), and date of generation and will be placed in the PG&E dedicated hazardous waste storage area pending disposal.

REPORTING AND DATA EVALUATION

Data evaluation will be completed following the receipt and validation of the analytical laboratory results. Lead in soil will be compared to CHHSLs for lead in soil for residential (80 mg/kg) and commercial/industrial (320 mg/kg) land use scenarios.

Following data evaluation, AMEC will prepare an investigation report and will provide it to ACEHD.

At a minimum, the report will contain:

- A summary of the site background information;

- Descriptions of field methods and observations;
- A scaled site map depicting sampling locations;
- Tabulated analytical laboratory data;
- Analytical laboratory reports and COC forms;
- Lithologic logs;
- Documentation of investigation waste disposal or recycling; and
- Conclusions and recommendations.

As previously noted, it is intended that data collected from this proposed investigation will supersede, as appropriate, data generated from investigations conducted nearly two decades ago.

SCHEDULE

It is our understanding that PG&E will submit this work plan to ACEHD. Following approval of the work plan by ACEHD, we will initiate the work described above. We anticipate that the field activities will require five days to complete, and that field work will be completed within eight weeks of ACEHD approval. AMEC plans to submit the report of this proposed second phase shallow soil investigation to the ACEHD within eight weeks of completing the field work.

Please do not hesitate to contact either of the undersigned at (510) 663-4100 should you have any questions.

Sincerely,
AMEC Geomatrix, Inc.

Yemia Hashimoto, CHG #782
Senior Hydrogeologist

Susan Gallardo, PE #C38154
Principal Engineer

yh/smg/jh/kwg/bfw/jh/bfw
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Attachments:
Table 1 Lead Soil Sample Results – Former Gas Holder Tank Area
Figure 1 Site Location Map
Figure 2 Site Map
Figure 3 Lead in Soil, 0.0 to 0.5 Feet bgs
Figure 4 Lead in Soil, 1.0 to 2.5 Feet bgs
Figure 5 Lead in Soil, 3.0 to 5.0 Feet bgs
Figure 6 Lead in Soil, >5.0 Feet bgs
Figure 7 Proposed Sampling Locations

TABLE

TABLE 1

LEAD SOIL SAMPLE RESULTS – FORMER GAS HOLDER TANK AREA [1]

Pacific Gas and Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

Sample ID	Sample Date	Sample Depth (bgs)	Total Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
A-1	11/20/1990	0.0	**2300** [2]	--	--
A-1	11/20/1990	1.5	**1400**	--	--
A-2	11/20/1990	0.0	**160**	--	--
A-2	11/20/1990	1.5	**930**	--	--
A-3	11/20/1990	0.0	34	--	--
A-3	11/20/1990	1.5	**330**	--	--
A-4	11/20/1990	0.0	**89**	0.48	--
A-5	11/20/1990	0.0	57	--	--
A-5	11/20/1990	1.0	**380**	--	--
A-6	11/21/1990	0.0	**1800**	--	--
A-7	11/21/1990	0.0	**2200**	--	--
A-8	4/30/1990	0.0	**580**	--	--
A-9	4/30/1990	0.0	7.9	--	--
A-10	4/30/1990	0.0	13	--	--
A-11	4/30/1990	0.0	53	--	--
A-12	4/30/1990	0.0	**10000**	--	--
A-13	4/30/1990	0.0	**8300**	--	--
A-14	4/30/1990	0.0	**150**	--	--
A-15	4/30/1990	0.0	**1200**	--	--
H-1	11/20/1990	0.0	29	--	--
OW-5-1	4/16/1991	0.5	**310**	**7.9**	--
OW-5-2	4/16/1991	1.0	33	0.6	--
OW-5-3	4/16/1991	1.5	6.2	--	--
OW-5-4	4/16/1991	2.0	9.9	--	--
OW-5-5	4/16/1991	2.5	9.1	--	--
OW-5-6	4/16/1991	3.0	9.5	--	--
OW-5-7	4/16/1991	3.5	7.4	--	--
OW-5-8	4/16/1991	4.0	8.4	--	--
OW-5-9	4/16/1991	4.5	8.6	--	--
OW-5-10	4/16/1991	5.0	8.5	--	--
OW-5-11	4/16/1991	5.5	10	--	--
OW-5-12	4/16/1991	6.0	9.2	--	--
OW-5-13	4/16/1991	6.5	9.3	--	--
OW-5-14	4/16/1991	7.0	8.6	--	--
OW-5-15	4/16/1991	7.5	5.9	--	--
OW-5-16	4/16/1991	8.0	6.1	--	--

TABLE 1

LEAD SOIL SAMPLE RESULTS – FORMER GAS HOLDER TANK AREA [1]

Pacific Gas and Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

Sample ID	Sample Date	Sample Depth (bgs)	Total Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
OW-5-17	4/16/1991	8.5	6.4	--	--
OW-5-18	4/16/1991	9.0	6.1	--	--
OW-5-20	4/16/1991	13.0	8	--	--
OW-5-23	4/16/1991	16.0	6.3	--	--
SB-13-1	5/20/1991	2.0	6.9	--	--
SB-13-2	5/20/1991	5.0	12.2	--	--
SB-13-3	5/20/1991	7.0	18.8	--	--
SB-15-1	5/20/1991	2.0	**3241**	--	--
SB-15-2	5/20/1991	4.0	15.6	--	--
SB-15-3	5/20/1991	7.0	13.2	--	--
SB-16-1	5/20/1991	2.0	2.8	--	--
SB-16-2	5/20/1991	4.0	5.4	--	--
SB-16-3	5/20/1991	7.0	5.4	--	--
SB-19-1	5/20/1991	2.0	**608**	--	--
SB-19-2	5/20/1991	5.0	8.5	--	--
SB-19-3	5/20/1991	7.0	5.5	--	--
SB-20-1	5/20/1991	2.5	**123**	--	--
SB-20-2	5/20/1991	4.0	**932**	--	--
SB-20-3	5/20/1991	7.0	**143**	--	--
SB-21-1	5/20/1991	2.0	3	--	--
SB-21-2	5/20/1991	5.0	7.3	--	--
SB-21-3	5/20/1991	7.0	7.7	--	--
SB-22-1	5/20/1991	3.75	**199**	--	--
SB-22-2	5/20/1991	5.0	7	--	--
SB-22-3	5/20/1991	7.0	7.8	--	--
T-1,2-A,B	11/19/1990	1.0	**4100**	--	--
T-1-A,B	11/19/1990	0.0	**11000**	**550**	--
T-1-A,B	11/19/1990	2.0	**1100**	--	--
T-2,3-A,B	11/19/1990	2.0	**3100**	--	--
T-2-A,B	11/19/1990	0.0	**8600**	**400**	--
T-3,4-A,B	11/19/1990	0.5	**9600**	**690**	--
T-3-A2,B2	1/3/1992	0.0	**4900**	**410**	**32**
T-3-A,B	11/19/1990	0.0	**19000**	**1400**	--
T-4-A	11/19/1990	0.3	**16000**	--	--
T-4-A,B	11/19/1990	0.0	**19000**	--	--
T-5-A	11/20/1990	3.0	<2.5	--	--
T-5-A,B	11/20/1990	0.0	**11000**	--	--

TABLE 1

LEAD SOIL SAMPLE RESULTS – FORMER GAS HOLDER TANK AREA [1]

Pacific Gas and Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

Sample ID	Sample Date	Sample Depth (bgs)	Total Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
T-5-B	11/20/1990	2.0	**3100**	--	--
T-6-A	11/20/1990	2.0	4	--	--
T-6-A,B	11/20/1990	0.0	**5900**	--	--
T-6-B	11/20/1990	2.5	**80**	--	--
T-7-A	11/20/1990	2.0	<2.5	**1100**	--
T-7-A,B	11/20/1990	0.0	**31000**	--	--
T-7-B	11/20/1990	3.0	**500**	0.48	--
T-8-A	11/20/1990	2.5	**4600**	**180**	--
T-8-A,B	11/20/1990	0.0	**11000**	--	--
T-8-B	11/20/1990	3.0	**770**	**89**	--
T-9	11/21/1990	0.0	**6100**	--	--
T-10	11/21/1990	0.0	**410**	--	--
T-11	11/21/1990	0.0	94	--	--
B-1	9/2/1992	0.5	**360**	--	--
B-2	9/2/1992	0.5	10	--	--
B-3	9/2/1992	0.5	20	--	--
B-4	9/2/1992	0.5	8.1	--	--
B-5	9/2/1992	0.5	**100**	--	--
B-6	9/2/1992	0.5	20	--	--
B-7	9/2/1992	0.5	30	--	--
B-8	9/2/1992	0.5	50	--	--
B-9	9/2/1992	0.5	**150**	--	--
B-10	9/2/1992	0.5	**110**	--	--
B-11	9/2/1992	0.5	70	--	--
B-12	9/2/1992	0.5	**280**	--	--
B-13	9/2/1992	0.5	**200**	--	--
B-14	9/2/1992	0.5	**870**	--	--
CHHSL,[3] Residential			80		
CHHSL, Commercial/Residential			320		
RCRA Waste Characterization Criteria					5

TABLE 1

LEAD SOIL SAMPLE RESULTS – FORMER GAS HOLDER TANK AREA[1]

Pacific Gas and Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

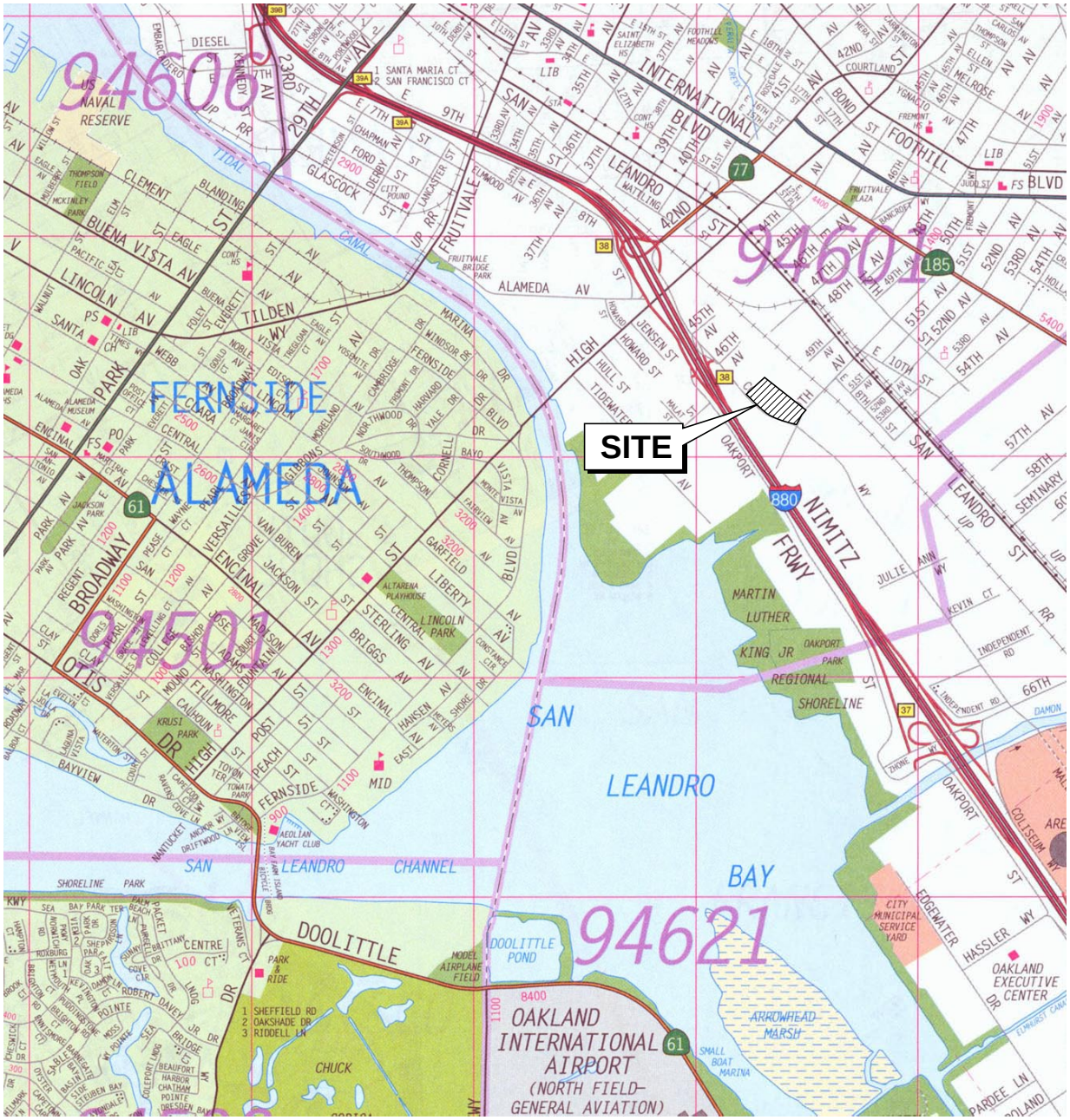
Notes

1. Curtis & Tompkins analyzed samples collected in 1990 using U.S. Environmental Protection Agency (U.S. EPA) Method 6020 and those collected in 1991 using EPA Method 3050 (Aqua Resources, Inc., 1992, Preliminary Site Assessment and Workplan for Additional Investigation, PG&E, ENCON-GAS Transmission and Distribution Construction Yard, Former Gas Holder Tank Area, 4930 Coliseum Way, Oakland, California, March 6). Samples collected in 1992 are provided in PG&E's September 28, 1992 letter to Britt Johnson, Subject: Summary of Extent Verification Samples and Submittal of Cap Construction Plan for 4930 Coliseum Way, Oakland, California 94601.
2. Concentrations at or above screening criteria are bold.
3. California Environmental Protection Agency, 2005, Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January.

Abbreviations

"<" indicates analyte not detected at or above laboratory reporting limit shown
bgs = below ground surface
mg/kg = milligram per kilogram
mg/L = milligram per liter
RCRA = Resource Conservation and Recovery Act
STLP = Soluble Threshold Limit Concentration
TCLP = Toxicity Characteristic Leaching Procedure

FIGURES



0 2000 feet

SITE LOCATION MAP
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

By: KLU	Date: 04/27/10	Project No. 13045.007 E
AMEC Geomatrix		Figure 1

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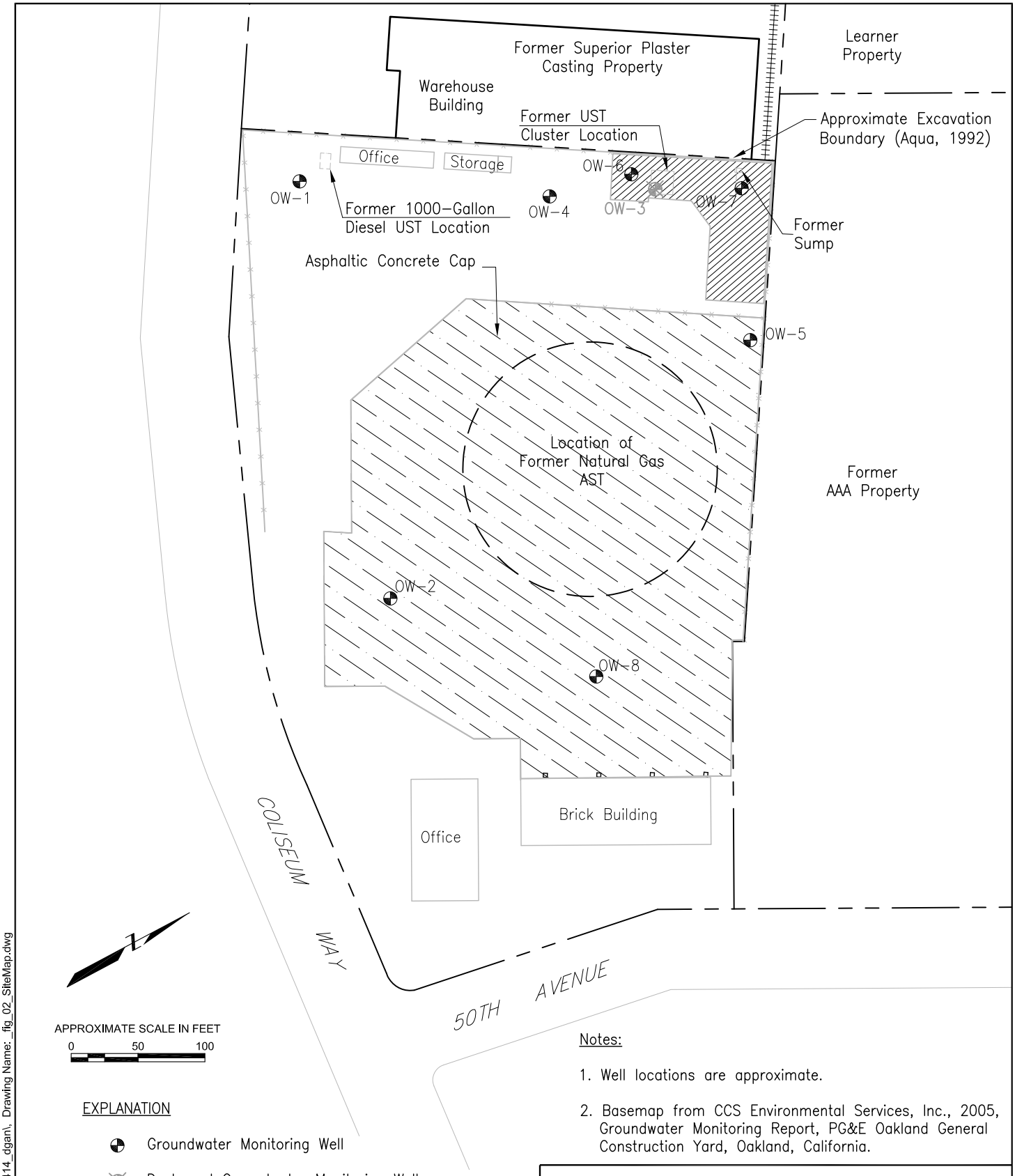

Notes:

1. Well locations are approximate.
2. Basemap from CCS Environmental Services, Inc., 2005, Groundwater Monitoring Report, PG&E Oakland General Construction Yard, Oakland, California.

EXPLANATION

- Groundwater Monitoring Well
- Destoryed Groundwater Monitoring Well
- Approximate Property Boundary
- Railroad Spur

ABBREVIATIONS

AST Aboveground Storage Tank
UST Underground Storage Tank

SITE MAP
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

By: KLU	Date: 04/27/10	Project No. 13045.007.E
AMEC Geomatrix		Figure 2

Plot Date: 04/27/10 - 10:32am, Plotted by: kristin.uber
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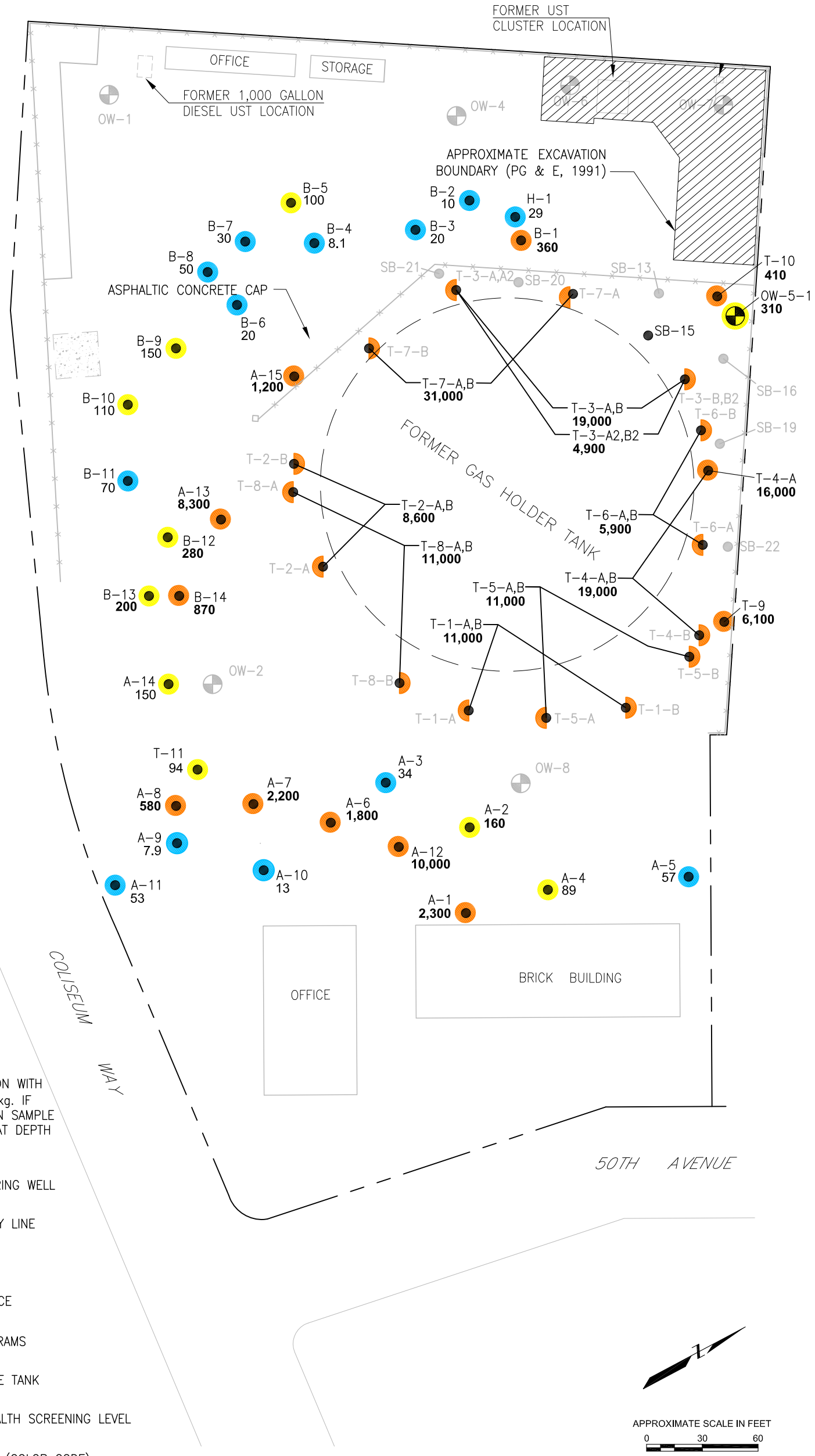


EXPLANATION

- SOIL SAMPLING LOCATION WITH LEAD RESULTS IN mg/kg. IF NO VALUE LISTED, THEN SAMPLE NOT COLLECTED AT THAT DEPTH INTERVAL. SEE NOTE 1.
- GROUNDWATER MONITORING WELL
- APPROXIMATE PROPERTY LINE

ABBREVIATIONS

bgs	BELOW GROUND SURFACE
mg/kg	MILLIGRAMS PER KILOGRAMS
UST	UNDERGROUND STORAGE TANK
CHHSL	CALIFORNIA HUMAN HEALTH SCREENING LEVEL

CONCENTRATION OF LEAD IN SOIL (COLOR CODE)

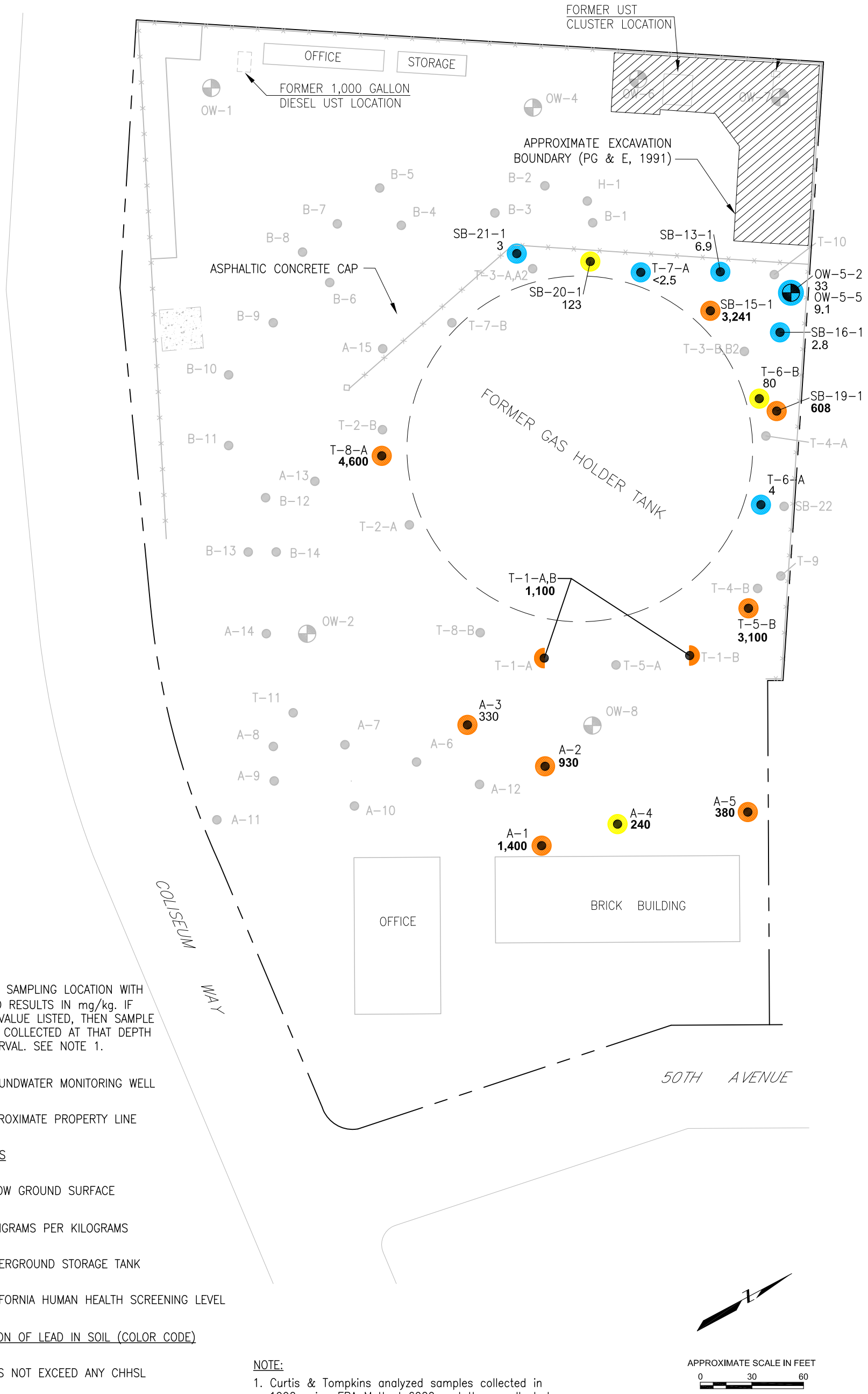
- DOES NOT EXCEED ANY CHHSL
- EXCEEDS CHHSL FOR RESIDENTIAL LAND USE (80 mg/kg)
- EXCEEDS CHHSL FOR COMMERCIAL/INDUSTRIAL LAND USE (320 mg/kg)
- COMPOSITE SAMPLE THAT EXCEEDS CHHSL FOR COMMERCIAL/INDUSTRIAL LAND USE (320 mg/kg)

NOTE:

1. Curtis & Tompkins analyzed samples collected in 1990 using EPA Method 6020 and those collected in 1991 using EPA Method 3050 (Aqua Resources, Inc., 1992, Preliminary Site Assessment and Workplan for Additional Investigation, PG&E, ENCON-GAS Transmission and Distribution Construction Yard, Former Gas Holder Tank Area, 4930 Coliseum Way, Oakland, CA, March 6). Samples collected in 1992 are provided in PG&E's September 28, 1992 letter to Britt Johnson, Subject: Summary of Extent Verification Samples and Submittal of Cap Construction Plan for 4930 Coliseum Way, Oakland, CA 94601.

LEAD IN SOIL, 0 TO 0.5 FEET BGS
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

By: KLU	Date: 05/21/10	Project No. 13045.007.E
AMEC Geomatrix		Figure 3



EXPLANATION

- SOIL SAMPLING LOCATION WITH LEAD RESULTS IN mg/kg. IF NO VALUE LISTED, THEN SAMPLE NOT COLLECTED AT THAT DEPTH INTERVAL. SEE NOTE 1.
- GROUNDWATER MONITORING WELL
- APPROXIMATE PROPERTY LINE

ABBREVIATIONS

bgs	BELOW GROUND SURFACE
mg/kg	MILLIGRAMS PER KILOGRAMS
UST	UNDERGROUND STORAGE TANK
CHHSL	CALIFORNIA HUMAN HEALTH SCREENING LEVEL

CONCENTRATION OF LEAD IN SOIL (COLOR CODE)

- DOES NOT EXCEED ANY CHHSL
- EXCEEDS CHHSL FOR RESIDENTIAL LAND USE (80 mg/kg)
- EXCEEDS CHHSL FOR COMMERCIAL/ INDUSTRIAL LAND USE (320 mg/kg)
- COMPOSITE SAMPLE THAT EXCEEDS CHHSL FOR COMMERCIAL/INDUSTRIAL LAND USE (320 mg/kg)

NOTE:

1. Curtis & Tompkins analyzed samples collected in 1990 using EPA Method 6020 and those collected in 1991 using EPA Method 3050 (Aqua Resources, Inc., 1992, Preliminary Site Assessment and Workplan for Additional Investigation, PG&E, ENCON–GAS Transmission and Distribution Construction Yard, Former Gas Holder Tank Area, 4930 Coliseum Way, Oakland, CA, March 6). Samples collected in 1992 are provided in PG&E's September 28, 1992 letter to Britt Johnson, Subject: Summary of Extent Verification Samples and Submittal of Cap Construction Plan for 4930 Coliseum Way, Oakland, CA 94601.

N

APPROXIMATE SCALE IN FEET
0 30 60

LEAD IN SOIL, 1.0 TO 2.5 FEET BGS
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

By: KLU	Date: 05/21/10	Project No. 13045.007.E
AMEC Geomatrix		Figure 4

EXPLANATION

- SOIL SAMPLING LOCATION WITH LEAD RESULTS IN mg/kg. IF NO VALUE LISTED, THEN SAMPLE NOT COLLECTED AT THAT DEPTH INTERVAL. SEE NOTE 1.
- GROUNDWATER MONITORING WELL
- APPROXIMATE PROPERTY LINE

ABBREVIATIONS

bgs	BELOW GROUND SURFACE
mg/kg	MILLIGRAMS PER KILOGRAMS
UST	UNDERGROUND STORAGE TANK
CHHSL	CALIFORNIA HUMAN HEALTH SCREENING LEVEL

CONCENTRATION OF LEAD IN SOIL (COLOR CODE)

- DOES NOT EXCEED ANY CHHSL
- EXCEEDS CHHSL FOR COMMERCIAL/ INDUSTRIAL LAND USE (320 mg/kg)

NOTE:

1. Curtis & Tompkins analyzed samples collected in 1990 using EPA Method 6020 and those collected in 1991 using EPA Method 3050 (Aqua Resources, Inc., 1992, Preliminary Site Assessment and Workplan for Additional Investigation, PG&E, ENCON-GAS Transmission and Distribution Construction Yard, Former Gas Holder Tank Area, 4930 Coliseum Way, Oakland, CA, March 6). Samples collected in 1992 are provided in PG&E's September 28, 1992 letter to Britt Johnson, Subject: Summary of Extent Verification Samples and Submittal of Cap Construction Plan for 4930 Coliseum Way, Oakland, CA 94601.

LEAD IN SOIL, 3.0 TO 5.0 FEET BGS
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

By: KLU	Date: 05/21/10	Project No. 13045.007.E
AMEC Geomatrix		Figure 5

OW-5

Depth (ft bgs)	Lead (mg/kg)
5.5	10
6.0	9.2
6.5	9.3
7.0	8.6
7.5	5.9
8.0	6.1
8.5	6.4
9.0	6.1
13.0	8
16.0	6.3

EXPLANATION

- SOIL SAMPLING LOCATION WITH LEAD RESULTS IN mg/kg. IF NO VALUE LISTED, THEN SAMPLE NOT COLLECTED AT THAT DEPTH INTERVAL. SEE NOTE 1.
- GROUNDWATER MONITORING WELL
- APPROXIMATE PROPERTY LINE

ABBREVIATIONS

bgs	BELOW GROUND SURFACE
mg/kg	MILLIGRAMS PER KILOGRAMS
UST	UNDERGROUND STORAGE TANK
CHHSL	CALIFORNIA HUMAN HEALTH SCREENING LEVEL

CONCENTRATION OF LEAD IN SOIL (COLOR CODE)

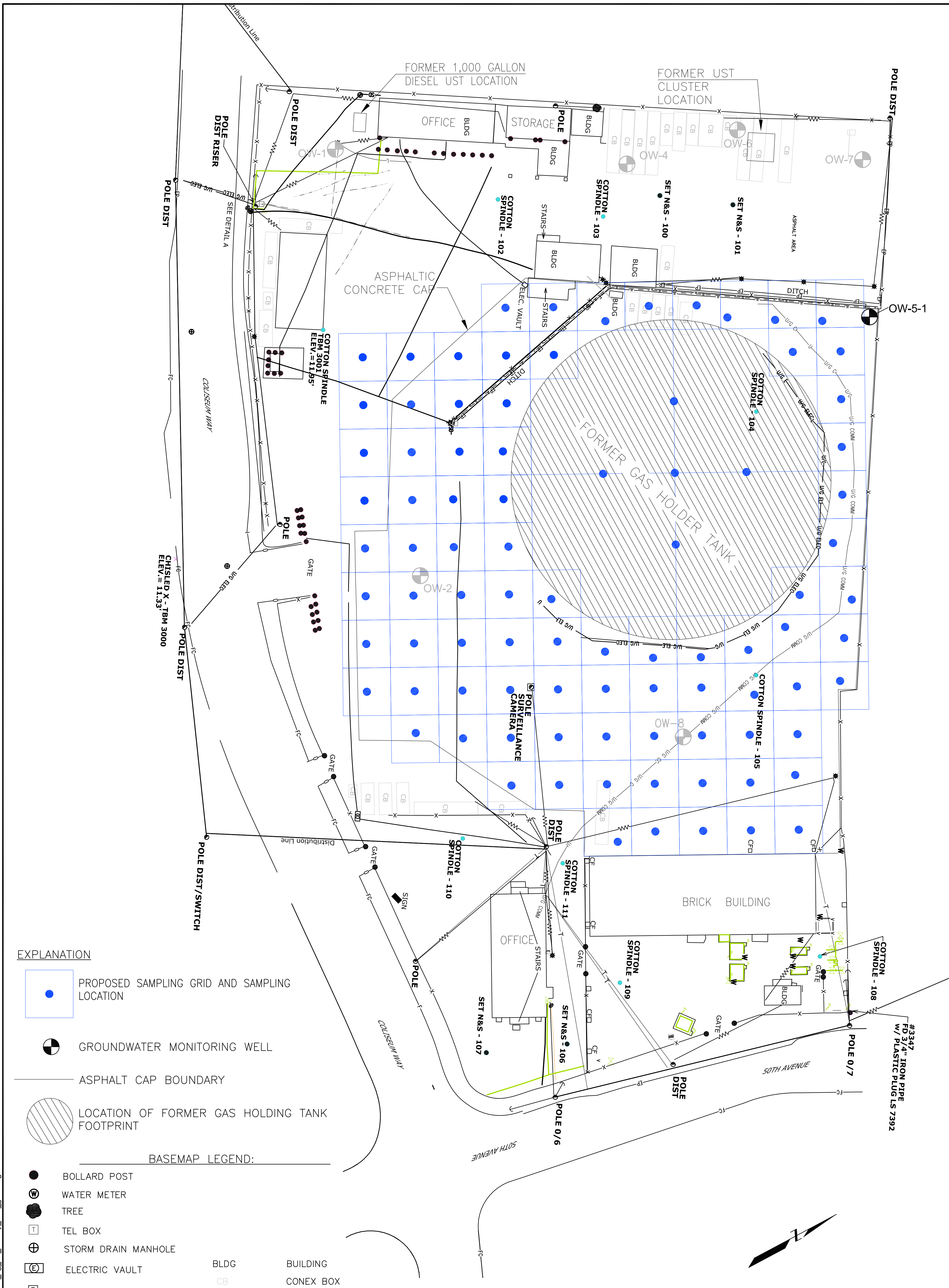
- DOES NOT EXCEED ANY CHHSL
- EXCEEDS CHHSL FOR RESIDENTIAL LAND USE (80 mg/kg)

NOTE:

1. Curtis & Tompkins analyzed samples collected in 1990 using EPA Method 6020 and those collected in 1991 using EPA Method 3050 (Aqua Resources, Inc., 1992, Preliminary Site Assessment and Workplan for Additional Investigation, PG&E, ENCON-GAS Transmission and Distribution Construction Yard, Former Gas Holder Tank Area, 4930 Coliseum Way, Oakland, CA, March 6). Samples collected in 1992 are provided in PG&E's September 28, 1992 letter to Britt Johnson, Subject: Summary of Extent Verification Samples and Submittal of Cap Construction Plan for 4930 Coliseum Way, Oakland, CA 94601.

LEAD IN SOIL, >5.0 FEET BGS
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

By: KLU	Date: 05/21/10	Project No. 13045.007.E
AMEC Geomatrix		Figure 6



EXPLANATION

- PROPOSED SAMPLING GRID AND SAMPLING LOCATION
- GROUNDWATER MONITORING WELL
- ASPHALT CAP BOUNDARY
- LOCATION OF FORMER GAS HOLDING TANK FOOTPRINT

BASEMAP LEGEND:

●	BOLLARD POST	BLDG	BUILDING	— —II— —	DITCH CENTERLINE
Ⓦ	WATER METER	CB	CONEX BOX		CONEX BOX
	TREE	CF	CONCRETE FOOTING	—SS—	SEWER LINE
T	TEL BOX		CONCRETE PAD		DRIVEWAY
⊕	STORM DRAIN MANHOLE	—WW—	WIRE SERVICE	—T—	TEL
E	ELECTRIC VAULT	—SD—	STORM DRAIN		UNKNOWN UNDERGROUND
E	ELECTRIC BOX	—U/G COMM—	UNDERGROUND COMM LINE		
V	VAULT	—G/L—	GAS LINE		
	SEWER CLEAN OUT	—U/G ELEC—	UNDERGROUND ELECTRIC		
	GAS METER	—EP—	EDGE OF PAVEMENT		
	GUY/ANCHOR	—X—	FENCE		
	EXIST POLE	—FC—	CURB FLOW LINE		
SD	STORM DRAIN INLET	—W—	UNDERGROUND WATERLINE		
	GAS VENT	—II—	EDGE OF DITCH		
	GAS VALVE				
W	WATER VALVE				
	ELECTROLIER POLE				

Basemap modified from by Pacific Gas & Electric Company,
Drawing Number Z-0912: "Oakland G.C. Yard Topo", dated 04/06/2010.

PROPOSED SAMPLING LOCATIONS
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

By: KLU	Date:05/27/2010	Project No. 13045.007.E
AMEC Geomatrix		Figure 7

Plot Date: 05/27/10 - 1:57pm, Plotted by: kristin.uber
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