Pacific Gas and Electric Company®

Anne P. Conner
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July 5, 2011

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

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

Dear Mr. Wickham

Please find enclosed the Additional Soil Investigation Work Plan, dated July 5, 2011, for the Pacific Gas and Electric (PG&E) Oakland General Construction Yard at 4930 Coliseum Way, Oakland, California. This Additional Soil Investigation 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 Additional Soil Investigation Work Plan.

Sincerely,

Anne Conner

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

Enclosure: Additional Soil Investigation Work Plan

DECLARATION:

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

Anne Conner
Pacific Gas and Electric Company

July 5, 2011

Project 013045007E.00006

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

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

Dear Ms. Conner:

AMEC Geomatrix, Inc. (AMEC), has prepared this Additional 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). The purpose of this work plan is to respond to the request of the Alameda County Health Care Services Agency (ACHCSA) to further evaluate the lateral distribution of lead in shallow soil in the vicinity of the former on-site aboveground low-pressure natural gas holder tank (former GHT; Figure 2).[1]

Lead has been detected in soil samples collected at the site; the presence of lead is attributed to sandblasting and the removal of a former GHT. 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.[2] This work plan presents the investigation rationale and proposed methods to further delineate the lateral extent of lead in shallow soil identified during the 2010 soil investigation conducted by AMEC. The data supersedes data provided from investigations completed by Aqua Resources, Inc. (ARI), and PG&E from 1990 through 1992.[3,4]

Specifically, this work plan includes background information about the site, results of previous sampling activities, and a recommended scope of work for additional investigation that is based on identification of areas of the site that may have been affected by lead during the former GHT dismantling. Also included herein are a sampling and analysis plan, a quality assurance/quality

[1] Alameda County Health Care Services Agency, 2011, letter to Anne Conner of PG&E, Subject: Review of Site Investigation Report for SLIC Case No. RO000099 and Geotracker Global ID T0600100258, PG&E, 4930 Coliseum Way, Oakland, CA 94601, April 27.

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

[3] 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.

[4] 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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control (QA/QC) plan, and a proposed schedule for implementation of the proposed sampling program.

BACKGROUND INFORMATION

This section provides brief descriptions of the site and setting, site lithology and hydrogeology, and investigation and remedial activities conducted at the site to date.

Site Description, History, 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 primarily composed 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 the late 1930s until 1990, when the 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. Depth-to-groundwater measurements collected from monitoring wells during the most recent groundwater monitoring event, which took place in November 2009 indicate that groundwater depth ranged between approximately 3 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.[3] Groundwater level measurements collected during the November 2009 groundwater monitoring event also indicated that 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).[5]

Historical Data for Lead Delineation

As mentioned above, ARI conducted investigations at the site for the purpose of delineating the lateral and vertical extent of lead in soil in 1990 and 1991. ARI noted that 72 cubic yards of soil was excavated and stockpiled during the removal of the former GHT in 1990 and was sampled by ARI in 1991 for off-site disposal; however, as stated in the ARI report, two excavated areas

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

of the site[6] may have been backfilled with on-site material affected by lead. PG&E conducted additional sampling and analysis for lead in 1992. These investigations provided a basis for the investigation conducted by AMEC in 2010. The data collected during the 2010 soil investigation conducted by AMEC supersede that data provided from investigations completed by ARI and PG&E in 1990 through 1992. Analytical results from the AMEC 2010 investigation were reported to the Alameda County Health Care Services Agency in May 2011. The results for lead are presented in Table 1. Figure 3 shows soil sampling locations for depth intervals between 0 and 5 feet bgs and includes results for lead in soil that exceed the California Human Health Screening Levels (CHHSLs) for commercial/industrial (320 mg/kg) land use scenarios. These CHHSLs are used to evaluate whether lead in soil is laterally and vertically delineated. The highest concentrations of lead in soil are detected in the surface samples collected from 0 to 0.5 feet bgs. Soil samples collected at depths below 4.5 feet bgs did not exceed the CHHSL for lead in soil for commercial/industrial land use scenarios. At those locations where vertical sampling was conducted, lead concentrations in soil samples typically decrease with sample depth.

DATA GAPS

Whereas the vertical distribution of lead appears to be defined in the vicinity of the former GHT (no concentrations of lead above industrial CHHSLs were detected in samples collected at 4.5 feet bgs), the lateral distribution of lead in shallow soil is not fully defined. Within the area of the 2010 investigation, the distribution of lead is not continuous, suggesting that mechanisms in addition to sandblasting, such as reworking of soil and laydown of the former GHT components during dismantling, may have contributed to a larger distribution of lead at the site beyond the immediate perimeter (within 30 feet) of the former GHT. The lateral extent of lead in soil in the near surface (0 to 0.5 feet bgs) and depth interval of 1 to 4.5 feet bgs is not defined laterally to the southwest and northwest of the former GHT.

SITE CONFIGURATION DURING FORMER GHT DISMANTLING

The site configuration at the time of, as well as following, the former GHT dismantling in 1990 is notable for evaluating what areas of the site may have been affected by lead during the dismantling. The site configuration, as well as that of neighboring facilities and roads was researched in the literature and by aerial photographs to assist in closing data gaps (mentioned above) and proposing additional soil investigation (discussed below).

Aerial photographs from 1985 and 1989 were reviewed to identify and confirm the location of paved streets, paved surfaces, buildings, and other significant features at the site and adjacent properties. Copies of the aerial photographs are provided as Figures 4 and 5. According to the photographs, Coliseum Way to the south and 50th Avenue to the southeast were present and paved before the former GHT dismantling. Except for a small (approximately 135 by 40 feet) rectangular area around a building present to the northwest of the former GHT, it is not apparent

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

that the site was paved. Other structures on site include two buildings and several smaller structures at the northwest site boundary and immediately northwest of the former GHT, and two rectangular buildings to the south and southeast of the former GHT. The presence of these buildings served as a barrier to lead deposition from the former GHT. Parked vehicles and equipment storage are visible in both aerial photographs in several locations around the perimeter of the former GHT and the perimeter of the site. The neighboring property to the northeast and east contained at least four buildings; the remainder of the adjacent property appeared to be used extensively for storage.

Based on the literature review, from at least the time of the former GHT dismantling until 2002, the property to the northeast and east (the Former AAA property, currently owned by Westside Building Materials Corporation), operated as a junkyard with racks and 55-gallon drums containing used automobile and metal machinery parts. It is our understanding that soil remediation due to operation-specific impacts had occurred at the adjacent property and the property has been regraded and capped.[7]

PROPOSED INVESTIGATION

To further delineate the lateral distribution of lead on site, additional soil sampling is proposed. Considering both the site configuration at the time of the former GHT sampling and the neighboring property's activities described in the previous section, no sampling is proposed on site to the south or southwest beyond on-site buildings or off site in the streets or to the north or east onto the adjacent former AAA property.

Sampling will be conducted using hand augers. The suggested sampling approach is to extend the former grid of the area used in the 2010 soil investigation[8] outside the asphalt cap to the southwest and northwest of the former GHT. The grid will extend the original 300-by-300-foot grid area an additional 10,800 square feet to the southwest and an additional 3,600 square feet to the northwest (Figure 6). Samples will be collected in 30-by-30-foot nodes, or approximately 16 additional sampling locations outside the former GHT cap footprint (Figure 6). Samples in nodes adjacent to the former sample grid (J0, K0, BB9, C10, D11, E11, F11, F12, and G12) will be analyzed and samples collected in nodes beyond these (J00, K00, BB10, C11, D12, E12) will be placed on hold pending results from the first sample set. Soil samples will be collected from depths of 0.5, 2, and 5 feet. The samples collected from the first two depths will be analyzed for lead. The samples collected at 5 feet will be put on hold pending the results from the shallower depths.

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[7] 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.

[8] AMEC Geomatrix, Inc., 2010, Soil Investigation Report, Pacific Gas and Electric Company Oakland Construction Yard, 4930 Coliseum Way, Oakland, California, March 17.

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 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 health and safety plan. Before 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

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

Utility Location and Borehole Clearance

Before 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 of 2010.

Drilling Methods

Soil borings will be advanced to a depth of 4 feet bgs using a hand auger at the locations shown on Figure 6 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 now covered in asphalt. 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 from soil obtained from the hand auger; 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 D2488-09a. The geologist also will record field measurements of volatile organic compounds, sample and core intervals, and soil recovery.

Soil samples will be collected into a stainless steel sleeve directly from the hand auger bucket. Each stainless steel sleeve will be sealed with Teflon tape, then capped and stored on ice before either 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 with results from 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* is the measured concentration after spiking, *B* is the background concentration, and *T* is the known true value of spike.

Completeness

Data generated during the soil sampling program will be evaluated for completeness, that is, 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, resampling may be necessary.

Sample Control

Samples will be collected in the field for analysis by an analytical laboratory certified by the California Environmental Laboratory Accreditation Program (ELAP). As samples are collected in the field, they will be assigned a unique identification with labels showing project number, sampling location, and depth interval. Samples will be sent to the laboratory under chain of custody (COC) for lead analysis. The COC will include the sample identification, location, date and time of sampling, number and type of containers, and analysis to be performed. Samples will be packed in ice chests with 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 for lead by TestAmerica of Pleasanton, California, a California ELAP-certified laboratory, using U.S. Environmental Protection Agency Method 6010B.

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, which may include soil cuttings and equipment decontamination rinsate, 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 a commercial/industrial (320 mg/kg) land use scenario.

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

At a minimum, the report will contain the following:

- 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
- Conclusions and recommendations

Data generated from this investigation will provide lateral delineation of lead to the extent reasonably possible.

SCHEDULE

It is our understanding that PG&E will submit this work plan to ACEHD. Upon receipt of ACEHD approval of the work plan, AMEC plans to initiate the work described above. We anticipate that the field activities will require two 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 additional soil investigation to 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

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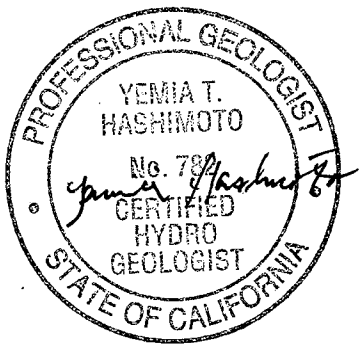


Attachments:

Table 1	Analytical Results of Lead in Soil
Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Lead in Soil Exceeding CHHSL for Commercial/Industrial Land Use, 0 to 5 Feet bgs
Figure 4	Aerial Photograph from 1985
Figure 5	Aerial Photograph from 1989
Figure 6	Proposed Sampling Locations

TABLE

TABLE 1

ANALYTICAL RESULTS OF LEAD IN SOIL [1]

PG&E Oakland—General Construction Yard

Oakland, California

All concentrations reported in units of milligrams per kilogram

Sample Location	Sample Depth (ft bas)	Sample ID	Sample Date	Lead
C2	0.5	C2-0.5+13	10/25/2010	14 J+[2]
	2.0	C2-2.0+13	10/25/2010	40 J+
C4	0.5	C-4-0.5+15	10/25/2010	240 [3]
	2.0	C-4-2.0+15	10/25/2010	35 J+
C6	0.5	C6-0.5+18	10/26/2010	310
	2.0	C6-2.0+18	10/26/2010	18 J+
C8	0.5	C8-0.5+24	10/26/2010	180
	2.0	C8-2.0+24	10/26/2010	14 J+
C7	0.5	C-7-0.5+24	10/26/2010	36 J+
	2.0	C-7-2.0+24	10/26/2010	34 J+
C9	0.5	C-9-0.5+23	10/26/2010	**340**
	2.0	C-9-2.0+23	10/26/2010	11 J+
D2	0.5	D-2-0.5+10	10/25/2010	9.7 J+
	2.0	D-2-2.0+10	10/25/2010	220
	5.0	D-2-5.0+10	10/25/2010	6.0 J+
D3	0.5	D-3-0.5+10	10/25/2010	70 J+
	2.0	D-3-2.0+10	10/25/2010	18 J+
D4	0.5	D4-0.5+13	10/25/2010	290
	2.0	D4-2.0+13	10/25/2010	26 J+
D5	0.5	D5-0.5+12	10/25/2010	**330**
D5R	0.5	D5R-0.5+13	10/25/2010	**2400**
	2.0	D5R-2.0+13	10/25/2010	57 J+
D6	0.5	D6-0.5+18	10/25/2010	**320**
	2.0	D6-2.0+18	10/25/2010	14 J+
D7	0.5	D-7-0.5+28	10/26/2010	110
	2.0	D-7-2.0+28	10/26/2010	9.6 J+
D8	0.5	D-8-0.5+20	10/26/2010	150
	2.0	D-8-2.0+20	10/26/2010	16 J+
D9	0.5	D9-0.5+18	10/26/2010	24 J+
	2.0	D9-2.0+18	10/26/2010	25 J+
D10	0.5	D10-0.5+24	10/26/2010	**620**
	2.0	D10-2.0+24	10/26/2010	210
	5.0	D10-5.0+24	10/26/2010	5.0 J+
E2	0.5	E2-0.5+10	10/25/2010	110
	2.0	E2-2.0+10	10/25/2010	41 J+

TABLE 1

ANALYTICAL RESULTS OF LEAD IN SOIL [1]

PG&E Oakland—General Construction Yard
Oakland, California

All concentrations reported in units of milligrams per kilogram

Sample Location	Sample Depth (ft bas)	Sample ID	Sample Date	Lead
E3	0.5	E-3-0.5+12	10/25/2010	**1300**
	2.0	E-3-2.0+12	10/25/2010	120
	5.0	E-3-5.0+12	10/25/2010	3.8 J+
E4	0.5	E-4-0.5+10	10/25/2010	**1400**
	2.0	E-4-2.0+10	10/25/2010	14 J+
E5	0.5	E-5-0.5+15	10/25/2010	**8700**
	2.0	E-5-2.0+15	10/25/2010	**2200**
	5.0	E-5-5.0+15	10/25/2010	6.1 J+
E6	0.5	E6-0.5+24	10/26/2010	57 J+
	2.0	E6-2.0+24	10/26/2010	130
	5.0	E6-5.0+24	10/26/2010	4.6 J+
E7	0.5	E7-0.5+24	10/26/2010	36 J+
	2.0	E7-2.0+24	10/26/2010	140
	5.0	E7-5.0+24	10/26/2010	4.3 J+
E8	0.5	E8-0.5+24	10/26/2010	42 J+
	2.0	E8-2.0+24	10/26/2010	**420**
	5.0	E8-5.0+24	10/26/2010	6.8 J+
E9	0.5	E9-0.5+26	10/26/2010	50 J+
	2.0	E9-2.0+26	10/26/2010	53 J+
E10	0.5	E-10-0.5+24	10/26/2010	220
	2.0	E-10-2.0+24	10/26/2010	**460**
	5.0	E-10-5.0+24	10/26/2010	4.7 J+
F1	0.5	F1-0.5+11	10/25/2010	11 J+
	2.0	F1-2.0+11	10/25/2010	100
	5.0	F1-5.0+11	10/25/2010	8.8 J+
F2	0.5	F2-0.5+13	10/25/2010	150 [4]
	0.5	F2-0.5+13	10/25/2010	130
	2.0	F2-2.0+13	10/25/2010	55 [4]
	2.0	F2-2.0+13	10/25/2010	57 J+
F8	0.5	F-8-0.5+20	10/26/2010	**4400** [4]
	0.5	F-8-0.5+20	10/26/2010	**9800**
	2.0	F-8-2.0+20	10/26/2010	**730** [4]
	2.0	F-8-2.0+20	10/26/2010	200
	5.0	F-8-5.0+20	10/26/2010	4.8 J+

TABLE 1

ANALYTICAL RESULTS OF LEAD IN SOIL [1]

PG&E Oakland—General Construction Yard
Oakland, California

All concentrations reported in units of milligrams per kilogram

Sample Location	Sample Depth (ft bas)	Sample ID	Sample Date	Lead
F9	0.5	F-9-0.5+24	10/26/2010	**540**
	2.0	F-9-2.0+24	10/26/2010	120
	5.0	F-9-5.0+24	10/26/2010	5.5 J+
F10	0.5	F10-0.5+18	10/26/2010	**4700**
	2.0	F10-2.0+18	10/26/2010	160
	5.0	F10-5.0+18	10/26/2010	6.8 J+
G1	0.5	G1-0.5+10	10/25/2010	72 J+
	2.0	G1-2.0+10	10/25/2010	5.0 J+
G8	0.5	G8-0.5+24	10/27/2010	**2500**
	2.0	G8-2.0+24	10/27/2010	140
	5.0	G8-5.0+24	10/27/2010	7.6 J+
	6.0	G8-6.0+24	10/27/2010	6.7 J+
	8.0	G8-8.0+24	10/27/2010	11 J+
G9	0.5	G-9-0.5+22	10/27/2010	21 J+
	2.0	G-9-2.0+22	10/27/2010	170
	5.0	G-9-5.0+22	10/27/2010	5.3 J+
G10	0.5	G-10-0.5+24	10/27/2010	230
	2.0	G-10-2.0+24	10/27/2010	16 J+
G11	0.5	G-11-0.5+20	10/27/2010	**500**
	2.0	G-11-2.0+20	10/27/2010	6.2 J+
H9	0.5	H-9-0.5+15	10/28/2010	14.0 J+
H9R	0.5	HR9-0.5+19	10/28/2010	69 J+
	2.0	HR9-2.0+19	10/28/2010	55 J+
H10	0.5	H10-0.5+12	10/27/2010	110 J+
	2.0	H10-2.0+12	10/27/2010	70 J+
H11	0.5	H11-0.5+12	10/27/2010	24 [5]
	0.5	H11-0.5+12	10/27/2010	20 J+
	2.0	H11-2.0+12	10/27/2010	6.1 [5]
	2.0	H11-2.0+12	10/27/2010	3.9 J+
H12	0.5	H-12-0.5+9	10/27/2010	150
H12R	0.5	H12R-0.5+6	10/27/2010	**660**
	2.0	H12R-2.0+6	10/27/2010	53 J+
I9	0.5	I9-0.5+24	10/28/2010	**660**
	2.0	I9-2.0+24	10/28/2010	210
	5.0	I9-5.0+24	10/28/2010	7.1 J+

TABLE 1

ANALYTICAL RESULTS OF LEAD IN SOIL [1]

PG&E Oakland—General Construction Yard
Oakland, California

All concentrations reported in units of milligrams per kilogram

Sample Location	Sample Depth (ft bas)	Sample ID	Sample Date	Lead
I10R	0.5	I-10R-0.5+15	10/28/2010	**2600**
	2.0	I-10R-2.0+15	10/28/2010	9.3 J+
I10	0.5	I-10-0.5+15	10/27/2010	24 J+
	2.0	I-10-2.0+15	10/27/2010	**320**
	refusal at 5.0	NA	NA	NA
I11	0.5	I11-0.5+15	10/27/2010	22 J+
	2.0	I11-2.0+15	10/27/2010	**350**
	5.0	I11-5.0+15	10/27/2010	6.9 J+
J1	0.5	J1-0.5+16	10/29/2010	**550**
	2.0	J1-2.0+16	10/29/2010	110 J+
	5.0	J1-5.0+16	10/29/2010	8.5 J+
	6.0	J1-6.0+16	10/29/2010	11 J+
	8.0	J1-8.0+16	10/29/2010	8.8 J+
J9	0.5	J-9-0.5+24	10/27/2010	**1200**
	2.0	J-9-2.0+24	10/27/2010	**1200**
	5.0	J-9-5.0+24	10/27/2010	7.7 J+
J10	0.5	J10-0.5+16	10/27/2010	21 J+
	2.0	J10-2.0+16	10/27/2010	220
	5.0	J10-5.0+16	10/27/2010	5.1 J+
J11	0.5	J11-0.5+15	10/27/2010	6.5 J+
	2.0	J11-2.0+15	10/27/2010	210
	5.0	J11-5.0+15	10/27/2010	7.0 J+
J12	0.5	J-12-0.5+9	10/27/2010	94
	2.0	J-12-2.0+9	10/27/2010	43 J+
K1	0.5	K1-0.5+17	10/29/2010	**1200**
	2.0	K1-2.0+17	10/29/2010	5.4 J+
K10	0.5	K10-0.5+18	10/27/2010	16 J+
	2.0	K10-2.0+18	10/27/2010	290
	5.0	K10-5.0+18	10/27/2010	9.4 J+
K11	0.5	K11-0.5+15	10/27/2010	15 J+
	2.0	K11-2.0+15	10/27/2010	**330**
	5.0	K11-5.0+15	10/27/2010	7.5 J+

TABLE 1

ANALYTICAL RESULTS OF LEAD IN SOIL [1]

PG&E Oakland—General Construction Yard
Oakland, California

All concentrations reported in units of milligrams per kilogram

Sample Location	Sample Depth (ft bas)	Sample ID	Sample Date	Lead
K12	0.5	K-12-0.5+9	10/27/2010	220
	2.0	K-12-2.0+9	10/27/2010	240
	5.0	K-12-5.0+9	10/27/2010	7 J+
L1	0.5	L1-0.5+15	10/28/2010	180
	2.0	L1-2.0+15	10/28/2010	6.0 J+
	5.0	L1-5.0+15	10/28/2010	9.7 J+
L8	0.5	L8-0.5+24	10/28/2010	120 [4]
	0.5	L8-0.5+24	10/28/2010	16 J+
	2.0	L8-2.0+24	10/28/2010	6 [4]
	2.0	L8-2.0+24	10/28/2010	92 J+
	5.0	L8-5.0+24	10/28/2010	7.1 J+
L9R	0.5	L9R-0.5+24	10/28/2010	300
	2.0	L9R-2.0+24	10/28/2010	6.4 J+
L10	0.5	L-10-0.5+15	10/27/2010	7.4 J+
	2.0	L-10-2.0+15	10/27/2010	130
	5.0	L-10-5.0+15	10/27/2010	7.5 J+
L11	0.5	L11-0.5+12	10/27/2010	84 J+
	2.0	L11-2.0+12	10/27/2010	210
	5.0	L11-5.0+12	10/27/2010	9.3 J+
L12	0.5	L-12-0.5+9	10/27/2010	**530**
	2.0	L-12-2.0+9	10/27/2010	**610**
	5.0	L-12-5.0+9	10/27/2010	5.2 J+
M1	0.5	M1-0.5+12	10/29/2010	43 J+
	2.0	M1-2.0+12	10/29/2010	11 J+
M2	0.5	M2-0.5+16	10/29/2010	**450** [4]
	0.5	M2-0.5+16	10/29/2010	**1100**
	2.0	M2-2.0+16	10/29/2010	49 J+[4]
	2.0	M2-2.0+16	10/29/2010	9.7 J+
M3	0.5	M3-0.5+14	10/28/2010	**730**
	2.0	M3-2.0+14	10/28/2010	5.8 J+
	5.0	M3-5.0+14	10/28/2010	8.5 J+
	6.0	M3-6.0+14	10/28/2010	6.1 J+
	8.0	M3-8.0+14	10/28/2010	10 J+

TABLE 1

ANALYTICAL RESULTS OF LEAD IN SOIL [1]

PG&E Oakland—General Construction Yard
Oakland, California

All concentrations reported in units of milligrams per kilogram

Sample Location	Sample Depth (ft bas)	Sample ID	Sample Date	Lead
M4	0.5	M-4-0.5+15	10/28/2010	120 J+
	2.0	M-4-2.0+15	10/28/2010	170
M5	0.5	M5-0.5+22	10/28/2010	220
	2.0	M5-2.0+22	10/28/2010	4.8 J+
M6	0.5	M-6-0.5+20	10/28/2010	20 J+
	2.0	M-6-2.0+20	10/28/2010	240
	5.0	M-6-5.0+20	10/28/2010	5.0 J+
M7	0.5	M-7-0.5+22	10/28/2010	21 J+
	2.0	M-7-2.0+22	10/28/2010	9.6 J+
M9	0.5	M-9-0.5+12	10/28/2010	**1100**
CHHSLs Industrial/Commercial [5,6]				320

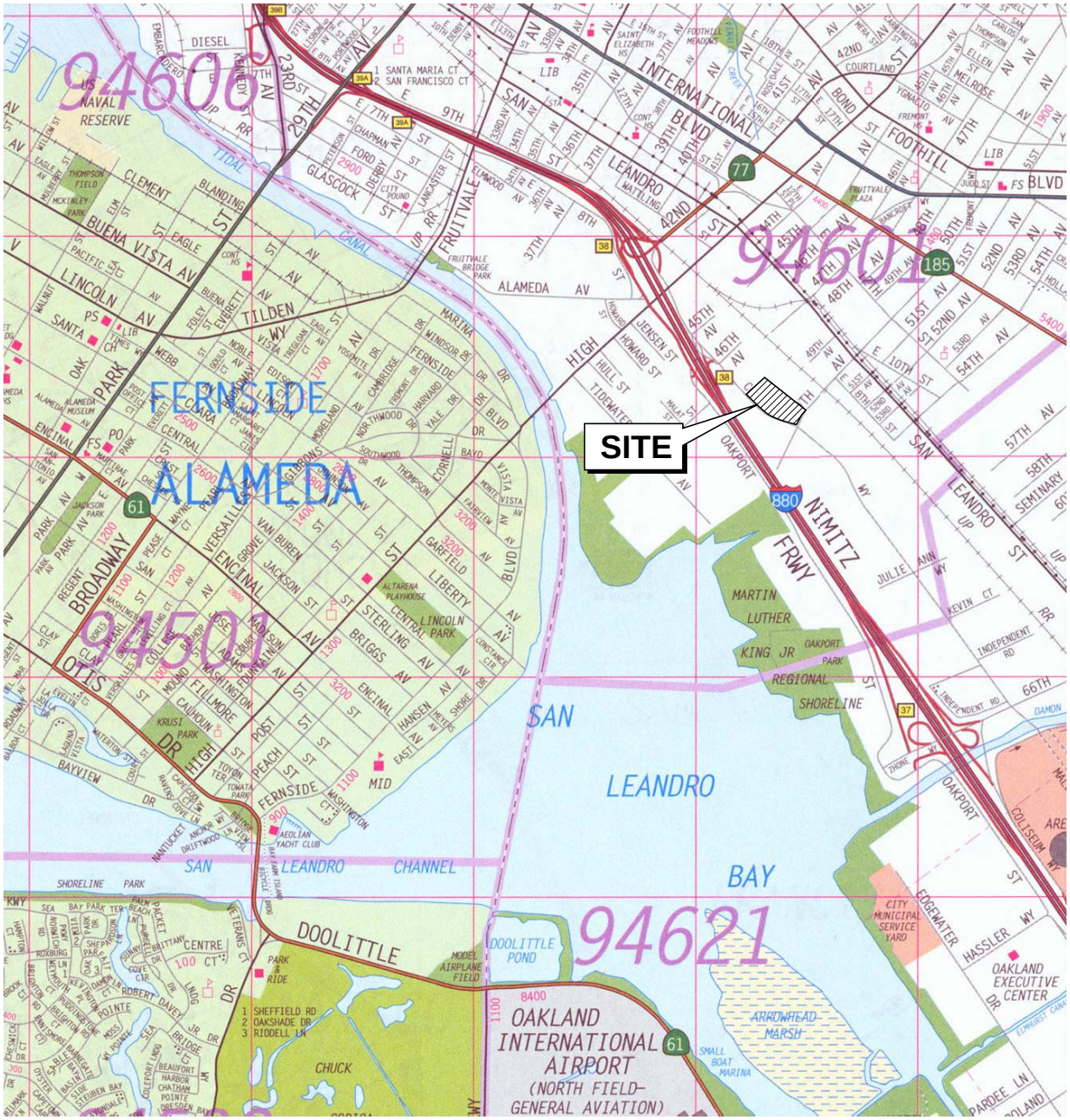
Notes

1. Soil samples were collected by ETIC Engineering of Pleasant Hill, California, and analyzed by TestAmerica Laboratories—San Francisco, of Pleasanton, California, for lead and other Title 22 metals using U.S. EPA Method 6010B and for mercury using U.S. EPA Method 7470A.
2. J+ indicates that the result is an estimated quantity, but the result may be biased high.
3. Bold type indicates that the constituent was detected above the commercial CHHSL.
4. The laboratory analyzed the sample for lead twice. Due to soil matrix heterogeneities, the lead values differ. The larger of the two values is shown on Figures 3 and 6.
5. Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil, Table 5 (Cal/EPA, November 2004, revised January 2005).
6. Office of Environmental Health Hazard Assessment, 2009, Revised California Human Health Screening Levels for Lead, http://www.oehha.ca.gov/risk/pdf/LeadCHHSL091709.pdf.

Abbreviations

CHHSL = California Human Health Screening Level
ft bas= feet below asphalt subgrade
NA = not applicable
U.S. EPA = United States Environmental Protection Agency

FIGURES

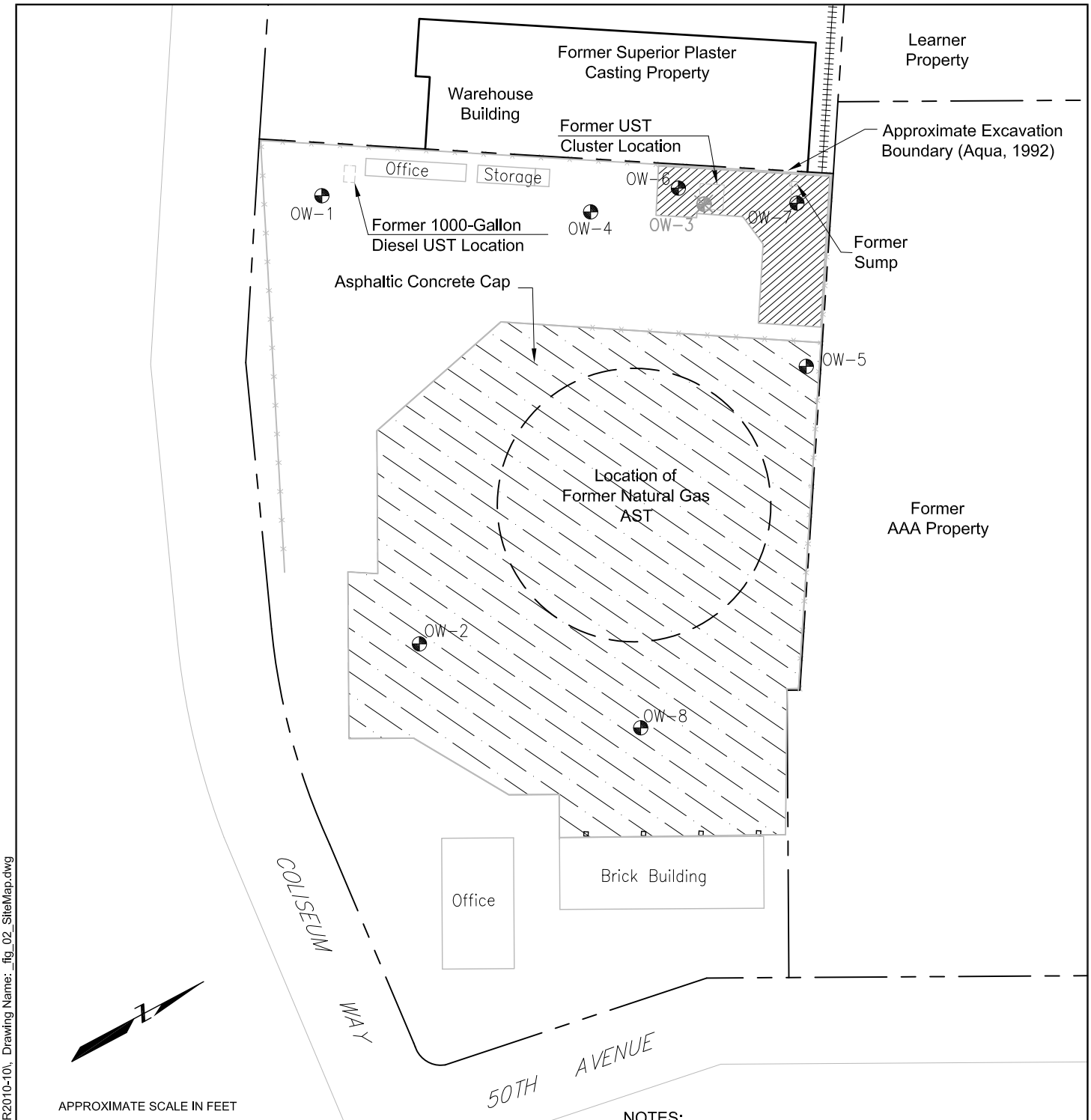


0 2000 feet

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

By: KLU	Date: 03/17/2011	Project No. 13045.007 E
AMEC Geomatrix		Figure 1

S:\13000\13045\13045.007.Etask_06\10_1207_SIR2010-10_fig_01(01)_SLM.ai



EXPLANATION

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

ABBREVIATIONS

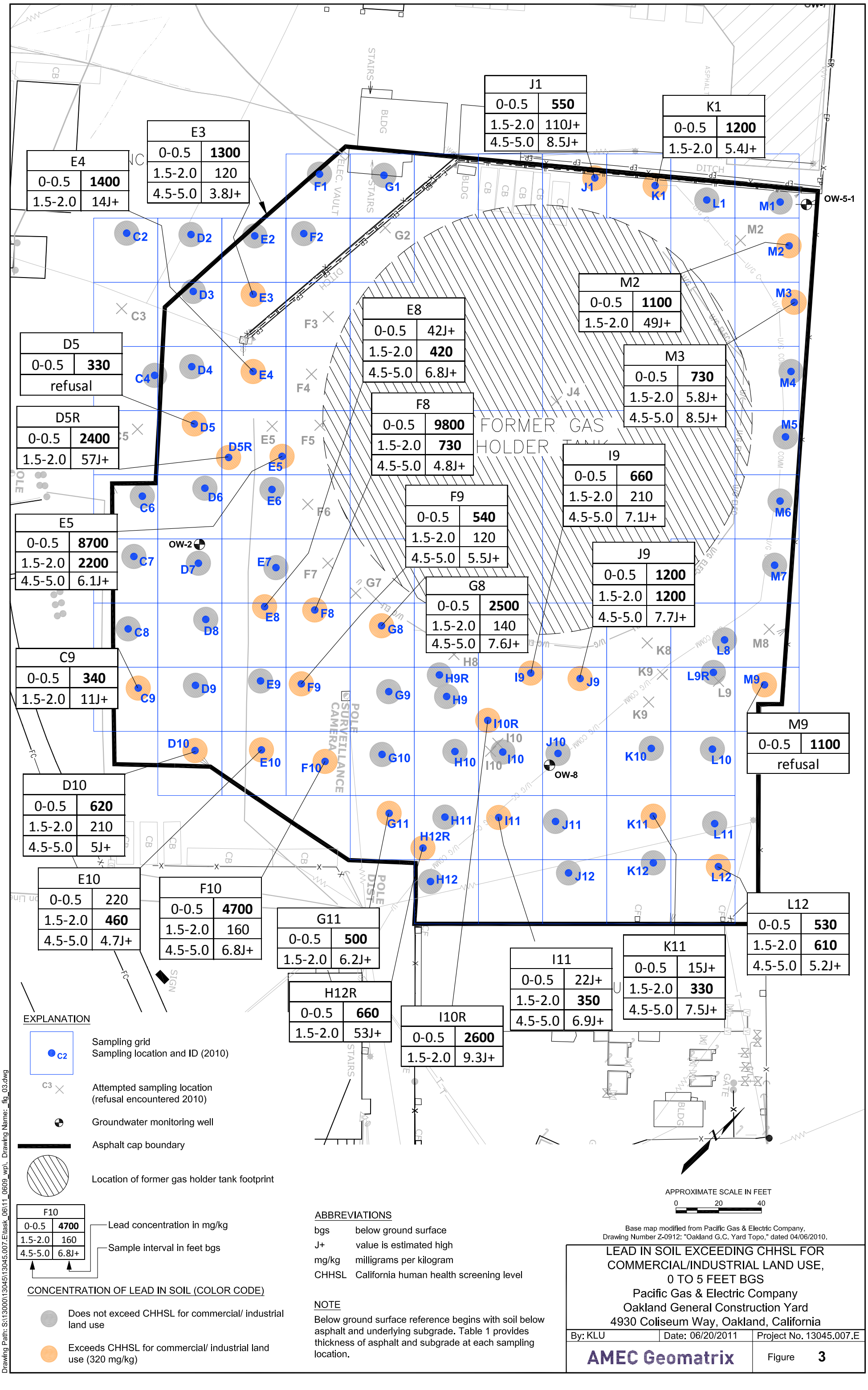
AST Aboveground Storage Tank
UST Underground Storage Tank

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.

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

By: KLU	Date: 01/27/11	Project No. 13045.007.E
AMEC Geomatrix		Figure 2


E4
0-0.5 1400
1.5-2.0 14J+
E3
0-0.5 1300
1.5-2.0 120
4.5-5.0 3.8J+
J1
0-0.5 550
1.5-2.0 110J+
4.5-5.0 8.5J+
K1
0-0.5 1200
1.5-2.0 5.4J+
M2
0-0.5 1100
1.5-2.0 49J+
E8
0-0.5 42J+
1.5-2.0 420
4.5-5.0 6.8J+
M3
0-0.5 730
1.5-2.0 5.8J+
4.5-5.0 8.5J+
D5
0-0.5 330
refusal
F8
0-0.5 9800
1.5-2.0 730
4.5-5.0 4.8J+
D5R
0-0.5 2400
1.5-2.0 57J+
I9
0-0.5 660
1.5-2.0 210
4.5-5.0 7.1J+
F9
0-0.5 540
1.5-2.0 120
4.5-5.0 5.5J+
J9
0-0.5 1200
1.5-2.0 1200
4.5-5.0 7.7J+
E5
0-0.5 8700
1.5-2.0 2200
4.5-5.0 6.1J+
G8
0-0.5 2500
1.5-2.0 140
4.5-5.0 7.6J+
C9
0-0.5 340
1.5-2.0 11J+
M9
0-0.5 1100
refusal
D10
0-0.5 620
1.5-2.0 210
4.5-5.0 5J+
E10
0-0.5 220
1.5-2.0 460
4.5-5.0 4.7J+
F10
0-0.5 4700
1.5-2.0 160
4.5-5.0 6.8J+
G11
0-0.5 500
1.5-2.0 6.2J+
I11
0-0.5 22J+
1.5-2.0 350
4.5-5.0 6.9J+
K11
0-0.5 15J+
1.5-2.0 330
4.5-5.0 7.5J+
L12
0-0.5 530
1.5-2.0 610
4.5-5.0 5.2J+
H12R
0-0.5 660
1.5-2.0 53J+
I10R
0-0.5 2600
1.5-2.0 9.3J+
OW-1
OW-2
OW-5-1
OW-8
FORMER GAS HOLDER TANK
POLE SURVEILLANCE CAMERA
STAIRS
BLDG
DITCH
ELEC. VAULT
GATE
SIGN
EXPLANATION
Sampling grid
Sampling location and ID (2010)
Attempted sampling location (refusal encountered 2010)
Groundwater monitoring well
Asphalt cap boundary
Location of former gas holder tank footprint
F10
0-0.5 4700
1.5-2.0 160
4.5-5.0 6.8J+
Lead concentration in mg/kg
Sample interval in feet bgs
CONCENTRATION OF LEAD IN SOIL (COLOR CODE)
Does not exceed CHHSL for commercial/ industrial land use
Exceeds CHHSL for commercial/ industrial land use (320 mg/kg)
ABBREVIATIONS
bgs below ground surface
J+ value is estimated high
mg/kg milligrams per kilogram
CHHSL California human health screening level
NOTE
Below ground surface reference begins with soil below asphalt and underlying subgrade. Table 1 provides thickness of asphalt and subgrade at each sampling location.
APPROXIMATE SCALE IN FEET
0 20 40
Base map modified from Pacific Gas & Electric Company, Drawing Number Z-0912: "Oakland G.C. Yard Topo," dated 04/06/2010.
LEAD IN SOIL EXCEEDING CHHSL FOR COMMERCIAL/INDUSTRIAL LAND USE, 0 TO 5 FEET BGS
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California
By: KLU
Date: 06/20/2011
Project No. 13045.007.E
AMEC Geomatrix
Figure 3
Plot Date: 06/20/11 - 5:13pm, Plotted by: kristin.uber
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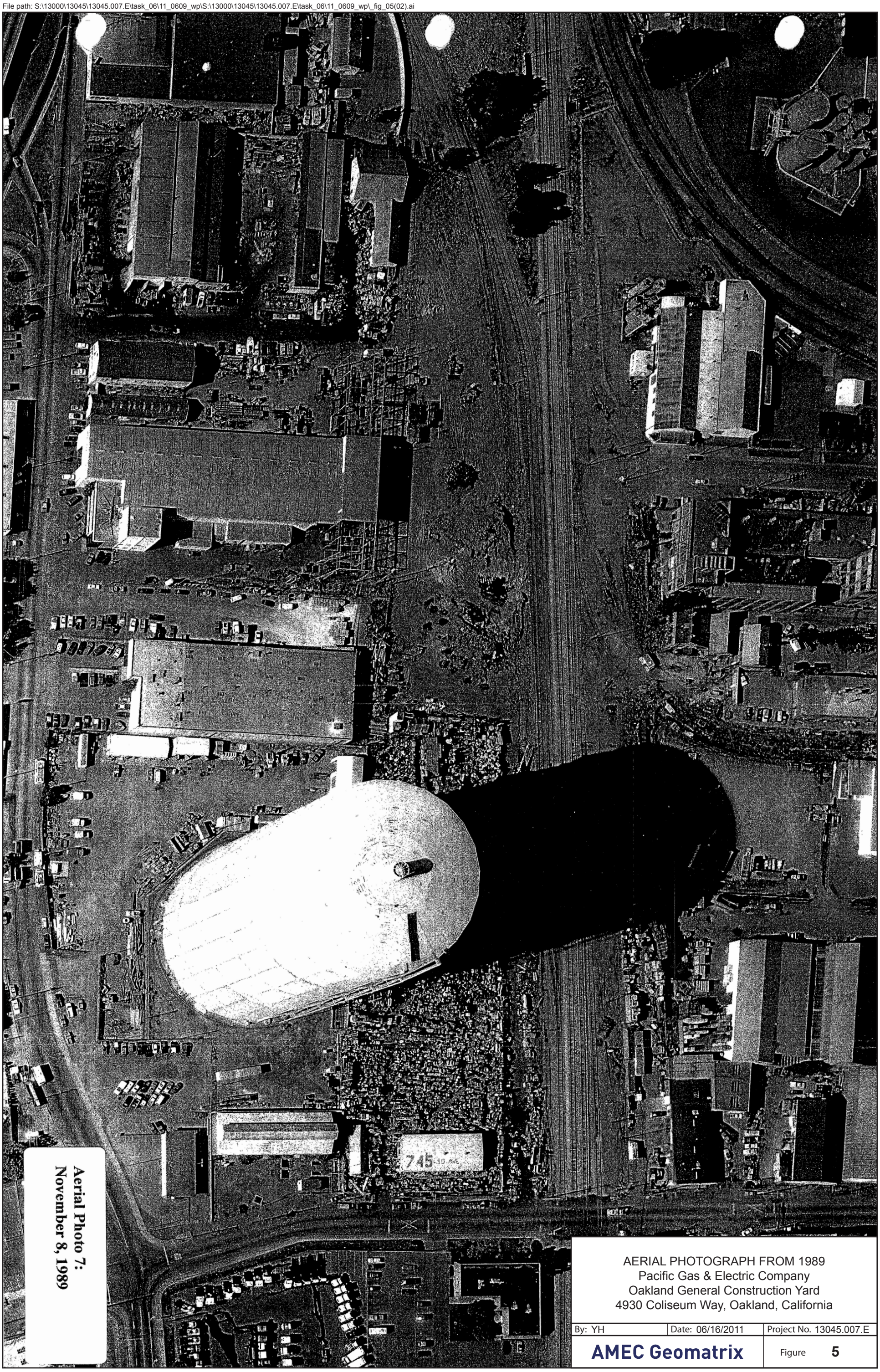
AERIAL PHOTOGRAPH FROM 1985
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

By: YH	Date: 06/16/2011	Project No. 13045.007.E
AMEC Geomatrix		Figure 4

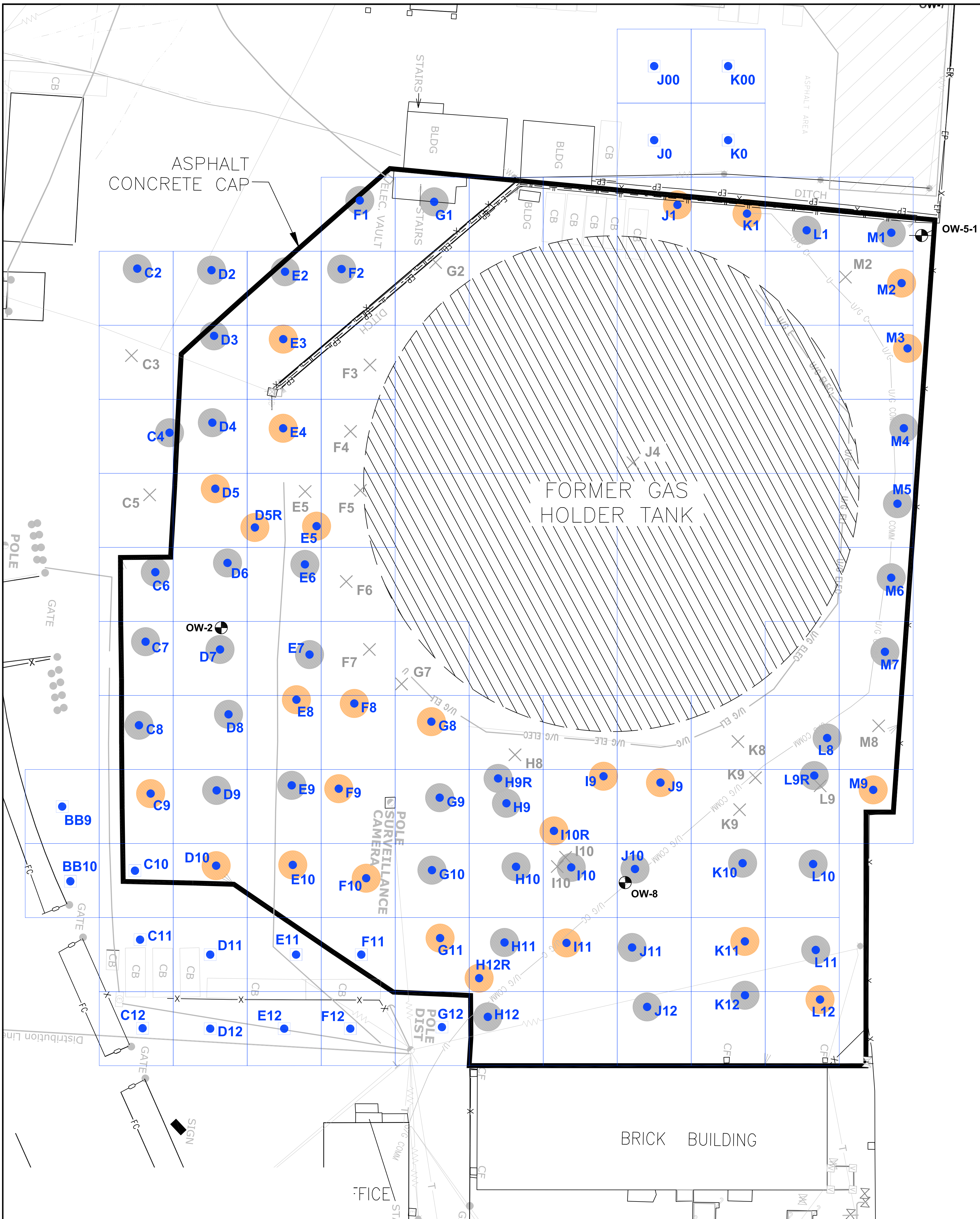
File path: S:\13000\13045\13045.007.E\task_06\11_0609_wp\S:\13000\13045\13045.007.E\task_06\11_0609_wp_fig_05(02).ai



Aerial Photo 7:
November 8, 1989

AERIAL PHOTOGRAPH FROM 1989
Pacific Gas & Electric Company
Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

By: YH	Date: 06/16/2011	Project No. 13045.007.E
AMEC Geomatrix	Figure **5**	



EXPLANATION

C2 — Sampling grid; Sampling location and ID (2010)

C3 — Attempted sampling location (refusal encountered 2010)

C11 — Proposed sampling location

Groundwater monitoring well

Asphalt cap boundary

Location of former gas holder tank footprint

CONCENTRATION OF LEAD IN SOIL (COLOR CODE)

Does not exceed CHHSL for commercial/ industrial land use

Exceeds CHHSL for commercial/ industrial land use (320 mg/kg)

ABBREVIATIONS

bgs	below ground surface
mg/kg	milligrams per kilogram
CHHSL	California human health screening level

NOTE

Below ground surface reference begins with soil below asphalt and underlying subgrade. Table 1 provides thickness of asphalt and subgrade at each sampling location.

APPROXIMATE SCALE IN FEET

0 20 40

Base map modified from 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: 06/20/2011	Project No. 13045.007.E
AMEC Geomatrix		Figure 6

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