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Alameda County
Environmental Health

August 12, 2008

GA Project No. 311-01-02

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Stephan Plunkett

Subject: Closure Request Report
Former Coast Sausage UST Site
1173 28th Street, Oakland, California
ACDEH Fuel Leak Case: RO0002562; Global ID: T0600194544

Ladies and Gentlemen:

Gribi Associates is pleased to submit this Closure Request Report on behalf of Rush Property Group for the former Coast Sausage underground storage tank (UST) site located at 1173 28th Street in Oakland, California (see Figure 1, Figure 2, and Figure 3). This report provides a rationale for regulatory closure of the site, based on the following generally-accepted closure criteria: (1) A large portion of the contaminant source, or sources, has been removed; (2) The site has been adequately characterized; (3) The contaminant plume is not migrating, and chemical concentrations in groundwater are expected to meet water quality objectives in the future; (4) No other waters of the State, water supply wells, or other sensitive receptors are likely to be impacted; and (5) The site does not pose a significant risk to human health or safety. This site should be closed as a "low risk" site with unrestricted land use. A deed restriction should be attached to the property which includes requirements for a soil management plan and vapor barriers beneath constructed buildings, and precludes groundwater use.

GENERAL SITE DESCRIPTION AND CHRONOLOGY

The site is located in a mixed commercial and residential area of west Oakland. Soils in the immediate site area generally consist of clays, with occasional thin interbedded silts and sands. Groundwater is encountered at a depth of about 8 feet below surface grade.

The site currently includes a fire-damaged remnant portion of the former Coast Sausage building on the east side, the concrete slab for the demolished portion of the former site building on the northwest side, and a concrete and asphalt paved former parking area on the southwest side of the site. The planned site development, Coast Lofts, will include approximately 60 live/work condominiums and townhouses set on grade, with ground floor parking and minimal landscaping elements (see Figure 4).

Gribi Associates reviewed cross phone directories and Sanborn Fire Insurance Maps at the Oakland Public Library. Historical site information obtained from these sources is included on Figure 2. Key information included in these documents includes: (1) Configuration of the entire Coast Sausage facility, prior to the fire in 1993; (2) The facility immediately south from the project site, in a possible upgradient groundwater flow direction, previously included Laher Spring & Electric Car Corporation and apparently included a machine shop immediately south of the site; and (3) A testing laboratory was apparently located immediately east from the project site at 2722 Adeline Street in the past.

Treadwell & Rollo Phase I and Phase II ESA

In December 2001, Treadwell & Rollo conducted a Phase I and Phase I Environmental Site Assessment (ESA) for Citizens Housing Corporation. Since this ESA was conducted as part of a potential private real estate transaction, the full report for this investigation is apparently not available; however, a summary memo was issued. Information reported in this summary memo is as follows:

- The site was apparently residential prior to 1920. From 1920 through 1935, the northwest portion of the site was occupied by Ambassador Laundry Company. The south side of the site was apparently occupied by an aluminum foundry from the 1930s to the 1950s. The north portion of the site was occupied by meat and sausage packing facilities beginning in about 1947, and this operation expanded to the south, to include the entire current site boundary, in the early 1960s. Coast Sausage apparently operated at the site from the 1960s until a fire destroyed the facility in 1993.
- Treadwell & Rollo drilled and sampled four soil borings, B-1 through B-4, at the site on December 6, 2001 (see Figure 5). Soil and groundwater samples from the borings were analyzed for metals, volatile organic compounds (VOCs), glycols, and ammonia. Soil and groundwater samples showed concentrations of metals, glycols, and ammonia that were apparently below regulatory concern. The highest level of lead in soil was 110 milligrams per kilogram (mg/kg) at 1.0 feet in depth in boring B-2; this result is below the residential screening level of 150 mg/kg. Soils apparently showed no detectable concentrations of VOCs. Detections of VOCs in groundwater samples reported in the summary memo are as follows:

Boring B-1

Toluene = 0.62 micrograms per liter (ug/l)
1,1-Dichloroethane = 3.1 ug/l
1,1-Dichloroethene = 17 ug/l
1,1-Trichloroethane = 19 ug/l

Boring B-2

Cis-1,2-Dichloroethene = 990 ug/l
Trichloroethene = 47 ug/l

Boring B-3

Toluene = 0.77 ug/l
Xylenes = 1.0 ug/l
Cis-1,2-Dichloroethene = 0.92 ug/l

Boring B-4

Toluene = 1.0 ug/l
Xylenes = 1.6 ug/l

Groundwater ESLs (Vapor Intrusion, Residential Land Use)

Toluene = 530,000 ug/l
Xylenes = 160,000 ug/l
1,1-Dichloroethane = 3,500 ug/l
1,1-Dichloroethene = 26,000 ug/l
1,1-Trichloroethane = Not listed
Cis-1,2-Dichloroethene = 19,000 ug/l
Trichloroethene = 2,000 ug/l

In June 2002, ERAS Environmental drilled and sampled five borings, SB-1 through SB-5, at the site (see Figure 5). Two of these borings, SB-1 and SB-2, were sited adjacent to previous Treadwell & Rollo boring B-2. Boring SB-3 was sited east (presumed upgradient) from the 500-gallon gasoline underground storage tank (UST) on Adeline Street, and boring SB-4 was sited west (presumed downgradient) from the 350-gallon UST on Magnolia Street. Boring SB-5 was sited northwest, in an expected downgradient groundwater flow direction, from the 500-gallon Adeline Street UST.

Shallow soil samples collected from borings SB-1 and SB-2 showed no detectable concentrations of halogenated volatile organic compounds, including cis-1,2-dichloroethene (c-1,2-DCE).

Hydrocarbon detections reported in the ERAS report are as follows:

Boring SB-3

Soil: TPH-G = 110 mg/kg
BTEX = Not detected (ND)

Water: TPH-G = 5,900 ug/l
Benzene (B) = 1.7 ug/l
Toluene (T) = ND (detection limit: 1.25 ug/l)
Ethylbenzene (E) = 4.1 ug/l
Xylenes (X) = ND (detection limit: 2.5 ug/l)

Boring SB-4

Water: TPH-G = ND (detection limit 50 ug/l)
Benzene (B) = 2.5 ug/l
Toluene (T) = 0.65 ug/l
Ethylbenzene (E) = ND (detection limit: 0.5 ug/l)
Xylenes (X) = ND (detection limit: 1.0 ug/l)

Boring SB-5

Water: TPH-G = ND (detection limit 50 ug/l)
Benzene (B) = ND (detection limit: 0.5 ug/l)
Toluene (T) = ND (detection limit: 0.5 ug/l)
Ethylbenzene (E) = ND (detection limit: 0.5 ug/l)
Xylenes (X) = ND (detection limit: 1.0 ug/l)

In January 2003, the two site USTs were removed by Environmental Recovery Systems, with oversight by Mr. Leroy Griffith of the Oakland Fire Department and sampling by ERAS Environmental. Two soil samples and one grab groundwater sample were collected from the 500-gallon Adeline Street UST excavation cavity, and one soil sample was collected from the 350-gallon Magnolia Street UST excavation cavity. Laboratory results from these samples are as follows:

Adeline Street UST

North Soil: TPH-G = ND (DL = 0.5 mg/kg)
BTEX = ND
Lead = 40.3 mg/kg

South Soil: TPH-G = ND (DL = 0.5 mg/kg)
BTEX = ND
Lead = 38.9 mg/kg

Water: TPH-G = 1,170 ug/l
Benzene (B) = 1.9 ug/l
Toluene (T) = 1.7 ug/l
Ethylbenzene (E) = 17.8 ug/l
Xylenes (X) = 4.4 ug/l
Lead = 1,600 ug/l

Magnolia Street UST

Soil: TPH-G = 18.7 mg/kg
Benzene (B) = 0.008 mg/kg
Toluene (T) = 0.134 mg/kg
Ethylbenzene (E) = 0.035 mg/kg
Xylenes (X) = 0.150 mg/kg
Lead = 42.8 mg/kg

Based on results of these investigations, the Alameda County Department of Environmental Health (ACDEH) issued a letter on May 2, 2005 requesting: (1) A copy of the December 2001 Treadwell & Rollo Phase I and 2 Environmental Site Assessment report; and (2) A workplan to conduct additional site characterization at the site. The two key areas of concern to be addressed in the workplan are: (1) The source and extent of HVOC impacts adjacent to Treadwell & Rollo boring B-2; and (2) The nature and extent of hydrocarbon impacts adjacent to the former 500-gallon Adeline Street UST. The ACDEH letter states that the former 350-gallon Magnolia Street UST was adequately investigated. Note that we discussed the site and ACDEH letter requirements with Mr. Barney Chan of ACDEH. We made clear to Mr. Chan that the Treadwell & Rollo report was strictly a real estate due-diligence document prepared for a prospective purchaser and that, as such, was not available to either us or the County. Also, we discussed possible investigative requirements, and Mr. Chan indicated that a soil boring investigation, rather than installation of permanent groundwater monitoring wells, would be more appropriate for the site at this time.

Gribi Associates Investigations

In July 2006, Gribi Associates completed a Phase II ESA that consisted of drilling and sampling eleven soil borings (GA-1 through GA-11), and the collection and analysis of eight shallow soil gas samples (SG-1 through SG-8) at the site (see Figure 4 and Figure 5). Tabulated results for this and the subsequent Gribi Associates investigation are included in Attachment A. Soil and groundwater laboratory results indicated that the groundwater c-1,2-DCE and TCE detections in previous Treadwell & Rollo boring B-2, located on the southeast corner of the site, may have originated from an unidentified upgradient (east-southeast) offsite source. The groundwater sample from boring GA-2, located in Adeline Street approximately 15 feet southeast from the project site building, showed respective c-1,2-DCE, TCE, and Vinyl Chloride (VC) concentrations of 3,100 ug/l, 170 ug/l, and 130 ug/l. Also, a soil sample collected at 23.5 feet in depth in boring GA-2 showed 0.069 mg/kg of c-1,2-DCE. The groundwater sample from previous Treadwell & Rollo boring B-2, which was still accessible and was purged of approximately 3 gallons of water prior to sampling, showed respective c-1,2-DCE, TCE, and VC concentrations of only 370 ug/l, 7.9 ug/l, and 4.6 ug/l.

Soil and groundwater laboratory results from borings GA-7, GA-8, GA-9, and GA-11, located adjacent to the former 500-gallon Adeline Street gasoline UST, show minimal hydrocarbon impacts. A soil sample collected at 11 feet in depth in boring GA-8, located about 25 feet

downgradient (west-northwest) from the former UST, showed 71 mg/kg of TPH-G, with no detectable Benzene or Toluene and very low concentrations of Ethylbenzene and Xylenes. The grab groundwater sample from this boring showed no detectable concentrations of gasoline constituents. Also, the soil sample collected at approximately 9 feet in depth from boring GA-9, located about 8 feet west from the former 500-gallon Adeline Street gasoline UST, showed no detectable concentrations of gasoline constituents, and the grab groundwater from this boring showed only 440 ug/l of TPH-G, 6.0 ug/l of Benzene, and 1.1 ug/l of Ethylbenzene. These results indicated that, although some gasoline releases occurred relative to the former 500-gallon gasoline, low permeability soils and semi-confined groundwater conditions have resulted in very little downgradient migration of gasoline constituents and, hence, very limited soil and groundwater impacts.

Sandy gravels encountered between 7 feet and 9 feet in depth in boring GA-5, located on the southeast side of the site, exhibited strong diesel hydrocarbon odors. A soil sample collected at 7.5 feet in depth in this boring showed 1,200 mg/kg of TPH-D. Soils above and below this thin gravel layer exhibited no hydrocarbon odors, and a soil sample collected at 11.5 feet in depth in GA-5 showed no detectable concentrations of hydrocarbon constituents. Also, groundwater was first encountered in this boring in a deeper gravel layer at about 15 feet in depth, and the grab groundwater sample from GA-5 showed no detectable concentrations of hydrocarbon constituents. While the source and lateral extent of this shallow soil diesel impact have not been defined, it is clear that this impact is essentially encapsulated and has had no significant impact on subsurface soils or groundwater. Certainly, this diesel range hydrocarbon does not pose a significant risk relative to the planned residential redevelopment of the site, given the depth of the impact and the nonvolatile nature of the diesel range hydrocarbons.

Soil gas samples collected at the site clearly demonstrate that there are no Volatile Organic Compounds (VOCs) migrating upwards through subsurface soils that would pose a significant vapor intrusion risk relative to the planned residential redevelopment of the site. The only VOC detections in any of the soil gas samples were: (1) 0.15 micrograms per liter (ug/l) of Ethylbenzene and 1.04 ug/l of Xylenes in soil gas sample SG-1, located in the former compressor room on the south side of the site; (2) 5.0 ug/l of Trichlorofluoromethane in soil gas sample SG-3, located immediately west of the former 500-gallon Adeline Street gasoline UST; and (3) 0.11 ug/l of Benzene in soil gas sample SG-5, located in a former holding room on the south-middle side of the site. Of these results, only the 0.11 ug/l Benzene result for SG-5 is above the SFBRWQCB's Environmental Screening Levels (ESLs) of 0.085 ug/l (Shallow Soil Gas Environmental Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (residential land use), Table E-2, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, Interim Final, February 2005). However, we do not believe that this result is meaningful, given: (1) It is only 0.01 ug/l above the laboratory detection level of 0.10 ug/l; (2) This area of the site has been covered by the former sausage factory building for several decades, with no

expected nearby Benzene source; and (3) Soil and groundwater samples from nearby borings GA-4 and GA-6 showed no evidence of hydrocarbons, providing further evidence of no hydrocarbon source in this area of the site.

Based on these results, Alameda County Department of Environmental Health issued a letter on December 14, 2006 requesting a detailed Phase I and Phase II investigation to assess possible offsite sources for the HVOC groundwater impacts on the site. On March 12, 2007, Gribi Associates submitted *Report of Phase I Activities and Workplan Addendum* reporting Phase I results and providing a workplan to conduct additional soil and groundwater sampling along Adeline Street. The Phase I activities identified three possible historical sources for the chlorinated solvents (HVOC) groundwater impacts on the extreme southeast side of the project site: (1) The former East Bay Sanitary Rag Works, which occupied the property at 2601 Adeline Street, approximately 100 feet south from the project site, from about 1959 to 1986; (2) A machine shop formerly located immediately south from the project site; or (3) The former Aerovoe Pacific site, located approximately 500 feet south from the project site at 2528 Adeline Street, which may have included the manufacturing of paints, specialty coatings, cleaners, and lubricants. Based on these results, the report included a workplan addendum proposing the drilling and sampling of five soil borings in Adeline Street to assess possible offsite HVOC sources.

In order to further assess HVOC groundwater impacts observed at previous boring GA-2 and B-2, Gribi Associates drilled and sampled five soil borings, GA-12 through GA-16, in the Adeline Street parking lane on Monday, April 16, 2007 (see Figure 6). HVOCs were detected in only one soil sample collected, at 4.0 feet in depth in boring GA-16, which showed 0.0056 milligrams per kilogram (mg/kg) of cis-1,2-DCE and no detectable concentrations of other HVOCs. HVOCs were not detected in soil samples from borings GA-12, GA-13, GA-14, and GA-15.

HVOCs were detected in groundwater samples from borings GA-14, GA-15, and GA-16, with respective cis-1,2-DCE concentrations of 1.2 micrograms per liter (ug/l), 5.9 ug/l, and 1.9 ug/l. The groundwater sample from boring GA-14 also showed 2.1 ug/l of Vinyl Chloride. Groundwater samples from the five borings showed no other detectable concentrations of HVOCs.

The results of this additional soil and groundwater investigation did not conclusively identify an offsite source for the HVOC groundwater impacts encountered in previous onsite boring B-2 and offsite boring GA-2. However, the low-level HVOC groundwater detections in borings GA-14, GA-15, and GA-16 may indicate that the HVOC impacts are related to underground utility pipes, such as the stormwater or sewer pipes, which are present near the middle of Adeline Street, several feet east from these borings. Given the relatively high traffic flow on Adeline Street, drilling in the middle of Adeline Street to assess this possibility would be difficult and dangerous.

While this investigation did not conclusively define an offsite source for HVOC groundwater impacts, results of this and previous investigations do seem to indicate that the elevated HVOC concentrations at boring GA-2 are very localized and not part of a larger, more extensive groundwater HVOC plume.

REQUEST FOR REGULATORY SITE CLOSURE

The preponderance of evidence clearly shows that this site meets generally-accepted closure requirements and should be granted regulatory site closure as a “low risk” site with unrestricted land use. Specifically, site closure should be granted because: (1) The contaminant sources have been largely removed; (2) The site has been adequately characterized; (3) The contaminant plume is not migrating, and chemical concentrations in groundwater are expected to meet water quality objectives in the future; (4) No other waters of the State, water supply wells, or other sensitive receptors are likely to be impacted; and (5) The site does not pose a significant risk to human or environmental receptors. This site should be closed as a “low risk” site with unrestricted land use. A deed restriction should be attached to the property which includes requirements for a soil management plan and vapor barriers beneath constructed buildings, and precludes groundwater use.

Contaminant Source Removal

Contaminants of concern identified for this site include: (1) Total Petroleum Hydrocarbons as Gasoline (TPH-G) and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) associated with the former Adeline Street (south) UST; (2) Total Petroleum Hydrocarbons as Diesel (TPH-D) on the southeast corner of the site, at boring GA-5; and (3) Relatively low concentrations of cis-1,2-Dichloroethene (c-1,2-DCE) and Trichloroethene (TCE) in groundwater on the southeast corner of the site, at boring GA-2.

Two USTs were removed from the site in January 2003; thus, the Adeline Street UST source has been removed. Also, although the shallow soil TPH-D impacts at boring GA-5 have not been removed, these impacts appear to represent a localized impact, with limited vertical and lateral migration and no groundwater impacts. The c-1,2-DCE and TCE groundwater impacts at boring GA-2 and Treadwell & Rollo boring B-2 appear to be very localized, with no identifiable source.

Adequate Site Characterization

As Figures 5 and 6 show, the three areas of concern (former Adeline Street UST, GA-5 shallow soil diesel impact, and GA-2 groundwater HVOC impacts) have been fully characterized and are limited in lateral extent. The limited extent of these impacts appears to have been the result of primarily clay-dominated soils beneath the site. Although some sands were encountered in site borings, these sands were thin and discontinuous and were surrounded by low permeability clays (see Figure 7).

Plume Migration and Natural Attenuation

Contaminant soil and groundwater plume migration has been minimal (see Figures 5 and 6). In each of the three areas of concern, this appears to be the result of: (1) Limited volume of contaminant releases, as evidenced by limited source area COC impacts; and (2) Low permeability clay-dominated soils with discontinuous thin sands beneath the site.

The only direct evidence of natural attenuation at the site is in Treadwell & Rollo boring B-2, which was still open and contained well casing in July 2006. In December 2001, a groundwater sample from this boring showed 990 ug/l of c-1,2-DCE and 47 ug/l of TCE. In July 2006, a water sample collected after purging approximately three gallons of water from this boring showed only 340 ug/l of c-1,2-DCE and 7.9 ug/l of TCE. We would expect this downward concentration trend to continue over time.

Sensitive Receptors Impacts

Potential sensitive receptors relative to this site are summarized in Table 1.

Table 1 PRELIMINARY EXPOSURE PATHWAY SCREENING Former Coast Sausage Site		
Exposure Pathway	Complete?	Discussion
Air Exposure Pathway		
Surface soil volatilization to ambient air	Possible	Possible risk due to low-concentration soil TPH-G/BTEX in shallow soils; risk expected to be low due to low concentrations and lack of VOCs.
Subsurface soil volatilization to ambient air	Possible	Possible risk due to low-concentration soil TPH-G/BTEX; risk expected to be low due to depth of soil impacts and low VOC concentrations.
Subsurface soil volatilization to enclosed space	Possible	Possible risk due to low-concentration soil TPH-G/BTEX; risk expected to be low due to depth of soil impacts and low VOC concentrations.
Groundwater volatilization to ambient air	Possible	Possible risk due to low-concentration groundwater TPH-G/BTEX; risk expected to be low due to depth of groundwater impacts and low VOC concentrations.
Groundwater volatilization to enclosed space	Possible	Possible risk due to low-concentration groundwater TPH-G/BTEX; risk expected to be low due to depth of groundwater impacts and low VOC concentrations.
Soil Exposure Pathway		
Dermal contact/ingestion of surface soils	No	No soil hydrocarbon impacts identified above 7 feet in depth.
Dermal contact/ingestion of subsurface soils	No	Construction worker only, below 7 feet in depth

Table 1 PRELIMINARY EXPOSURE PATHWAY SCREENING Former Coast Sausage Site		
Exposure Pathway	Complete?	Discussion
Groundwater Exposure Pathway		
Soil leaching to groundwater, ingestion	No	No nearby downgradient (NW) water supply wells.
Dissolved/free phase groundwater ingestion	No	No nearby downgradient (NW) water supply wells.
Surface Water Exposure Pathway		
Soil leaching to surface water	No	No nearby surface water bodies.
Groundwater plume discharge to surface water	No	No nearby surface water bodies.

Soil and groundwater hydrocarbon impacts from this site do not extend significantly beyond the property boundaries, and there are no surface water bodies in close proximity to the site. In addition, the State Water Board's Geotracker database identifies no public water wells within the site vicinity. Also, properties downgradient (northwest) from the project site across Magnolia Street are used for commercial/light industrial/office purposes. Given these conditions, we conclude that there are no onsite or offsite surface water or groundwater use sensitive receptors associated with this site, and no offsite indoor or ambient air sensitive receptors associated with the project site.

Since the site and site building are currently unused, there are no current significant receptors relative to potential hydrocarbon vapor exposure. However, if the site is developed and occupied, site workers and occupants could potentially represent sensitive receptors for hydrocarbon vapor exposure.

Risk Evaluation

In order to evaluate site-specific vapor intrusion risk, Gribi Associates conducted soil gas sampling on the project site in July 2006. Soil gas samples collected at the site clearly demonstrate that there are no Volatile Organic Compounds (VOCs) migrating upwards through subsurface soils that would pose a significant vapor intrusion risk relative to the planned residential redevelopment of the site. The only VOC detections in any of the soil gas samples were: (1) 0.15 micrograms per liter (ug/l) of Ethylbenzene and 1.04 ug/l of Xylenes in soil gas sample SG-1, located in the former compressor room on the south side of the site; (2) 5.0 ug/l of Trichlorofluoromethane in soil gas sample SG-3, located immediately west of the former 500-gallon Adeline Street gasoline UST; and (3) 0.11 ug/l of Benzene in soil gas sample SG-5, located in a former holding room on the south-middle side of the site. Of these results, only the 0.11 ug/l Benzene result for SG-5 is above the SFBRWQCB's Environmental Screening Levels (ESLs) of 0.085 ug/l (Shallow Soil Gas Environmental Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (residential land use), Table E-2, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco

Bay Regional Water Quality Control Board, Interim Final, November 2007). However, we do not believe that this result is meaningful, given: (1) It is only 0.01 ug/l above the laboratory detection level of 0.10 ug/l; (2) This area of the site has been covered by the former sausage factory building for several decades, with no expected nearby Benzene source; and (3) Soil and groundwater samples from nearby borings GA-4 and GA-6 showed no evidence of hydrocarbons, providing further evidence of no hydrocarbon source in this area of the site.

Summary

Regulatory closure should be granted for this site based on the following generally-accepted closure criteria: (1) A large portion of the contaminant source, or sources, have been removed; (2) The site has been adequately characterized; (3) The contaminant plume is not migrating, and chemical concentrations in groundwater are expected to meet water quality objectives in the future; (4) No other waters of the State, water supply wells, or other sensitive receptors are likely to be impacted; and (5) The site does not pose a significant risk to human health or safety. This site should be closed as a "low risk" site with unrestricted land use. A deed restriction should be attached to the property which includes requirements for a soil management plan and vapor barriers beneath constructed buildings, and precludes groundwater use.

We appreciate this opportunity to provide this report for your review. Please contact us if there are questions or if additional information is required.

Very truly yours,



James E. Gribi
Registered Geologist
California No. 5843



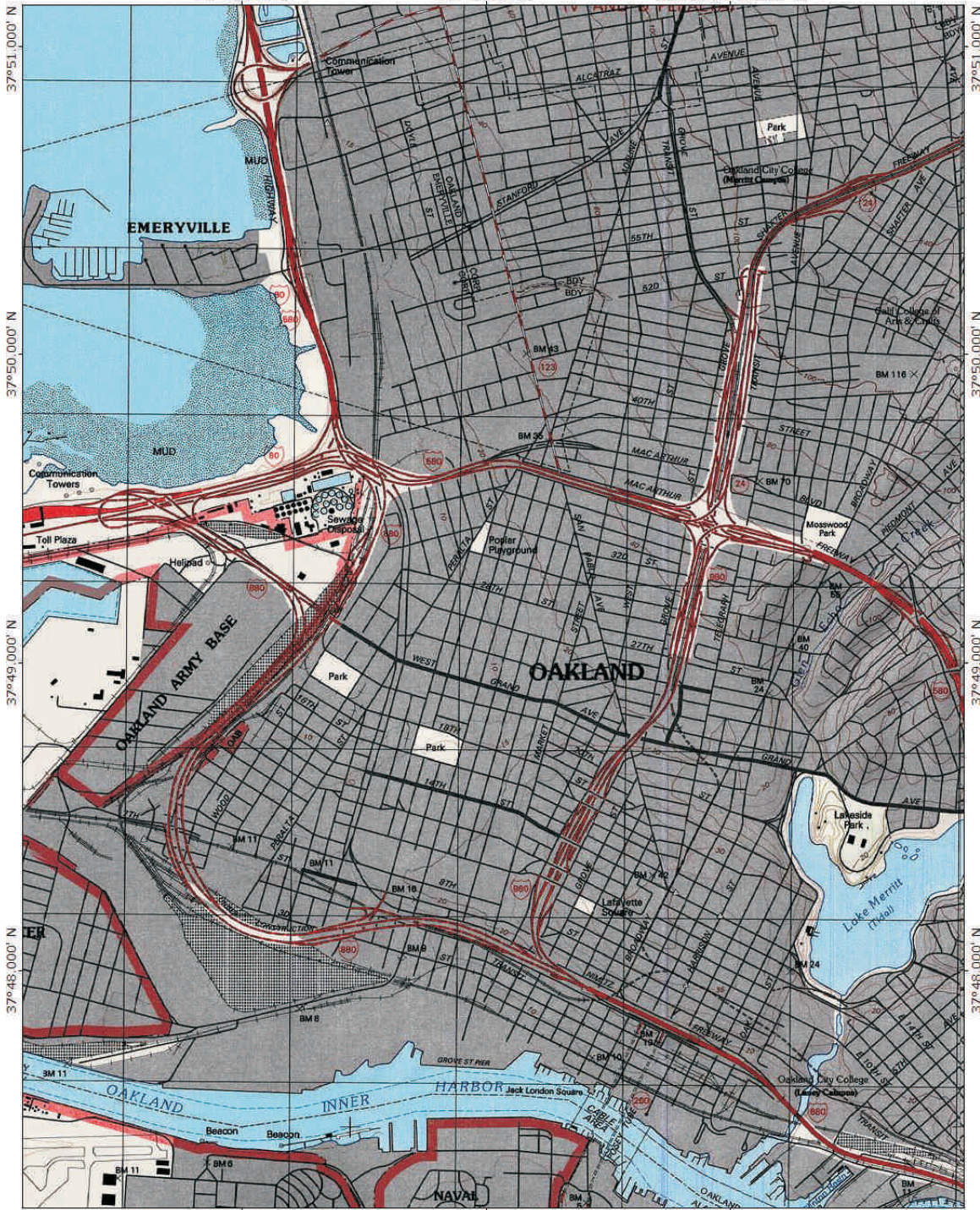
c Francis Rush, Rush Property Group

Enclosures: Figure 1: Site Vicinity Map
Figure 2: Site Plan
Figure 3: Site Area Plan
Figure 4: Soil Gas Sampling Locations and Results
Figure 5: Onsite Soil and Groundwater Lab Results
Figure 6: Soil and Groundwater HVOC Results
Figure 7: Lithologic Cross Section

Attachment A: Tabulated Lab Results from Previous Gribi Associates Investigations

FIGURES

TOPO! map printed on 05/17/06 from "California.tpo" and "Untitled.tpg"
 122°18.000' W 122°17.000' W WGS84 122°16.000' W

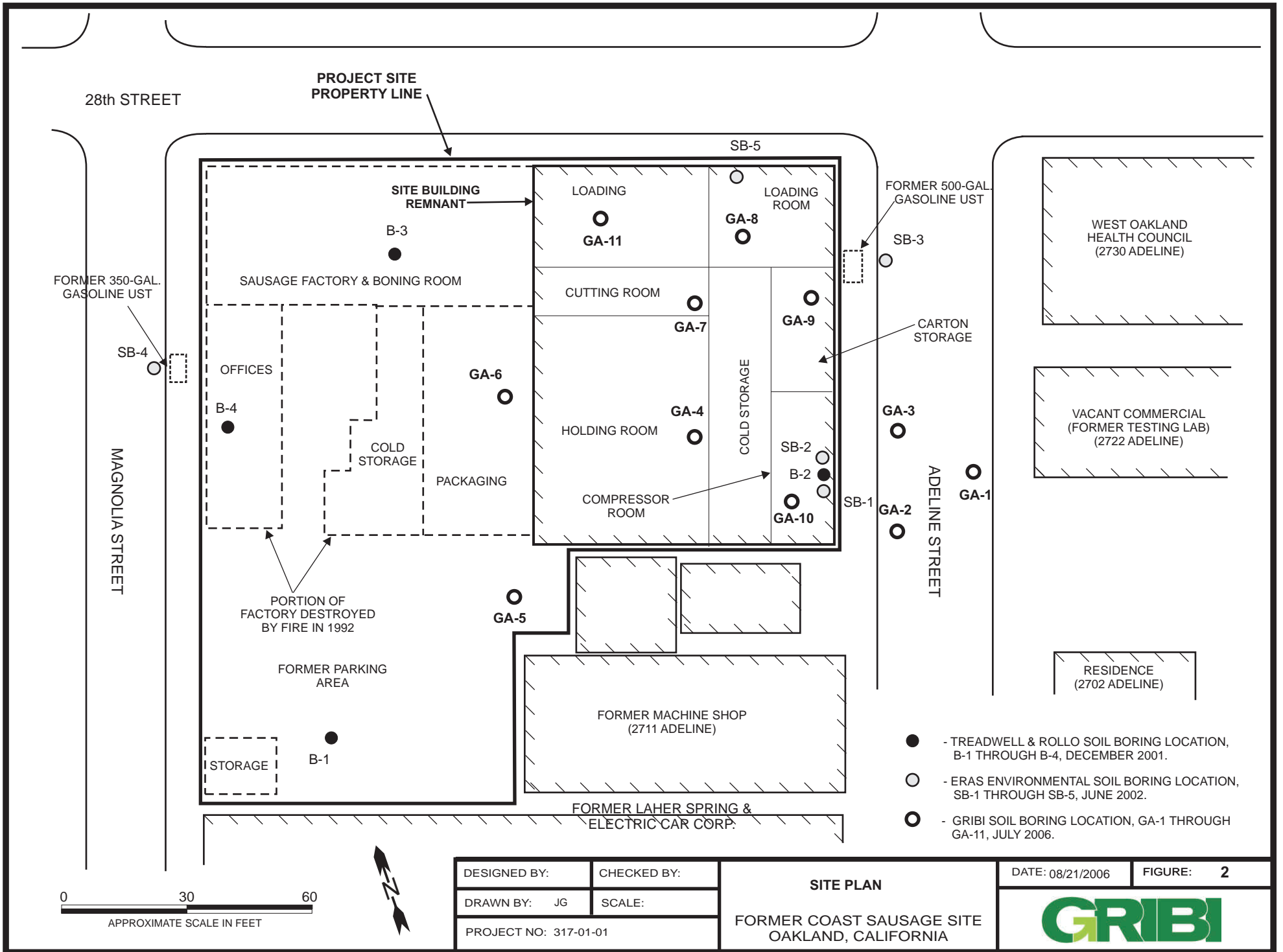


122°18.000' W 122°17.000' W WGS84 122°16.000' W



Printed from TOPO! ©2000 Wildflower Productions (www.topo.com)

DESIGNED BY:	CHECKED BY:	SITE VICINITY MAP	DATE: 08/08/2008	FIGURE: 1
DRAWN BY: JG	SCALE:			
PROJECT NO: 317-01-01				
		FORMER COAST SAUSAGE SITE OAKLAND, CALIFORNIA		

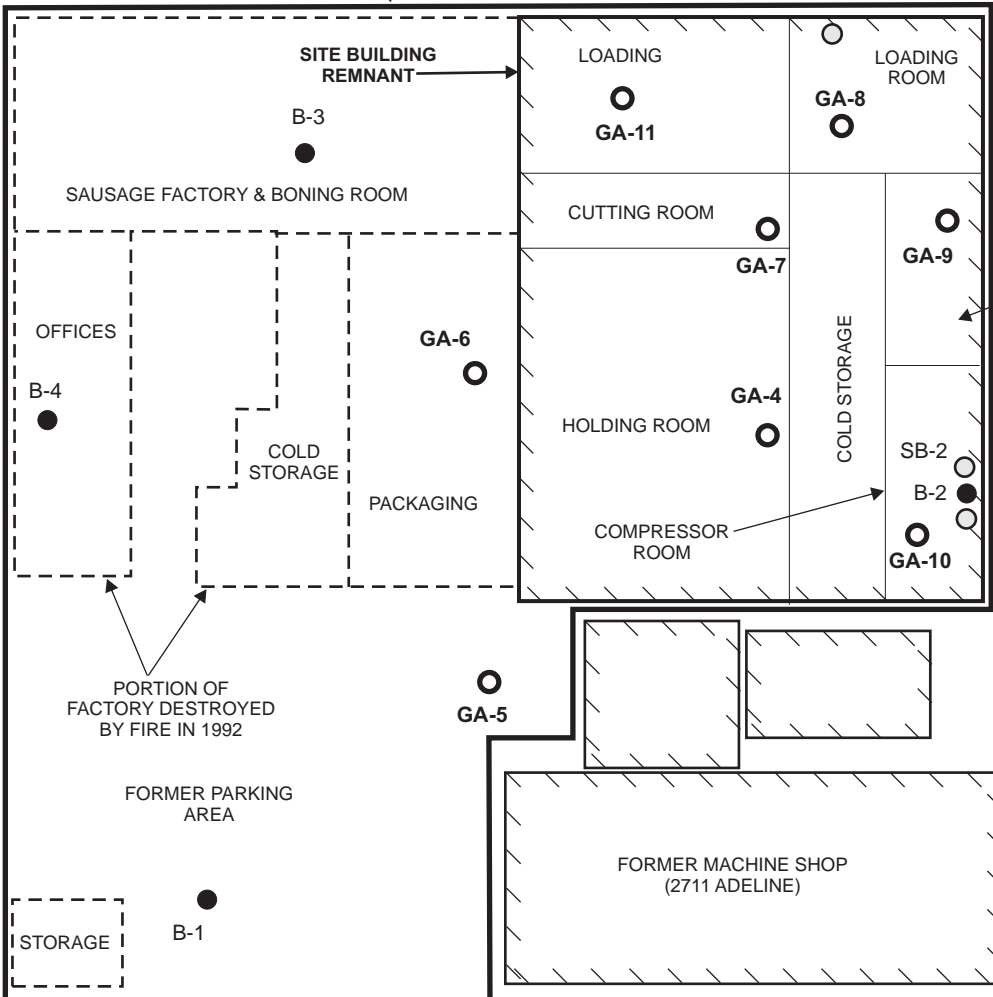


PROJECT SITE
PROPERTY LINE

28th STREET

FORMER 350-GAL.
GASOLINE UST

MAGNOLIA STREET



FORMER 500-GAL.
GASOLINE UST

SB-3

CARTON
STORAGE

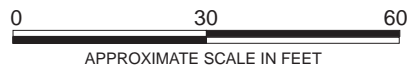
ADELINE STREET

WEST OAKLAND
HEALTH COUNCIL
(2730 ADELINE)

VACANT COMMERCIAL
(FORMER TESTING LAB)
(2722 ADELINE)

RESIDENCE
(2702 ADELINE)

- - TREADWELL & ROLLO SOIL BORING LOCATION, B-1 THROUGH B-4, DECEMBER 2001.
- - ERAS ENVIRONMENTAL SOIL BORING LOCATION, SB-1 THROUGH SB-5, JUNE 2002.
- - GRIBI SOIL BORING LOCATION, GA-1 THROUGH GA-11, JULY 2006.



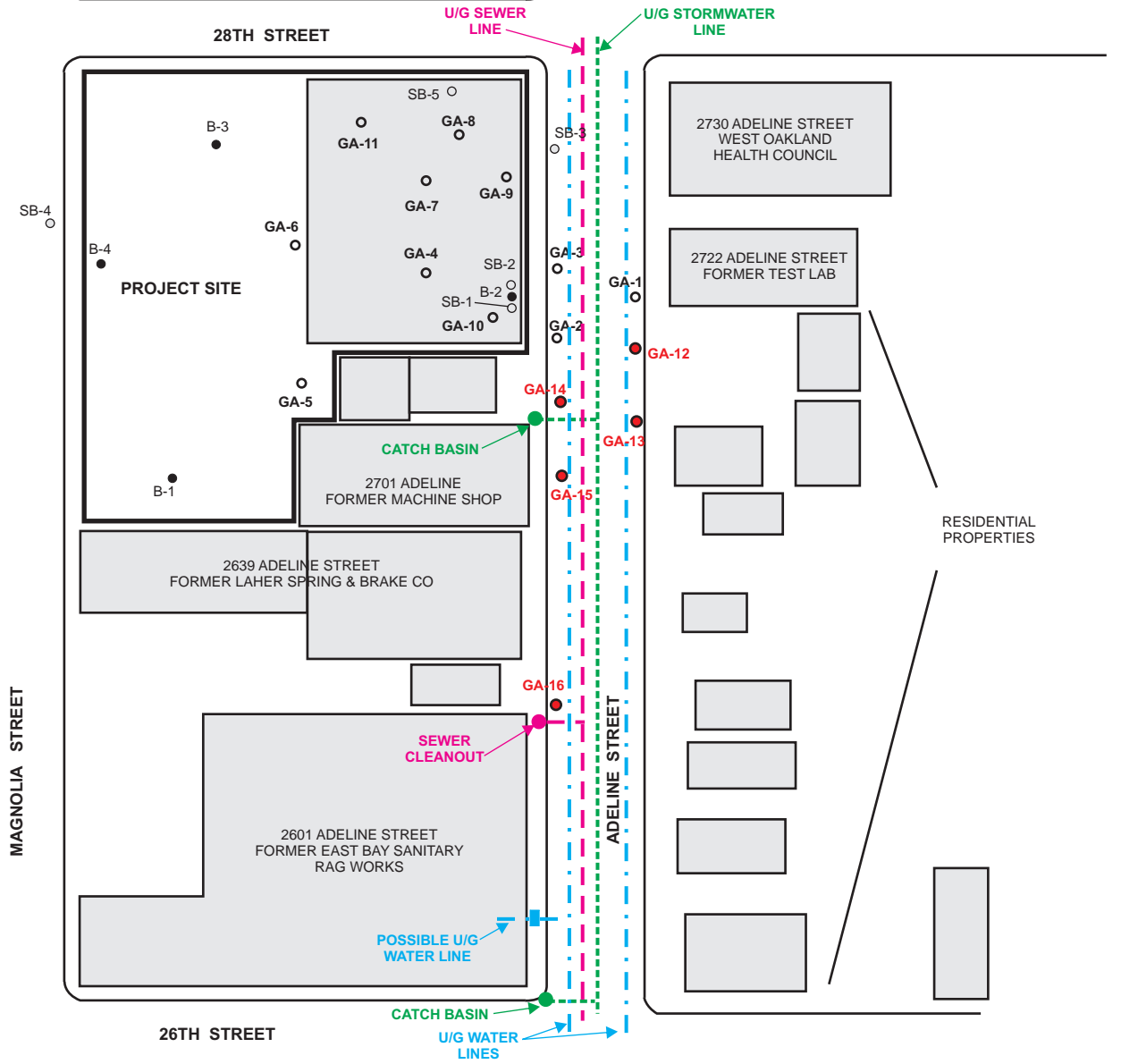
DESIGNED BY:	CHECKED BY:
DRAWN BY: JG	SCALE:
PROJECT NO: 317-01-01	

SITE PLAN

FORMER COAST SAUSAGE SITE
OAKLAND, CALIFORNIA

DATE: 08/21/2006 FIGURE: **2**

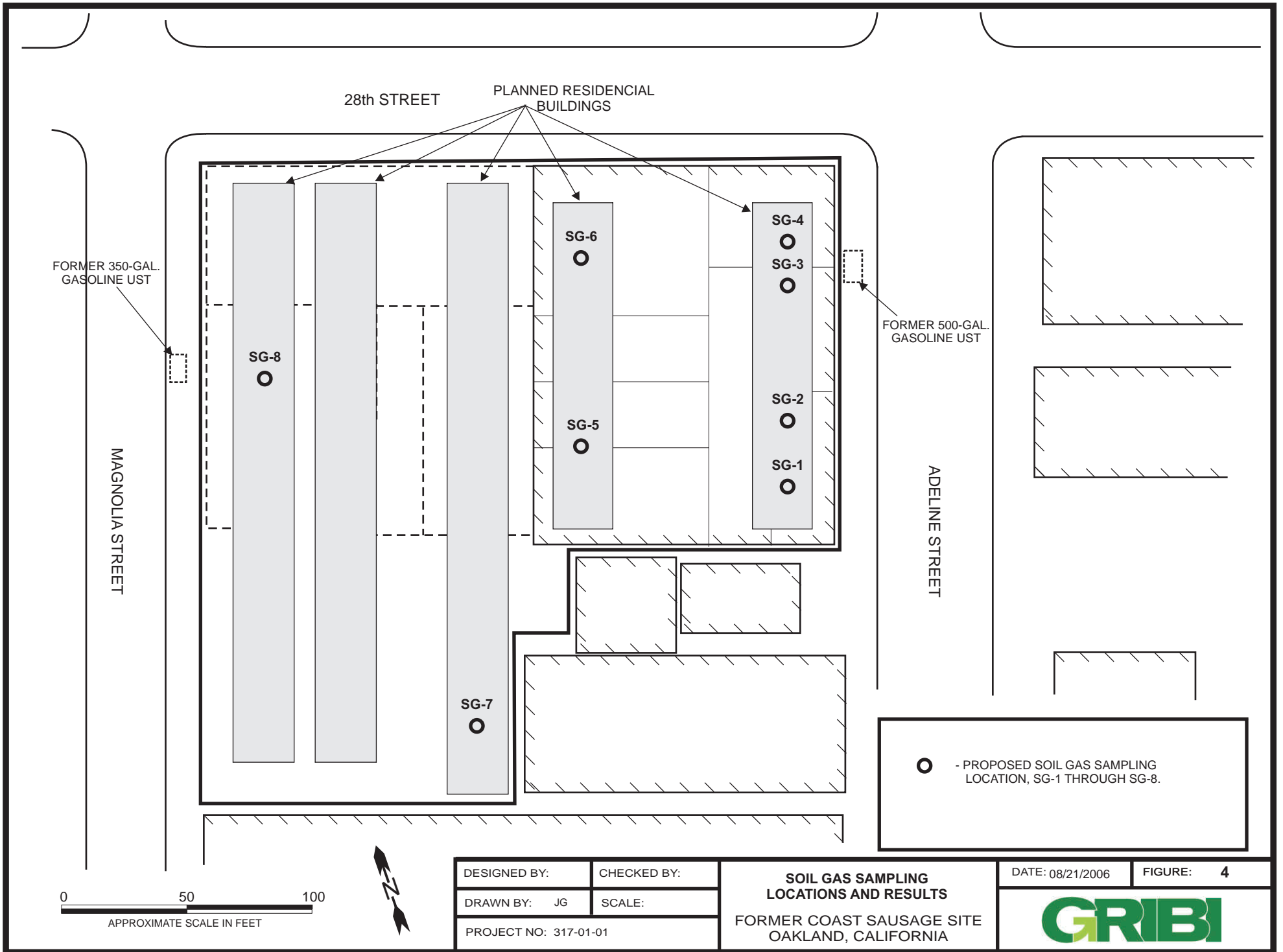


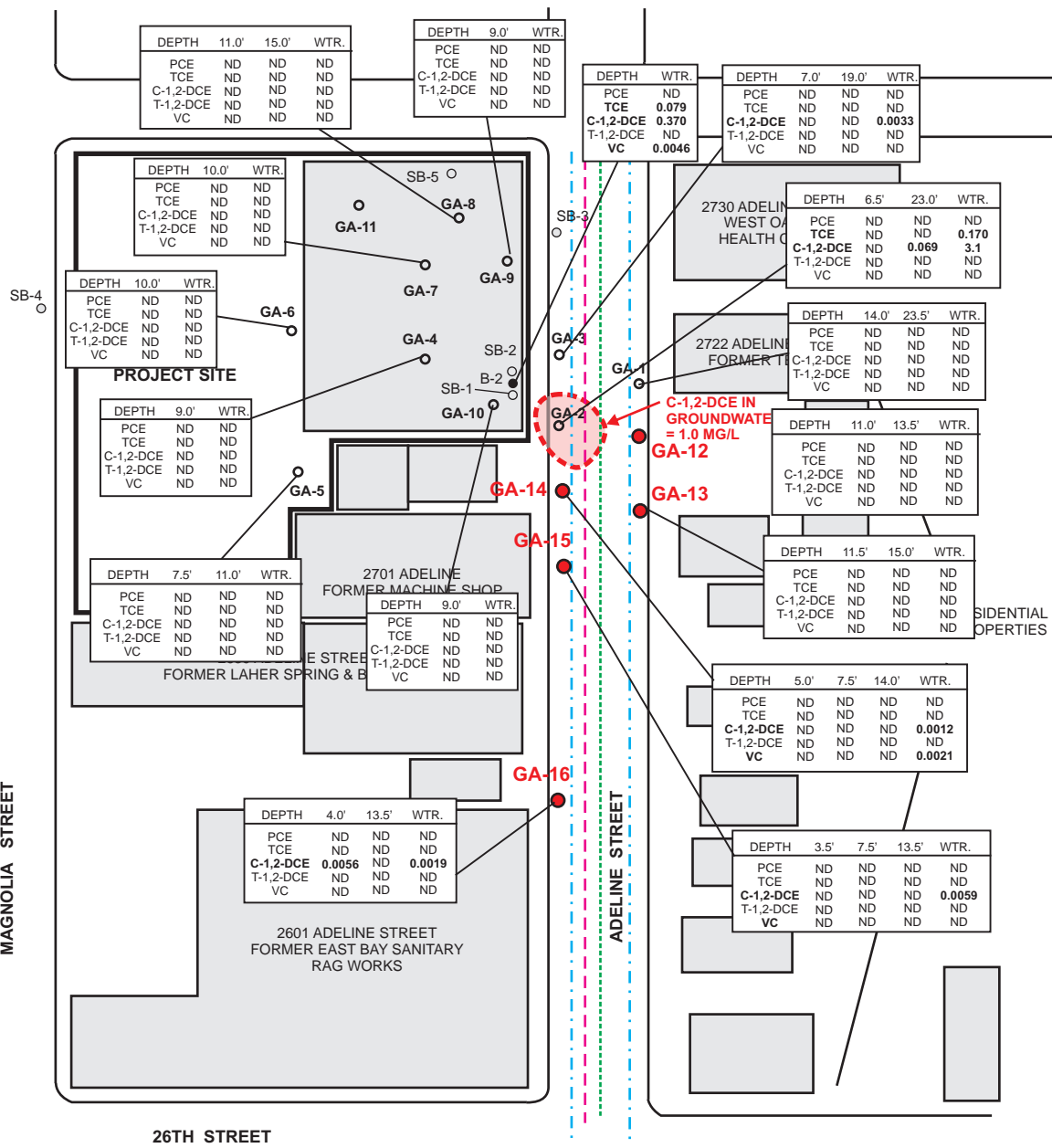


- - GRIBI SOIL BORING LOCATION, GA-12 THROUGH GA-16, APRIL 2007.
- - GRIBI SOIL BORING LOCATION, GA-1 THROUGH GA-11, JULY 2006.
- - ERAS ENVIRONMENTAL SOIL BORING LOCATION, SB-1 THROUGH SB-5, JUNE 2002.
- - TREADWELL & ROLLO SOIL BORING LOCATION, B-1 THROUGH B-4, DECEMBER 2001.



DESIGNED BY:	CHECKED BY:	SITE AREA PLAN FORMER COAST SAUSAGE SITE OAKLAND, CALIFORNIA	DATE: 08/08/2008	FIGURE: 3
DRAWN BY: JG	SCALE:			
PROJECT NO: 317-01-01				





- - GRIBI SOIL BORING LOCATION, GA-12 THROUGH GA-12, APRIL 2007.
- - GRIBI SOIL BORING LOCATION, GA-1 THROUGH GA-11, JULY 2006.
- - ERAS ENVIRONMENTAL SOIL BORING LOCATION, SB-1 THROUGH SB-5, JUNE 2002.
- - TREADWELL & ROLLO SOIL BORING LOCATION, B-1 THROUGH B-4, DECEMBER 2001.

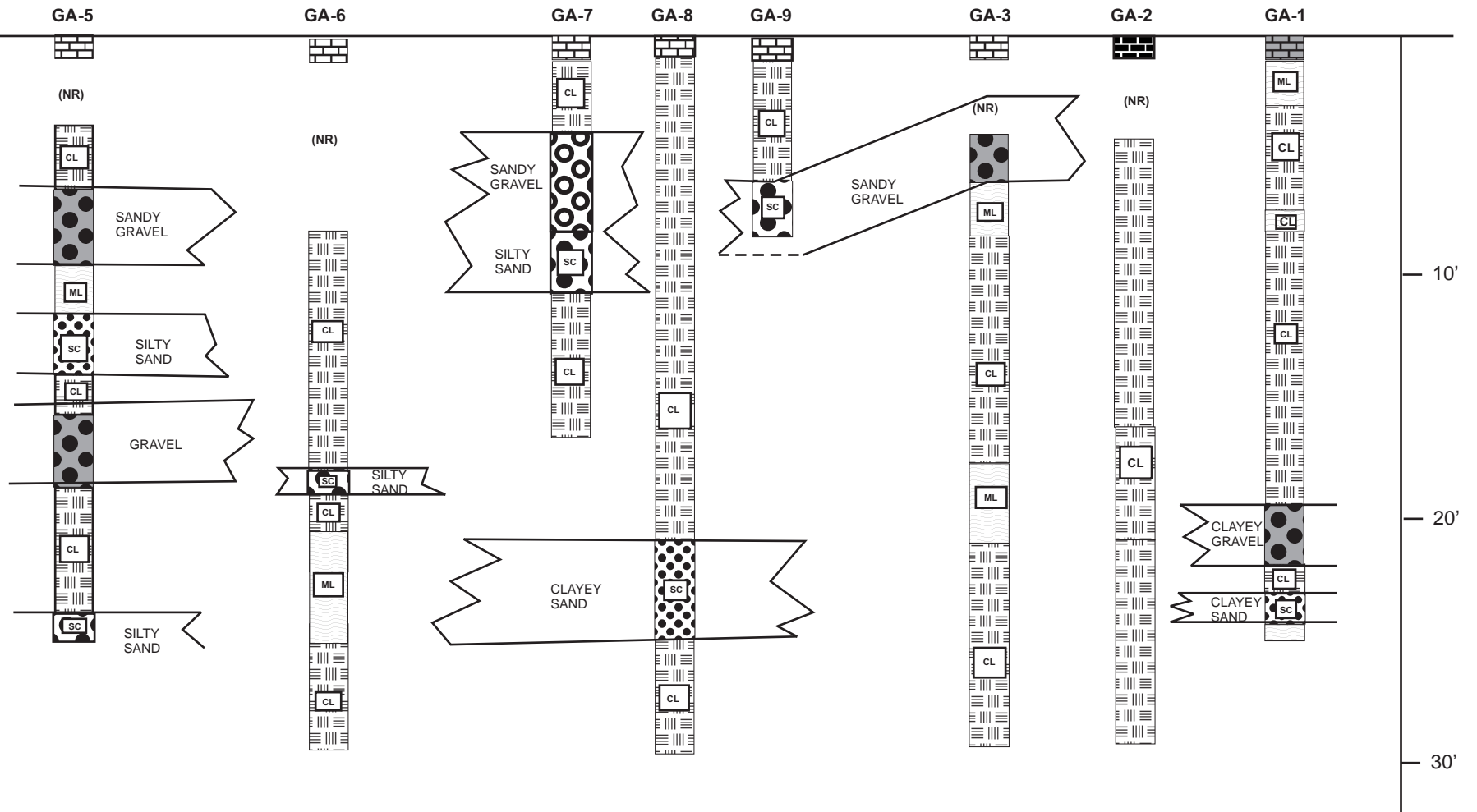
SOIL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG)
 GROUNDWATER CONCENTRATIONS IN MILLIGRAMS PER LITER (MG/L).



DESIGNED BY:	CHECKED BY:	SOIL AND GROUNDWATER HVOC RESULTS FORMER COAST SAUSAGE SITE OAKLAND, CALIFORNIA	DATE: 08/08/2008	FIGURE: 6	
DRAWN BY: JG	SCALE:				
PROJECT NO: 317-01-01					

WEST

EAST



DESIGNED BY:	CHECKED BY:
DRAWN BY: JG	SCALE:
PROJECT NO: 317-01-01	

LITHOLOGIC CROSS SECTION
FORMER COAST SAUSAGE SITE
OAKLAND, CALIFORNIA

DATE: 08/21/2006	FIGURE: 7
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ATTACHMENT A

**TABULATED LAB RESULTS FROM PREVIOUS
GRIBI ASSOCIATES INVESTIGATIONS**

Table 1
SUMMARY OF SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS
Former Coast Sausage Site

Sample ID	Sample Type	Sample Depth	Concentration, parts per million, ppm (Soil = mg/kg; Groundwater = mg/l)							
			TPH-D	TPH-G	B	T	E	X	MTBE	VOCs
GA-1-14.0	Soil	14.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-1-23.5	Soil	23.5 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-1-GW	Water	(9.0 ft)	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	ND ¹
GA-2-6.5	Soil	6.5 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-2-23.0	Soil	23.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	c-1,2-Dichloroethene = 0.069
GA-2-GW	Water	(6.1 ft)	<0.050	2.4	0.0030	<0.0005	<0.0005	<0.0010	<0.0010	c-1,2-Dichloroethene = 3.1 t-1,2-Dichloroethene = 0.0043 Trichloroethene = 0.170 Vinyl Chloride = 0.130
GA-3-7.0	Soil	7.5 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-3-19.0	Soil	19.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-3-GW	Water	(12.8 ft)	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	c-1,2-DCE = 0.0033
GA-4-9.0	Soil	9.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-4-GW	Water	(7.5 ft)	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	ND ¹
GA-5-7.5	Soil	7.5 ft	1,200	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-5-11.5	Soil	11.5 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-5-GW	Water	(12.4 ft)	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	ND ¹
GA-6-10.0	Soil	10.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-6-GW	Water	(26.5 ft)	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	ND ¹
GA-7-10.0	Soil	10.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-7-GW	Water	(7.2 ft)	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	ND ¹
GA-8-11.0	Soil	11.0 ft	<5.0	71	<0.0020	<0.0020	0.210	0.160	<0.0050	Isopropylbenzene = 0.340 p-Isopropyltoluene = 0.066 Naphthalene = 0.270 n-Propylbenzene = 0.710 1,3,5-Trimethylbenzene = 0.420 1,2,4-Trimethylbenzene = 1.6

Table 1
SUMMARY OF SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS
Former Coast Sausage Site

Sample ID	Sample Type	Sample Depth	Concentration, parts per million, ppm (Soil = mg/kg; Groundwater = mg/l)							
			TPH-D	TPH-G	B	T	E	X	MTBE	VOCs
GA-8-15.0	Soil	15.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-8-GW	Water	(19.5 ft)	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	ND ¹
GA-9-8.0	Soil	8.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-9-GW	Water	(6.8 ft)	<0.050	0.440	0.0060	<0.0005	0.0011	<0.0010	<0.0010	sec-Butylbenzene = 0.0016 tert-Butylbenzene = 0.0019 Isopropylbenzene = 0.0026 n-Propylbenzene = 0.0028
GA-10-10.0	Soil	10.0 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	ND ¹
GA-10-GW	Water	(7.0 ft)	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	ND ¹
GA-11-6.5	Soil	6.5 ft	<5.0	<0.500	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	0.0091 1,2,4-Trimethylbenzene
Sampling of Previous Boring B-2 on 07/27/06										
B-2	Water	(6.5 ft)	--	0.360	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	c-1,2-Dichloroethene = 0.370 Trichloroethene = 0.0079 Vinyl Chloride = 0.0046
Soil ESL-Residential			6,000	6,000	0.18	130	390	310	2.0	c-1,2-Dichloroethene = 0.370 t-1,2-Dichloroethene = 3.1 Trichloroethene = 0.260 Vinyl Chloride = 0.0067
Groundwater ESL-Residential			2.5	5.0	1.9	530	170	160	45	c-1,2-Dichloroethene = 19 t-1,2-Dichloroethene = 24 Trichloroethene = 2.0 Vinyl Chloride = 0.017

TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl-t-Butyl Ether
VOCs = Volatile Organic Compounds
<5.0 = Not detected above the expressed value.
1 = No detectable concentrations of 54 individual VOC constituents.

-- = Not analyzed for this analyte.
ESL = Soil and Groundwater Environmental Screening Levels for evaluation of potential impacts to indoor air (residential land use), as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, Interim Final, February 2005. Soil and groundwater ESLs for TPH-G/TPH-D are for direct exposure; for all other constituents, soil and groundwater ESLs are for potential vapor intrusion concerns (Appendix 1, Tables B-1 and F-1b).

Table 2
SUMMARY OF SOIL GAS LABORATORY ANALYTICAL RESULTS
Former Coast Sausage Site

Sample ID	Sample Depth	Purge Volume	Concentration, micrograms per liter (ug/l)					
			Benzene	Toluene	Ethylbenzene	Xxlenes	Trichlorofluoromethane	Other VOCs
SG-1	2.0 ft	3 liters	<0.10	<0.20	0.19	1.11	<0.10	ND
SG-1	2.0 ft	1 liters	<0.10	<0.20	0.11	0.74	<0.10	ND
SG-1	2.0 ft	7 liters	<0.10	<0.20	0.15	1.04	<0.10	ND
SG-2	2.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	<0.10	ND
SG-3	2.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	5.0	ND
SG-4	2.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	<0.10	ND
SG-4	2.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	<0.10	ND
SG-4	2.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	<0.10	ND
SG-5	2.0 ft	3 liters	0.11	<0.20	<0.10	<0.20	<0.10	ND
SG-6	2.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	<0.10	ND
SG-6 dup	2.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	<0.10	ND
SG-7	2.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	<0.10	ND
SG-8	5.0 ft	3 liters	<0.10	<0.20	<0.10	<0.20	<0.10	ND
Probe Blank	--	--	<0.10	<0.20	<0.10	<0.20	<0.10	ND
Soil Gas ESL-Residential, ug/m3			85	63,000	420,000	150,000	NE	Variable
Soil Gas ESL-Residential, ug/l			0.085	63	420	150	NE	Variable

Sample Depth = Depth below concrete slab, in feet.
Purge Volume = Volume purged before sampling, in liters.
Other VOCs = Includes 19 other Volatile Organic Compounds (excluding BTEX and Trichlorofluoromethane; does include chlorinated solvents).
<0.10 = Not detected above the expressed value.
ND = No detectable concentrations of 19 individual VOC constituents.

Probe Blank = Equipment blank vapor sample taken from air purged from sampling probe.
Soil Gas ESL = Shallow Soil Gas Environmental Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (residential land use), Table E-2, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, Interim Final, February 2005.

Table 3
SUMMARY OF SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS
Former Coast Sausage Site

Sample ID	Sample Type	Sample Depth	Concentration, parts per billion, ppb (Soil = ug/kg; Groundwater = ug/l)					
			PCE	TCE	cis-1,2-DCE	trans1,2-DCE	VC	Other HVOCs
GA-12-11.0	Soil	11.0 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-12-13.5	Soil	13.5 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-12-GW	Water	(11.0 ft)	<1.0	<1.0	<0.50	<0.50	<0.50	ND
GA-13-11.5	Soil	11.5 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-13-15.0	Soil	15.0 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-13-GW	Water	(7.1 ft)	<1.0	<1.0	<0.50	<0.50	<0.50	ND
GA-14-5.0	Soil	5.0 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-14-7.5	Soil	7.5 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-14-14	Soil	14.0 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-14-W	Water	(13.0 ft)	<1.0	<1.0	1.2	<0.50	2.1	ND
GA-15-3.5	Soil	11.0 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-15-7.5	Soil	11.0 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-15-13.5	Soil	11.0 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-15-W	Water	(7.4 ft)	<1.0	<1.0	5.9	<0.50	<0.50	ND
GA-16-4.0	Soil	4.0 ft	<4.0	<4.0	5.6	<4.0	<4.0	ND
GA-16-13.5	Soil	13.5 ft	<4.0	<4.0	<4.0	<4.0	<4.0	ND
GA-16-W	Water	(7.24 ft)	<1.0	<1.0	1.9	<0.50	<0.50	ND
Soil ESL-Residential (direct exposure)			0.34	1.9	6.4	10	0.021	Various
Groundwater ESL-Residential (vapor intrusion)			120	530	6,200	6,700	3.8	Various

Table Notes

Sample Depth = Depth below ground surface, in feet.

PCE = Tetrachloroethene

TCE = Tetrachloroethene

c-1,2-DCE = Cis-1,2-Dichloroethene

t-1,2-DCE = Trans-1,2-Dichloroethene

VC = Vinyl Chloride

Other HVOCs = Includes 23 other Halogenated Volatile Organic Compounds.

<4.0 = Not detected above the expressed value.

ND = No detectable concentrations of 23 individual VOC constituents.

Soil ESL = Soil Environmental Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (residential land use), Table A-1, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, Interim Final, November 2007.

Groundwater ESL = Groundwater Environmental Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (residential land use, low/moderate permeability soils), Table E-1a, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, Interim Final, November 2007.