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PREFERENTIAL PATHWAY AND INDOOR AIR SURVEY REPORT

**EMERYBAY CONDO PHASE I PARKING GARAGE
6400 CHRISTIE AVENUE
EMERYVILLE, CALIFORNIA**

Prepared for:

**EMERY BAY COMMERCIAL ASSOCIATION
6475 CHRISTIE AVENUE, SUITE 550
EMERYVILLE, CA 94608**

April 2009

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Prepared for:

**EMERY BAY COMMERCIAL ASSOCIATION
6475 CHRISTIE AVENUE, SUITE 550
EMERYVILLE, CA 94608**

Prepared by:

**STELLAR ENVIRONMENTAL SOLUTIONS, INC.
2198 SIXTH STREET
BERKELEY, CALIFORNIA 94710**

April 3, 2009

Project No. 2007-65

April 3, 2009

Ms. Barbara Jakub
Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Preferential Pathway and Indoor Air Survey Report
Emerybay Phase I Condos – 6400 Christie Avenue, Emeryville, California
Alameda County Department of Environmental Health Case No. RO2799

Dear Ms. Jakub:

On behalf of the property owner and “Responsible Party” (Emery Bay Commercial Association), Stellar Environmental Solutions, Inc. (SES) is submitting this Preferential Pathway and Indoor Air Survey for the Emerybay Phase I Condos (former Garrett Freightlines) located at 6400 Christie Avenue in Emeryville, California. The purpose of this survey is to document the indoor air conditions for both residential and commercial occupants of the building, as well as to determine the locations of underground utilities and wells, which could serve as preferential pathways or conduits for the subject property contaminant plume.

The Alameda County Department of Environmental Health (ACEH) has not issued a directive requesting the preferential pathway investigation and indoor survey; however, these studies have been conducted under ACEH oversight. This report has been uploaded to the ACEH ftp site and to the State Water Resources Control Board online GeoTracker system.

If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,



Richard S. Makdisi, R.G., R.E.A.
Principal



Teal Glass, R.E.A.
Project Manager



cc: Ms. Sarah Irving, Emery Bay Commercial Association

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1.0 INTRODUCTION

PROJECT BACKGROUND

The subject property, located at 6400 Christie Avenue in Emeryville, California, is partially owned by Emery Bay Commercial Association, for which Stellar Environmental Solutions, Inc. (SES) provides environmental consulting services. The site has undergone fuel tank-related investigations and remediation since 1988 (by SES since 2007). All known environmental documents for the subject property are listed in the References and Bibliography section (Section 6.0) of this report.

SITE AND VICINITY DESCRIPTION

The project site is located at 6400 Christie Avenue in Emeryville, California (see Figure 1). The project site, which slopes to the south, is wholly developed with an open ground-floor parking area and apartment complex known as the Emery Bay Phase I Condos and parking garage. The area of monitoring and product extraction is primarily located in the northeastern portion of the parking garage. Figure 2 is a site plan.

PREVIOUS INVESTIGATIONS

The subject property parcel was developed as early as 1958 with the Garrett Motor Freight Station, associated with Delta Lines, Inc. The Delta Lines complex contained an “Oil and Gas” building, located at the site of the present-day Emery Bay Phase I Condo complex and parking garage. The building remained on the property until 1986, when it was demolished to build the present-day structures. Twelve underground fuel storage tanks (UFSTs) containing diesel and gasoline were removed from the Emery Bay Phase I and Phase II Condo complex parcels in 1987, at which time soil and groundwater contamination was discovered.

The subsurface contamination originated from the trucking terminal that was operated by the Garrett Freight Line and Delta Lines, and existed at the site of the Bay Center Apartments before its development in the late 1980s. Site investigations identified a total of 12 UFSTs in three areas of the trucking terminal. These UFST areas were referred to as: 1) Tank Pits A and B (each containing one 10,000-gallon diesel tank); 2) Tank Pit TC-1 (four 12,000-gallon diesel tanks, two 10,000-gallon



Image courtesy of the U.S. Geological Survey



SITE LOCATION ON AERIAL PHOTO

**6400 Christie Ave.
Emeryville, CA**

By: MJC

JANUARY 2008

Figure 1



2007-565-01



SITE PLAN AND ADJACENT LAND USE

6400 Christie Ave.
Emeryville, CA

By: MJC

JANUARY 2008

Figure 2



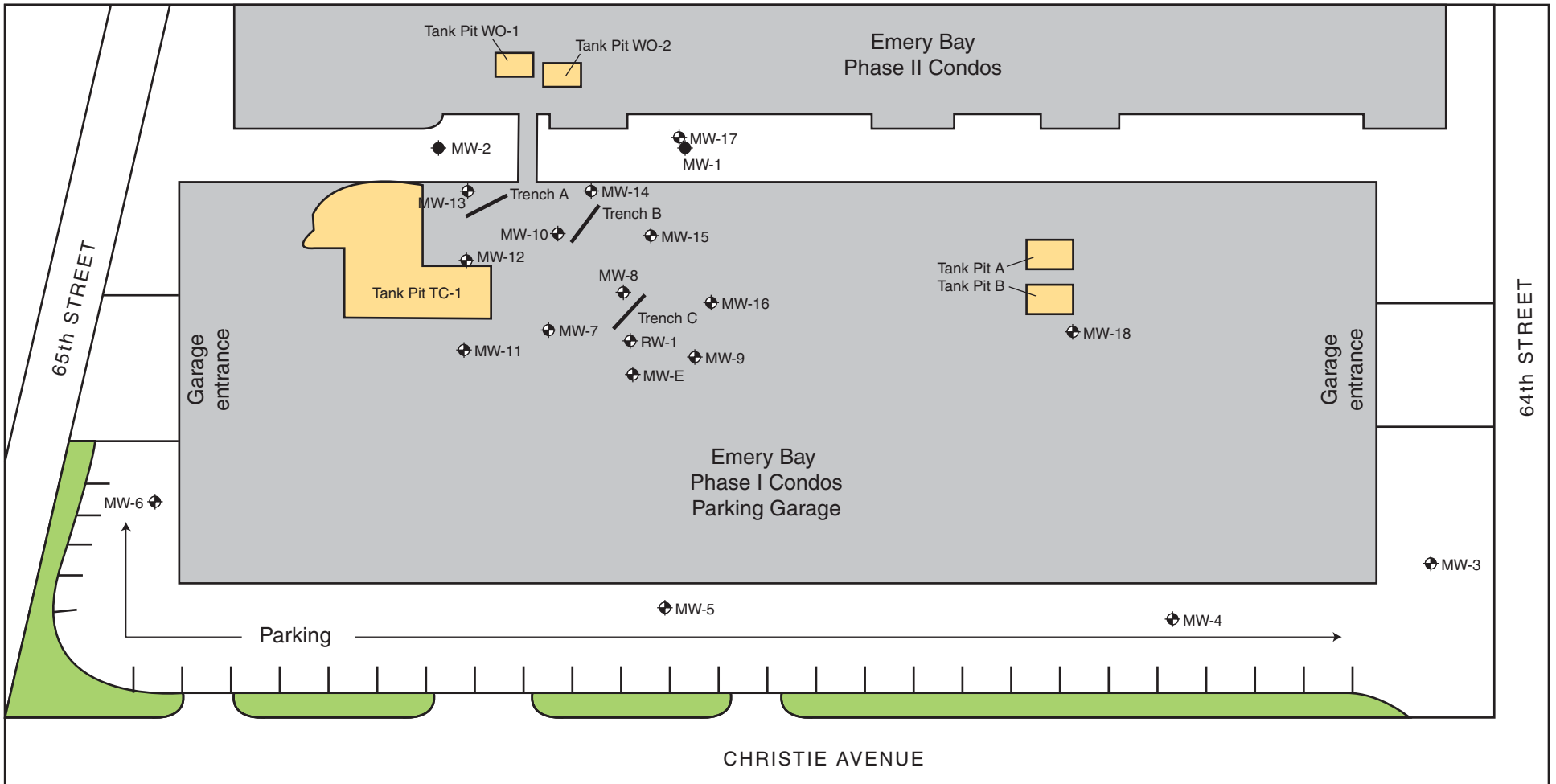
2007-65-07

diesel tanks, and one 6,000-gallon gasoline tank); and 3) Tank Pit WO-1 and WO-2 (one 6,000-gallon tank, one 4,000-gallon tank, and one 1,000-gallon tank). Nine UFSTs were located beneath the current footprint of the Emery Bay Phase I Condo complex, while three were beneath the Emery Bay Phase II Condo complex. Figure 2 shows the historical locations where the tanks were removed.

In 1989, to address the light non-aqueous phase liquid (LNAPL) groundwater contamination in the garage area of the Emery Bay Phase I Condo complex, a pump-and-treat system was installed by Groundwater Technology, Inc. (GTI). The system extracted approximately 1 million gallons of groundwater, yielding approximately 100 gallons of LNAPL from recovery well RW-1 from July 1990 to March 1991. Three monitoring wells had previously been installed in 1985. GTI installed (and repaired) several more monitoring wells between 1987 and 1990, for a total of seven monitoring wells and one extraction well by 1990. The system and groundwater monitoring wells were designed and monitored as a condition of discharge permits granted by the East Bay Municipal Utility District (EBMUD) and the Bay Area Air Quality Management District. The first groundwater monitoring event for MW-1 through MW-6 occurred in December 1988. The second monitoring event, which also included MW-E and RW-1, was conducted in March 1989. Subsequently, the groundwater extraction system operated by GTI was closed in late 1990 when corrosion and other mechanical problems caused the system to fail. Recovery of LNAPL continued manually on RW-1 until 1991, and a third groundwater sampling event occurred in February 1991. In 1994, the GTI recovery system was abandoned. Appendix A contains the historical analytical results. Figure 3 shows the locations of the monitoring wells and trenches.

No groundwater monitoring events occurred at the site between 1991 and 2004, when PES was retained to evaluate and implement remediation of the residual contamination at the TC-1 (former location of seven UFSTs) Emery Bay Phase I Condo complex area. (Note: Harding Lawson Associates conducted soil and groundwater sampling on the Phase II Apartment complex area during this time, but not for the purpose of product extraction or remediation.) In 2004, PES installed an additional 10 groundwater monitoring wells (monitoring wells MW-1 and MW-2 were either abandoned or paved over with asphalt during construction), bringing the current total to 17 monitoring wells and 1 extraction well in the Phase I parking garage area. The first groundwater monitoring event for the current wells was conducted in March 2004, and the second event was conducted in December 2006.

A previous SES report (SES, 2007) fully discusses previous site remediation and investigations, site geology and hydrogeology, and residual site contamination. Figures 4, 5, and 6 present the analytical results and approximate plume dimensions of the latest December 2008 groundwater monitoring event. Historical groundwater well analytical results can be found in Appendix A.



LEGEND

- ⊕ Monitoring well
- Monitoring well (presumed abandoned)
- Trench location
- Historical tank pit area
- Landscaping

0 60
SCALE: 1/2" = 60 FEET

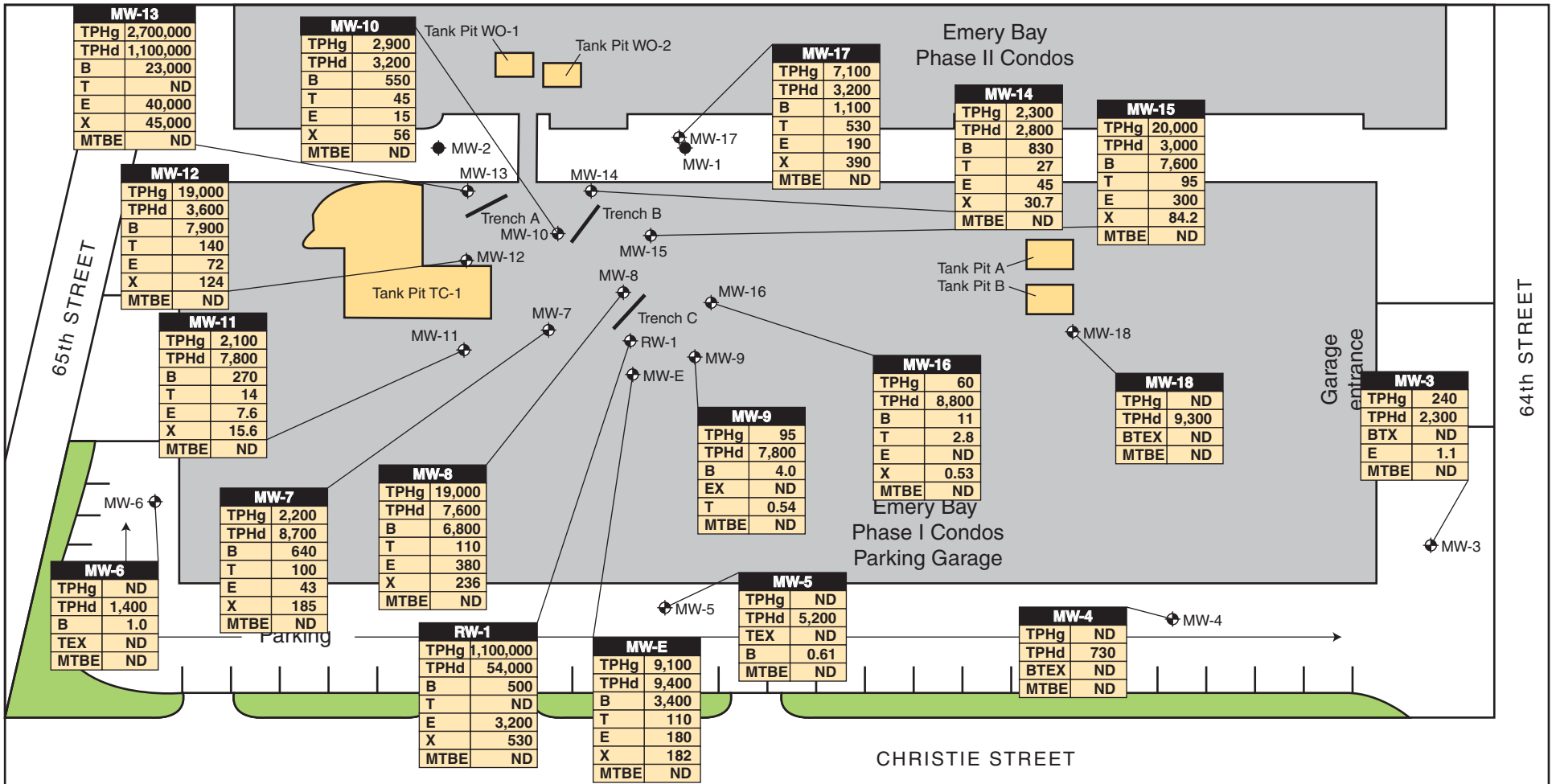


MONITORING WELL AND TRENCH LOCATIONS
6400 Christie Ave., Emeryville, CA

Figure 3

by: MJC

JANUARY 2008



LEGEND

- ◆ Monitoring well
 - ◆ Monitoring well (presumed abandoned)
 - Trench location
 - Historical tank pit area
 - Landscaping
- TPHg = Total petroleum hydrocarbons as gasoline
 TPHd = Total petroleum hydrocarbons as diesel
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Total xylenes
 ND = Below the laboratory detection limit
 MTBE = Methyl Tertiary Butyl Ether
- All concentrations in micrograms per liter (µg/L)

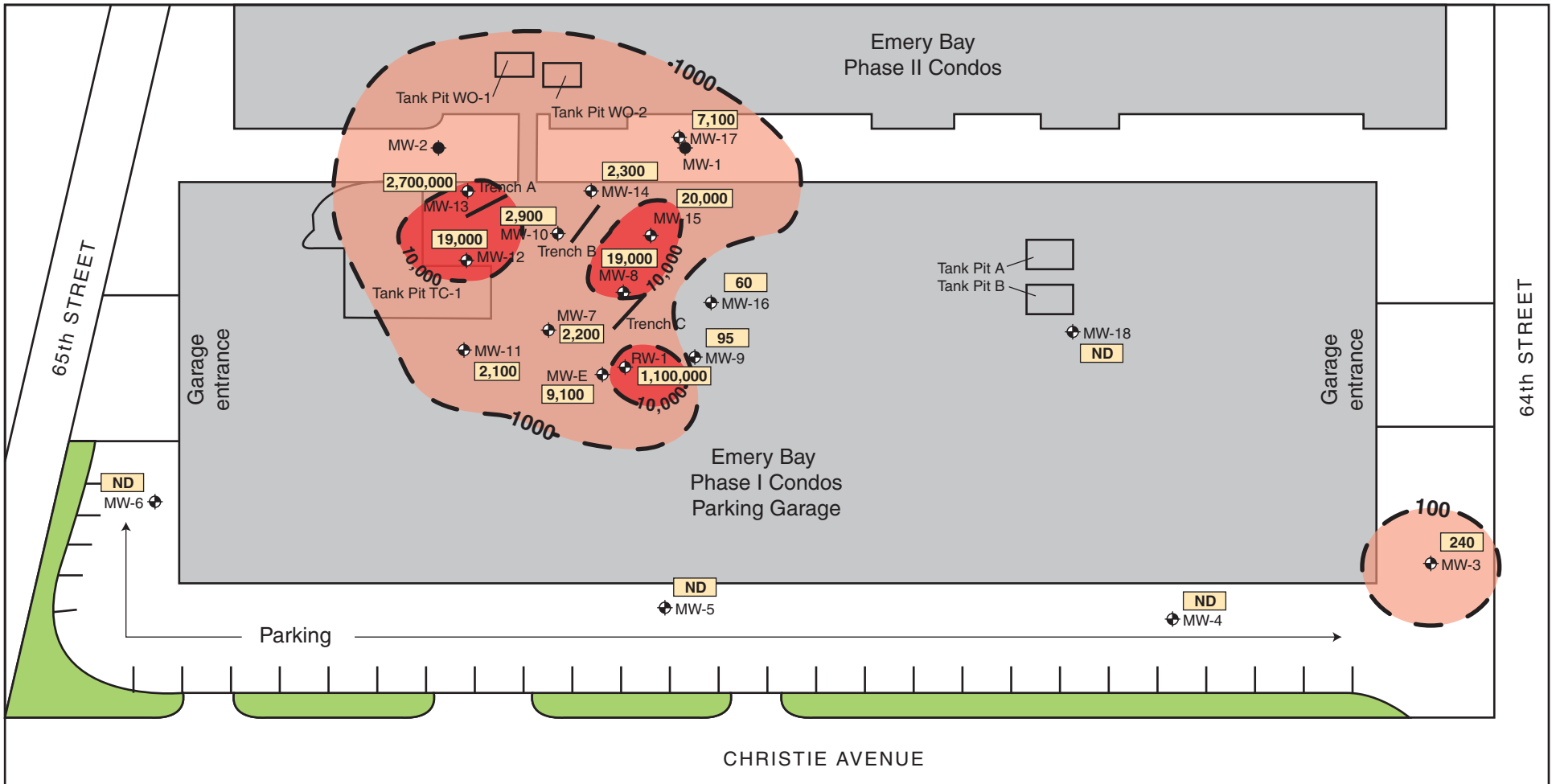


GROUNDWATER MONITORING WELL ANALYTICAL RESULTS
6400 Christie Ave., Emeryville, CA

Figure 4

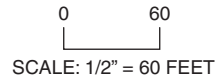
by: MJC JANUARY 2009

2007-65-21



LEGEND

- ⊕ Monitoring well
- Monitoring well (presumed abandoned)
- Trench location
- 84 Total petroleum hydrocarbons as gasoline concentration in micrograms per liter (µg/L)
- Historical tank pit area
- ▭ Landscaping
- 100- Gasoline isoconcentration contour

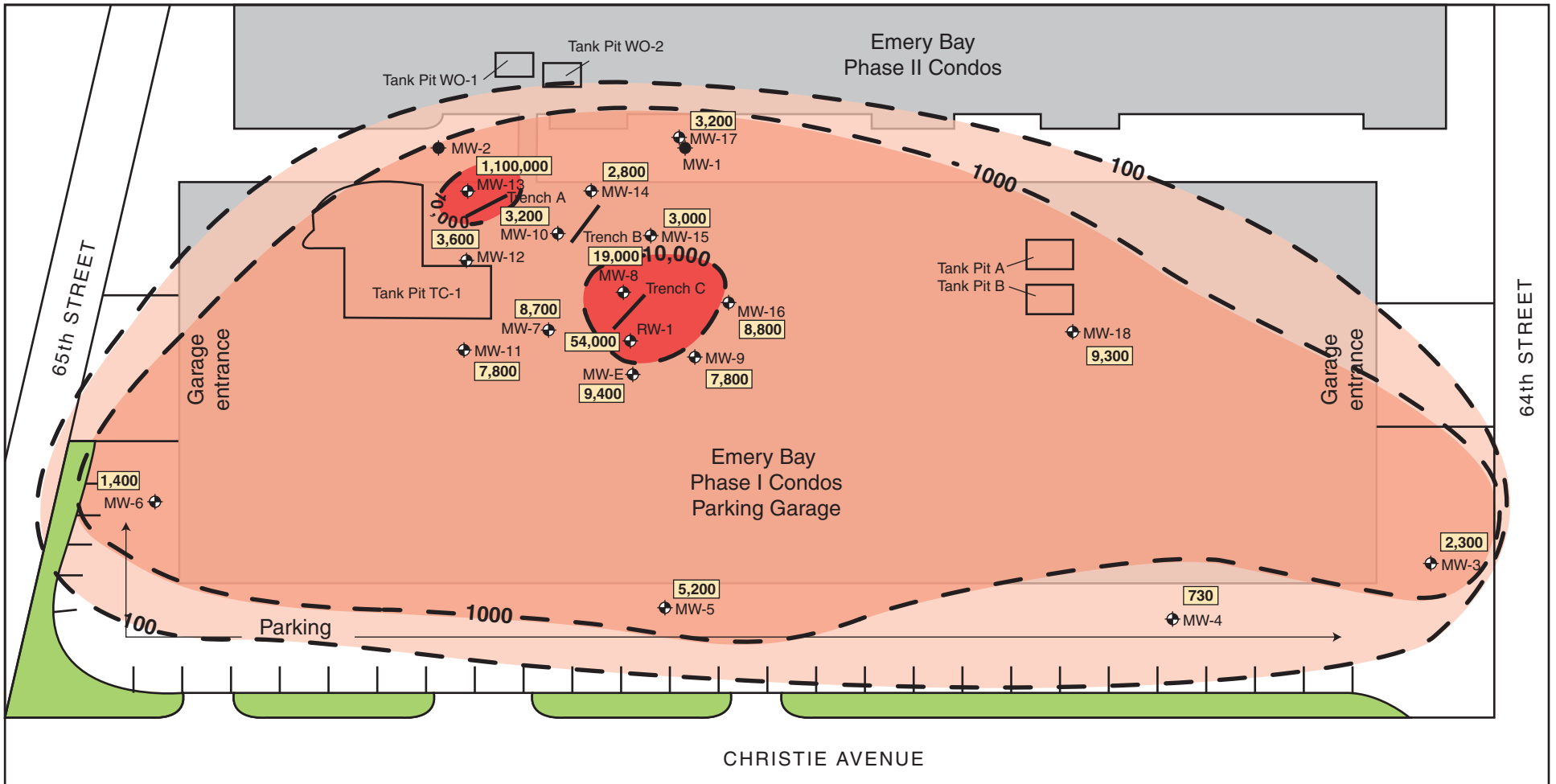


TOTAL PETROLEUM HYDROCARBON PLUME AS GASOLINE
6400 Christie Ave., Emeryville, CA

Figure 5

by: MJC

JANUARY 2009



LEGEND

- ⊕ Monitoring well
 - Monitoring well (presumed abandoned)
 - Trench location
 - 1,100 Total petroleum hydrocarbons as diesel concentration in micrograms per liter (µg/L)
 - Historical tank pit area
 - ▬ Landscaping
 - 100- Diesel isoconcentration contour
- 0 60
SCALE: 1/2" = 60 FEET



TOTAL PETROLEUM HYDROCARBON PLUME AS DIESEL
6400 Christie Ave., Emeryville, CA

Figure 6

by: MJC

JANUARY 2009

OBJECTIVES AND SCOPE OF WORK

This report discusses the following activities conducted/coordinated by SES:

- Conducted indoor air sampling both in the commercial (garage and management/security offices) and residential (apartments and condominiums) areas of the building;
- Completed a preferential pathway and conduit study documenting off-site well and utility locations;
- Compared the data collected to current indoor air and groundwater regulations; and
- Evaluated the potential environmental impacts to both on-site and off-site receptors.

REGULATORY OVERSIGHT

The Alameda County Department of Environmental Health (ACEH) is the lead regulatory agency for the case, acting as a Local Oversight Program for the Regional Water Quality Control Board (Water Board). There are currently no ACEH or Water Board cleanup orders for the site; however, all site work has been conducted under the oversight of ACEH. ACEH assigned the site to its fuel leak case system (RO #2799), and the case officer is Ms. Barbara Jakub. In a November 2008 meeting with the Responsible Party (represented by Ms. Sarah Irving), SES (represented by Ms. Teal Glass and Mr. Richard Makdisi), and ACEH (represented by Ms. Barbara Jakub and Ms. Donna Drogas), SES agreed to conduct this preferential pathway investigation and indoor air survey as a possible way to move the site toward eventual No Further Action status.

The case has been assigned as No. SLT2O05561 in the State Water Resources Control Board (State Water Board) GeoTracker system. Electronic uploads of required data/reports are submitted to both agencies.

REGULATORY CONSIDERATIONS

Numerous agencies within the State of California and the County of Alameda regulate indoor air and groundwater contaminant concentrations with the project area. The California Environmental Protection Agency (Cal-EPA) Office of Environmental Health Hazard Assessment established California Human Health Screening Levels (CHHSLs) in December 2004. The CHHSLs, used by the Cal-EPA Department of Toxic Substances Control (DTSC) in its assessment of sites, address direct exposure to vapor intrusion into buildings. In November 2004, the Water Board established Environmental Screening Limits (ESLs) for assessing sites with contamination. In February 2005, ESLs where that specifically assess indoor air were established. These regulatory numerical limits, if exceeded, indicate the need for further investigation.

The California Department of Occupational Safety and Health Administration (Cal/OSHA), beginning in approximately 1988, established Permissible Exposure Limits (PELs) for human health exposures to airborne contaminants. Exceedance of these values indicates the need for immediate action in the form of improved engineering controls to prevent exposures.

California Human Health Screening Levels (Cal-EPA)

The CHHSLs were developed to evaluate indoor air and potential vapor intrusion into buildings based on soil-gas data collected from less than 5 feet beneath an existing building foundation or the ground surface. Two sets of screening criteria are available for use based on residential/sensitive or industrial/commercial land use. It is important to note that CHHSLs, like ESLs, are not cleanup criteria, and should not be used to determine when impacts should be reported to a regulatory agency. Rather, they are screening criteria used to evaluate sites for potential human health concerns where releases of hazardous materials to soils have occurred. CHHSLs are based on a target cancer risk of 10^{-8} , and calculation of cumulative risk may be required at sites where multiple contaminants with similar health effects are present. Commercial/industrial CHHSLs should be used only under the oversight of a regulatory agency, as that agency may require a land use covenant that restricts use of the property to commercial/industrial land use.

A risk assessment can also be completed using actual site data (versus the conservative assumptions built into the CHHSLs) that would include air-exchange rates, soil permeability, etc, or alternatively, the collection of indoor air samples. In this evaluation, indoor air samples were collected under normal operating conditions.

Environmental Screening Levels (Water Board)

The Water Board publishes ESLs for residential and commercial/industrial properties where groundwater is/is not a potential drinking water resource. As stipulated in the ESL document (Water Board, 2008), ESLs are not cleanup criteria; rather, they are conservative screening-level criteria designed to be protective of both drinking water resources and aquatic environments in general. The groundwater ESLs are composed of one or more components—including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional remediation and/or investigation may be warranted, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

Because the subject property is a residential property where groundwater is not a potential drinking water resource, the contaminant levels at the site will be compared to the ESLs for these criteria.

Permissible Exposure Limits (Cal/OSHA)

PELs are the maximum permitted 8-hour time-weighted average concentration of an airborne contaminant. In accordance with the California Code of Regulations, Subchapter 7, General

Industry Safety Orders, “Group 16. Control of Hazardous Substances, *Article 107. Dusts, Fumes, Mists, Vapors and Gases,*” contaminant concentrations in air may not exceed the PELs without the use of engineering controls. Engineering controls include such things as respirators and air exchange systems. Because the PELs are based on an 8-hour time-weighted average, these values should only be compared to samples from commercial areas of the subject property building, the garage and ground-floor management/security office.

2.0 PHYSICAL SETTING

The following evaluation of the physical setting of the site—including topography, drainage, and geologic and hydrogeologic conditions—is based on previous (1986 through 2006) site investigations conducted by others, and site inspections and subsurface data collection by SES in 2007 and 2008.

TOPOGRAPHY AND DRAINAGE

The mean elevation of the property is about 13 feet above mean sea level, and the general topographic gradient in the vicinity of the property is to the southwest, although the regional gradient is to the west-southwest.

The nearest receiving water body is San Francisco Bay, located approximately 700 feet to the west of the subject property. East of the site lies the Oakland Hills, which rise to an elevation of approximately 1,000 feet and are situated 2.5 miles east of the subject property. The subject property is not listed within a 100- or 500-year flood zone.

Storm drains from the roof collect storm runoff for discharge onto the asphalt-paved parking lots. Storm sewers collect drainage from the parking lot, as well as from Christie, 64th, and 65th Streets, which discharges into San Francisco Bay.

GEOLOGY

The subject property area is underlain with material mapped “Qhbm,” designated early Pleistocene alluvium that is moderately consolidated, deeply weathered, poorly sorted, irregularly interbedded clay, silt, sand, and gravel. A geotechnical survey conducted in 1985 revealed that the upper 15 to 20 feet of soil consisted of a combination of fill and soft bay sediment. The upper 1 to 2½ feet of soil was generally pavement and imported fill. The upper 20 feet of firm bearing soil was primarily dense silty sand with intermittent layers of silty and sandy clay. Stiff to very stiff clay was encountered below a depth of approximately 40 feet and extended to the depth of the borings, approximately 101.5 feet (Geomatrix, 1988). The closest major fault, the Hayward Fault, is located about 3 miles east of the property. While the site is located in a seismically active area, it is not within an Alquist-Priolo Special Studies active fault zone, the legislatively defined zone of restricted land use 200 feet around an active fault due to the high probability of ground rupture.

GROUNDWATER HYDROLOGY

Regulatory agency records indicate that the direction of shallow groundwater flow in the site vicinity is to the west-northwest, toward San Francisco Bay. However, water levels and flow direction in this area are influenced by tidal patterns, and groundwater gradient as measured in the December 2008 groundwater monitoring event ranged from the southwest (on the northern portion of the site) to the west (on the central portion of the site) to the northwest (on the southern portion of the site). According to current and historical water level data obtained from on-site monitoring wells, the depth to groundwater ranges from approximately 6 to 11 feet below ground surface (bgs). Groundwater elevations during the latest December 2008 event ranged from 6.97 to 9.91 feet above mean sea level. For the 2008 year, the average groundwater gradient, and the gradient for the latest December 2008 monitoring event, was 0.001 foot/foot.

Table 1 shows the historical range in groundwater elevation and feet bgs from December 1998 to December 2008. Figure 7 is a groundwater elevation map from the latest December 2008 event.

Table 1
Historical Range of Monitoring Well Groundwater Elevations
6400 Christie Avenue, Emeryville, California

Well	Well Depth (feet bgs)	TOC Elevation	Range of Groundwater Elevations	Range of Groundwater Depths (feet bgs)
MW-3	25	16.65	5.60 – 8.89	7.76 – 9.47
MW-4	25	16.29	5.92 – 9.68	6.61 – 8.29
MW-5	25	16.72	4.42 – 8.16	8.56 – 10.23
MW-6	25	16.82	6.65 – 10.76	6.06 – 8.10
MW-7	20	17.73	7.13 – 8.16	9.93 – 10.60
MW-8	16	17.84	6.37 – 8.93	9.32 – 10.59
MW-9	20	17.84	8.01 – 9.27	9.30 – 9.83
MW-10	20	17.83	7.23 – 8.91	8.86 – 9.87
MW-11	20	17.76	7.42 – 8.16	10.03 – 10.34
MW-12	20	17.83	8.46 – 9.07	8.76 – 9.37
MW-13	20	17.66	7.12 – 7.85	9.86 – 10.54
MW-14	20	17.60	8.49 – 8.90	8.64 – 9.11
MW-15	20	17.80	8.20 – 8.96	8.84 – 9.60
MW-16	20	17.74	7.80 – 8.67	9.07 – 9.88
MW-17	20	18.17	8.77 – 9.19	8.98 – 9.40
MW-18	20	16.35	7.74 – 8.20	8.30 – 8.61
MW-E	47	17.47	4.93 – 7.92	9.55 – 10.39
RW-1	30	16.70	3.57 – 11.12	8.95 – 11.46

Notes:

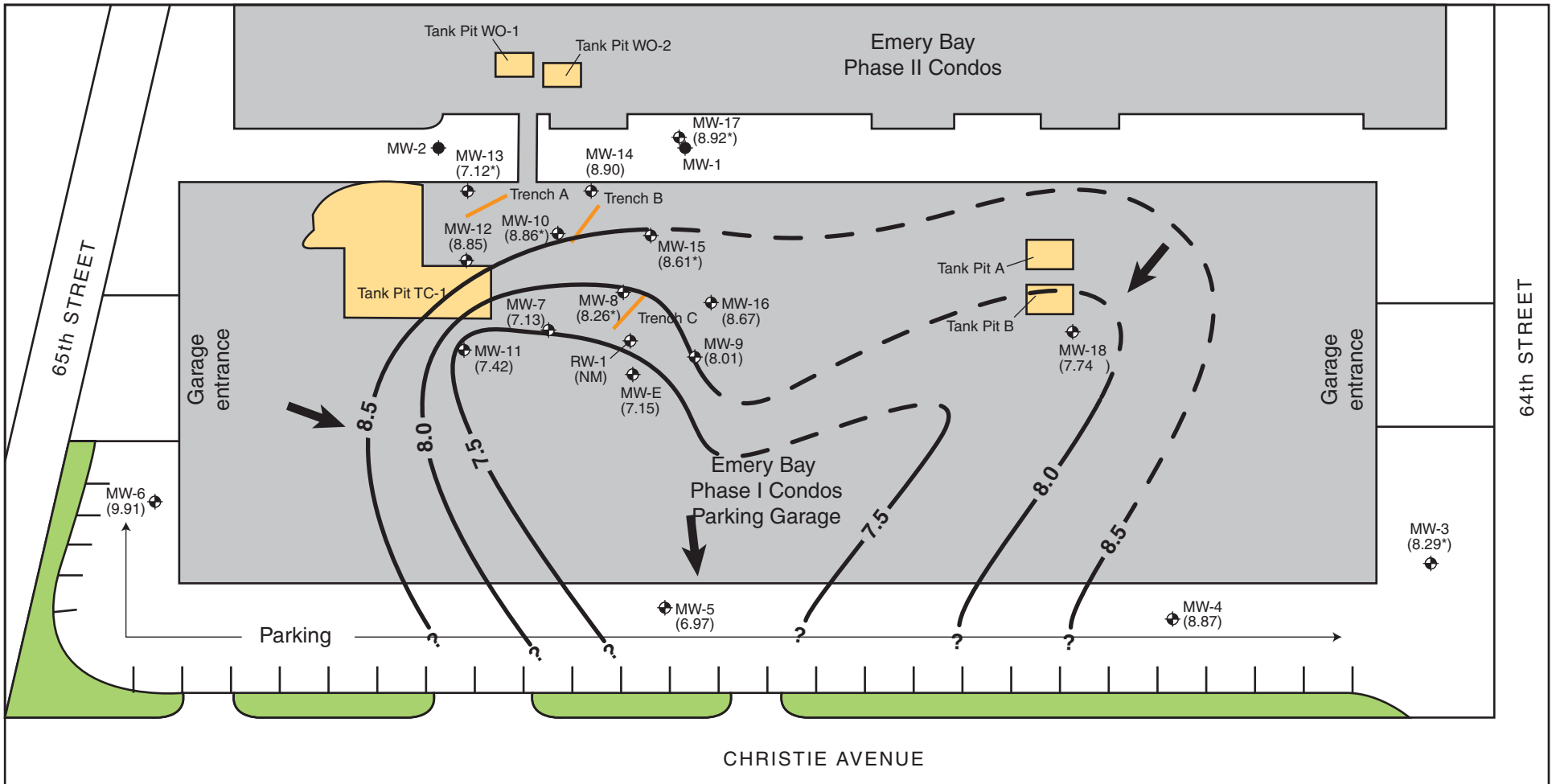
bgs = below ground surface

TOC = top of casing

MW-3 through MW-6 and MW-E are 2-inch-diameter; MW-7 through MW-18 are ¾-inch-diameter; RW-1 is 10-inch-diameter.

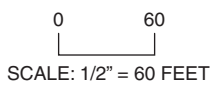
Historical Measurements collected from December 1988 to December 2008.

All elevations are in feet above mean sea level.



LEGEND

- ⊕ Monitoring well
- Monitoring well (presumed abandoned)
- Trench location
- Groundwater elevation contour in feet amsl
- Historical tank pit area
- Landscaping
- ← Inferred direction of groundwater flow
- Extrapolated groundwater elevation contour
- * Groundwater elevation not used in determining contour due to the presence of free product
- NM = Depth to groundwater could not be measured due to the presence of tar



GROUNDWATER ELEVATION MAP — December 29, 2008

6400 Christie Ave., Emeryville, CA

Figure 7

by: MJC

JANUARY 2009

3.0 INDOOR AIR SURVEY

This section presents the sampling rationale, protocols, and analytical discussion for the indoor air samples collected in February 2009.

SAMPLING LOCATION RATIONALE

SES took six indoor/outdoor air samples at the Emerybay Phase I Condos on February 5, 2009. Four of those samples were collected on the ground floor. Indoor air sample IA-1 was placed inside the ground-floor security/management office (located on the southwestern side of the building) on the north side near the floor drain and ceiling vent. Indoor air sample IA-2 was placed in the fenced storage area on the north-central side of the ground-floor parking garage. Indoor air sample IA-3 was collected in the northeastern side of the garage near Trench A and monitoring well MW-13 (the contamination source area). Indoor air sample IA-4 was taken on the western side of the garage. Indoor air sample IA-5 was placed in the hallway of Building 4 (the first floor of apartments/condos located above the second-floor parking garage), directly above the contamination source area in the ground-floor parking garage. Outdoor air sample OA-1 (the ambient air sample) was collected on the roof of Building 4, above the contamination source area.

SAMPLING PROTOCOL

On February 5, 2009, Ms. Teal Glass of SES set up the sampling—starting at 8:00 a.m. (at IA-1) and ending at 9:00 a.m. (at OA-1). Later that day, from 4:00 p.m. to 5:00 p.m., the samples were retrieved in the same order as they had been set up. Appendix B contains photodocumentation of the sampling event.

The indoor air sampling program followed the DTSC guidance *The Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (DTSC, 2005). The protocols were as follows:

- Samples were collected for analysis using U.S. Environmental Protection Agency (EPA) modified method TO-15 SIM [used for integrated (greater than a few minutes) sampling events], for the contaminants of concern: benzene, toluene, ethyl benzene, and total xylenes.
- Five air samples were collected from inside the building space: two near the apparent source (IA-2 and IA-3), one on the downgradient side of the plume (IA-4), one in the first-floor

management/security office (IA-1), and one in the first-floor living space (located above the second-floor parking garage) above the contamination source area (IA-5).

- One air sample was collected on the roof of Building 4 to document ambient air concentrations (OA-1).
- The air samples were collected over an 8-hour period using a 6-liter Summa® canister with a calibrated flow controller set at 11.5 milliliters per minute, with the sample intake positioned approximately 3 to 5 feet above the floor.
- The samples were collected during a period of typical building occupancy: 8:00 a.m. to 5:00 p.m.

Air samples were maintained at ambient temperature, out of direct sunlight, and transported by courier to Torrent Laboratory of Milpitas, California, a laboratory certified by the State of California Environmental Laboratory Accreditation Program for the analytical method utilized in this investigation.

ANALYTICAL RESULTS AND DISCUSSION

Benzene was detected in indoor air samples IA-1 (ground-floor management/security office) and IA-3 (over the source area in the ground-floor garage) at 5.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and 3.8 $\mu\text{g}/\text{m}^3$, respectively. Benzene was not detected above the laboratory detection limit in indoor air samples IA-2 or IA-4, or in the outdoor ambient air sample OA-1. The concentrations detected in IA-1 and IA-3 are well above both the CHHSL and ESL values for indoor air of 0.084 $\mu\text{g}/\text{m}^3$ at a residential property; however, both samples, which are located in the commercial areas of the building, are significantly below the PEL of 3,193 $\mu\text{g}/\text{m}^3$.

Toluene was detected in all five indoor air samples at concentrations ranging from 2.8 $\mu\text{g}/\text{m}^3$ to 4.4 $\mu\text{g}/\text{m}^3$, and in the outdoor ambient air sample at 1.3 $\mu\text{g}/\text{m}^3$. However, all of these concentrations are well below the CHHSL (313 $\mu\text{g}/\text{m}^3$), ESL (63 $\mu\text{g}/\text{m}^3$), and PEL (188,000 $\mu\text{g}/\text{m}^3$).

Ethyl benzene was detected in three of the indoor air samples (IA-1, IA-2, and IA-3) at concentrations ranging from 1.1 $\mu\text{g}/\text{m}^3$ to 3.0 $\mu\text{g}/\text{m}^3$. These concentrations are slightly above the ESL of 0.98 $\mu\text{g}/\text{m}^3$, but below the ethyl benzene PEL of 435,000 $\mu\text{g}/\text{m}^3$. There is no CHSSL for this contaminant. No ethyl benzene above the laboratory detection limit was found in indoor air samples IA-4 or IA-5, or in the outdoor ambient air sample OA-1.

Total xylenes were detected above the laboratory detection limit in indoor air samples IA-1 and IA-3, at concentrations of 7.0 $\mu\text{g}/\text{m}^3$ and 11.0 $\mu\text{g}/\text{m}^3$, respectively. These concentrations are well below the CHSSL (730 $\mu\text{g}/\text{m}^3$), ESL (21 $\mu\text{g}/\text{m}^3$), and PEL (435,000 $\mu\text{g}/\text{m}^3$). There were no xylenes above the laboratory detection limits in IA-2, IA-4, or IA-5, or in the outdoor ambient air sample OA-1.

Table 2 shows the concentrations of indoor air contaminants detected during the 8-hour sampling event, and compares them to the CHHSLs, ESLs, and PELs (discussed in Section 1.0) for the detected contaminants. Figures 8, 9, and 10 show the sampling locations and analytical results. Appendix C contains the certified analytical laboratory report and chain-of-custody documentation.

Table 2
Indoor Air Sample Analytical Results – February 5, 2009
6400 Christie Avenue, Emeryville, California

Analyte	Indoor Air Sample Location					Outdoor Air Sample Location	CHHSL	ESL	Cal/OSHA PEL
	IA-1	IA-2	IA-3	IA-4	IA-5	OA-1			
Benzene	5.0	<0.8	3.8	<0.8	<0.8	ND	0.084 / 0.141	0.084 / 0.14	3,193
Toluene	4.4	3.9	3.0	2.8	3.0	1.3	313 / 438	63 / 88	188,000
Ethyl Benzene	2.7	1.1	3.0	<1.1	<1.1	ND	NA	0.98 / 1.6	435,000
Xylenes	7.0	<1.4	11	<1.4	<1.4	ND	730 / 1,020	21 / 29	435,000

Notes:

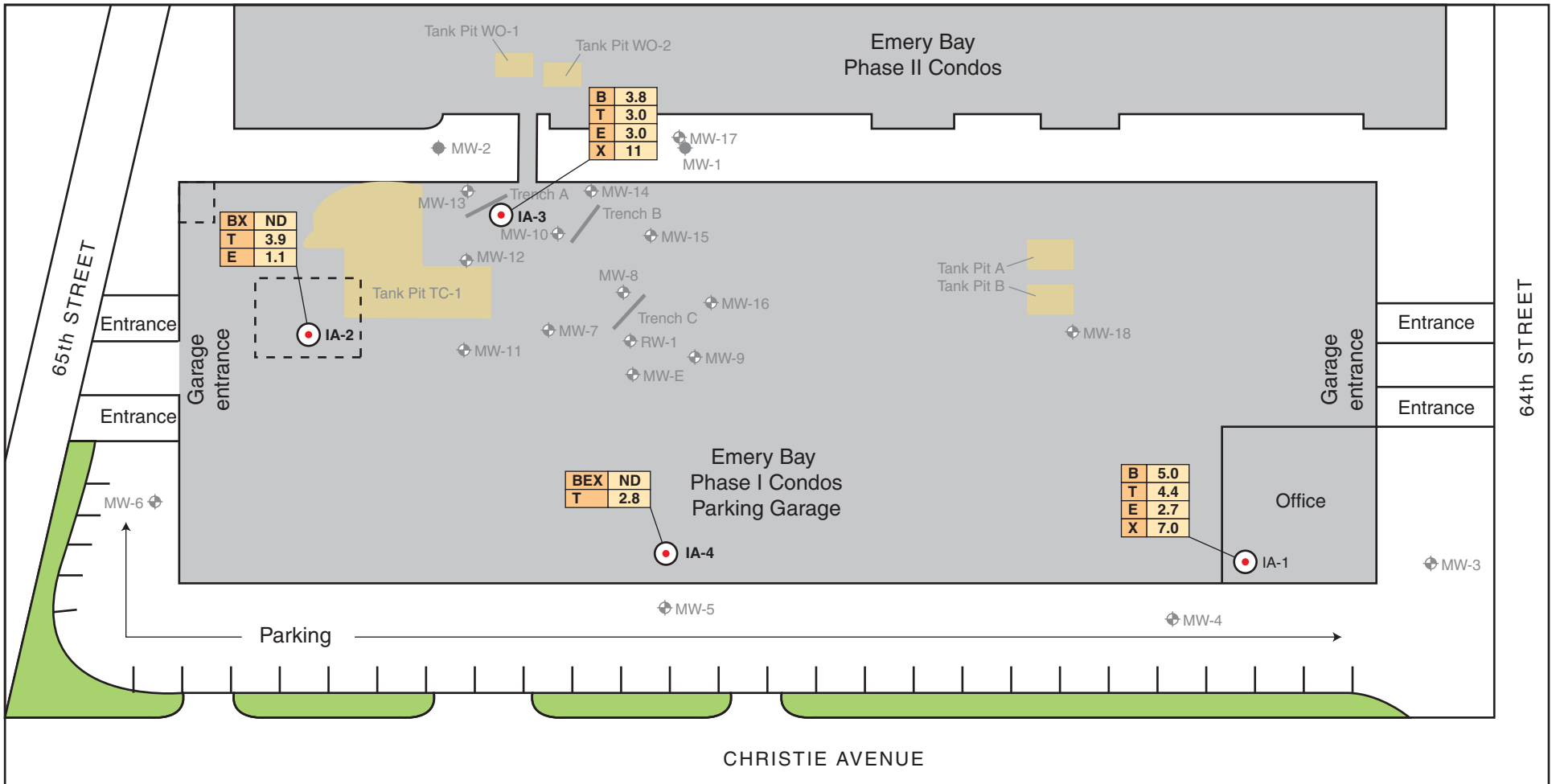
Cal/OSHA PEL = California Occupational Safety and Health Administration Permissible Exposure Limits.

CHHSL = California Human Health Screening Level for indoor air above which is in excess of a target cancer risk of 10⁻⁶. Values for residential/commercial properties.

ESL = Water Board Environmental Screening Level for residential/commercial properties.

NA= There is no number available for this contaminant.

All concentrations are reported in micrograms per cubic meter (µg/m³). Samples denoted with < are below the laboratory detection limit. All limits are the lowest possible detection limit possible by the laboratory. Samples were collected in the breathing zone between 3.5 and 5.feet above the top of the floor.



LEGEND

- ⊕ Monitoring well
- ⦿ Monitoring well (presumed abandoned)
- Trench location
- ⊙ Indoor air sampling location
- Historical tank pit area
- ▭ Landscaping
- ▭ Gated storage area

B - Benzene E - Ethyl Benzene
 T - Toluene X - Total Xylenes
 All results in micrograms per meter cubed (μ/m^3)

0 60
 SCALE: 1/2" = 60 FEET

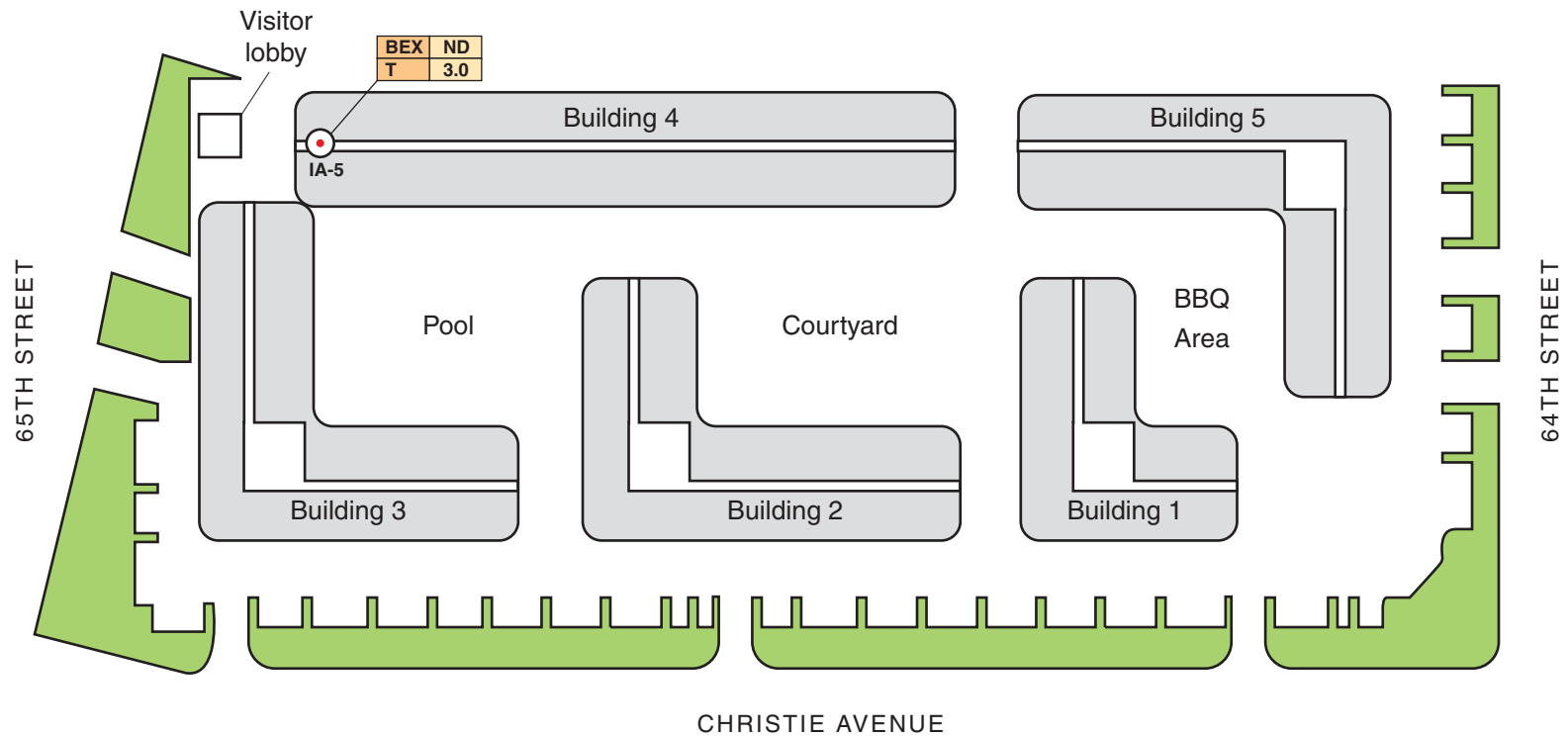


FIRST FLOOR GARAGE INDOOR AIR SAMPLING LOCATIONS AND ANALYTICAL RESULTS
6400 Christie Ave., Emeryville, CA




Figure 8

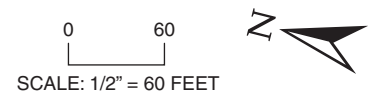
by: MJC

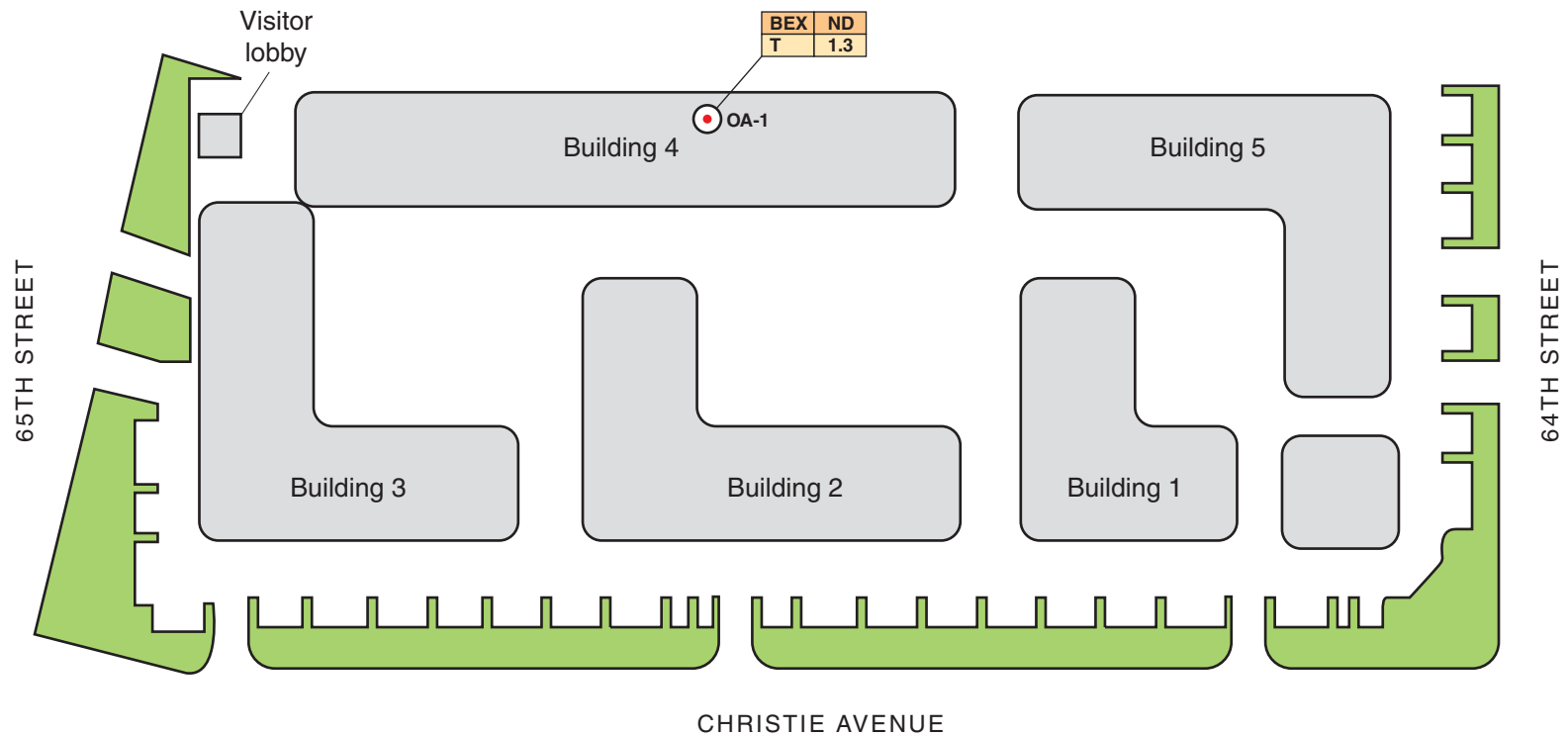
FEBRUARY 2009



LEGEND

-  Indoor air sampling location
 -  Landscaping
 -  Hallways
 - B - Benzene
 - E - Ethyl Benzene
 - T - Toluene
 - X - Total Xylenes
- All results in micrograms per meter cubed (μm^3)





LEGEND

○ Outdoor air sampling location

Landscaping

B - Benzene E - Ethyl Benzene

T - Toluene X - Total Xylenes

All results in micrograms per meter cubed (μm^3)

0 60
SCALE: 1/2" = 60 FEET



**ROOF OUTDOOR AIR SAMPLING LOCATION
AND ANALYTICAL RESULTS
6400 Christie Ave., Emeryville, CA**

Figure 10

by: MJC

FEBRUARY 2009

4.0 PREFERENTIAL PATHWAY STUDY

This section presents the findings of the preferential pathway study. This task focused on identifying: 1) the location and depth of potential underground utilities (which typically have highly permeable backfill) that could act as potential preferential pathways if their depths are below the water table; and 2) any groundwater wells downgradient of the property that could serve as conduits.

Information for the underground utility survey was obtained from applicable State and local agencies, as well as from utility providers that provided underground maps with the locations of off-site wells and utilities. In addition, Underground Service Alert of Northern California (USA North) was contacted to document private utility locations. Information on well locations was obtained from the Alameda County Department of Public Works, the California Department of Water Resources (DWR), and Environmental Data Resources, Inc. (EDR).

Table 3 summarizes the utility findings. Figure 11 is a site plan showing the approximate locations of utilities.

UNDERGROUND UTILITY SURVEY

We identified the following underground utilities located beneath Christie Avenue between 64th and 65th, and on 65th between the subject property border and Christie Avenue:

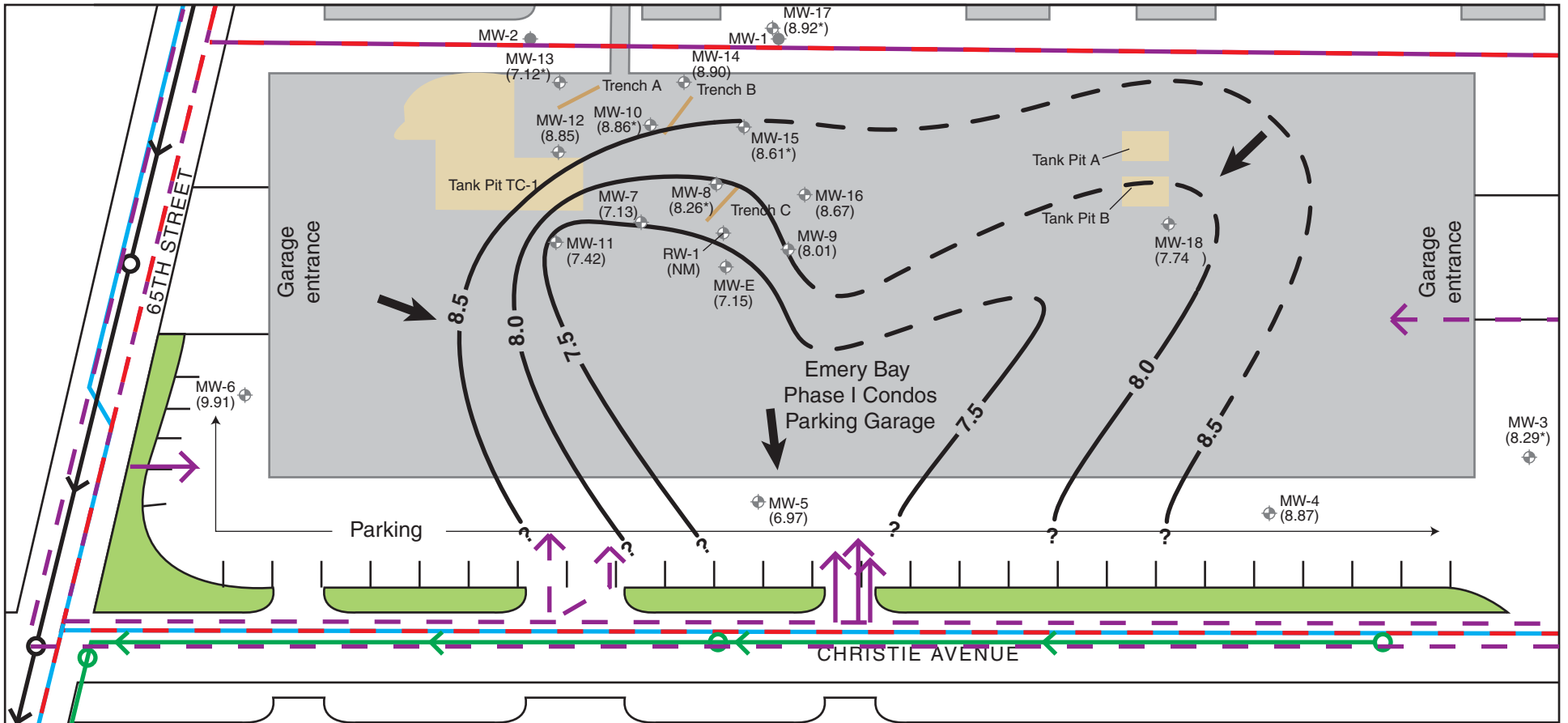
- Stormwater sewer
- Sanitary sewer
- Municipal water supply lines
- Electric and natural gas lines

Figure 11 shows the identified utilities and their approximate distances from the subject property. Table 3 summarizes the locations, depths, and types of all identified utilities.

On March 17, 2009, SES measured the depth to the downgradient sanitary sewer pipe. The pipe, which is located in the center of Christie Avenue (running south to north, and then west on 65th Street) is located at 8 feet bgs, and is 8 inches in diameter.

Table 3
Preferential Pathway Survey Findings
6400 Christie Avenue, Emeryville, California

Underground Utility / Facility	Agency / Firm Contacted	Utility / Facility Description and Location	Estimated Maximum Depth (feet below grade)	Potential Preferential Pathway for Groundwater?
Sanitary Sewer	City of Emeryville— Mapping Department	Offsite—Main line runs south to north beneath the center of Christie Avenue, directly down the middle of the street.	8 feet	yes
Stormwater Sewer	City of Oakland— Mapping Department	Offsite—Main runs east to west beneath 65 th Street, directly down the middle of the street.	11 feet	yes
Drinking Water	East Bay Municipal Utility District	Offsite—Water mains run beneath Christie Avenue and 65 th Street, approximately 12 feet west and north of the site.	5 feet	no
Traffic Lights	City of Emeryville— Mapping Department	There are no traffic lights located downgradient of the subject property.	not applicable	no
Electric	Pacific Gas & Electric Co.— Service Planning Department	Two electrical lines run down 65 th Street and Christie Avenue, approximately 10 feet and 20 feet from the property border, to the north and west, respectively.	5 feet	no
Natural Gas	Pacific Gas & Electric Co.— Service Planning Department	Gas lines run down 65 th Street to the north and Christie Avenue to the west approximately 10 feet from the subject property border.	5 feet	no
AT&T Kinder Morgan Quest Communications XO Communications Pacific Bell Point to Point, Inc. Terradex, Inc.	Contacted through USA North	None of these companies have utilities immediately downgradient of the subject property.	not applicable	no



Bay Center Offices
6425, 6455, & 6475 Christie Avenue

LEGEND

- ◆ Monitoring well
- ◆ Monitoring well (presumed abandoned)
- Trench location
- Groundwater elevation contour in feet amsl
- Extrapolated groundwater elevation contour
- Historical tank pit area
- Landscaping
- ← Storm water line & flow direction (3.5-11 ft. bgs)
- Storm water manhole
- NM = Depth to groundwater could not be measured due to the presence of tar
- * Groundwater elevation not used in determining contour due to the presence of free product
- PG&E gas line (3-5 ft. bgs)
- PG&E electrical line (3-5 ft. bgs)
- EBMUD drinking water main (3-5 ft. bgs)
- Sewer line & flow direction (8 ft. bgs)
- Sanitary sewer line manhole



0 60
SCALE: 1/2" = 60 FEET



GROUNDWATER ELEVATION CONTOURS AND UTILITY LOCATIONS
6400 Christie Ave., Emeryville, CA

Figure 11
by: MJC MARCH 2009

2007-65-28

The stormwater drainpipe for the subject property, which was also field measured on March 17, runs from east to west on 65th Avenue. The depths range from 3.5 feet bgs in the catch basin on the southern side of the street to 11 feet bgs in the catch basin on the northern side of the street. The pipe diameter also ranges from 42 inches on the eastern side of the road to 60 inches at the intersection of Christie Avenue and 65th Street.

The backfill associated with the 8- and 11-foot-deep lines down the center of Christie Avenue could be potential conduits west of site well MW-5, although the plume in this area is significantly attenuated compared to the source area.

The Pacific Gas and Electric Company (PG&E) gas and electrical lines in the downgradient direction are located on both 65th Street and Christie Avenue at depths of 3 to 5 feet bgs. Two electrical lines run down both streets, while only one gas line runs down each street. The gas line is located approximately 10 feet from the subject property border, both on 65th Street and in Christie Avenue. The electrical lines are located at approximately 10 feet and 20 feet from the subject property border on both 65th Street and Christie Avenue.

An EBMUD water main is located along 65th Street and along Christie Avenue at a depth of approximately 3 to 5 feet bgs. The depth of 3 to 5 feet bgs for the PG&E and EBMUD utilities was provided by representatives of the companies, who stated that the precise depths could be determined only by excavating to expose the pipe. No other underground utilities are located immediately downgradient of the site.

Attachment D contains the utility maps obtained from the municipal and county agencies and USA North notification and response information.

OFFSITE WELL SURVEY

To document potential conduits downgradient of the subject property site, a survey was conducted to identify all water wells within ¼ mile and downgradient of the subject property. Water wells might include groundwater monitoring wells and water supply wells (irrigation, domestic, industrial, and municipal). We made a formal well survey request to the DWR, the agency ultimately responsible for permitting water wells and retaining Water Well Driller's Reports.

SES also reviewed the Alameda County Public Works database, which essentially duplicates the DWR database. SES also contracted EDR, which obtains well location data from the EPA Public Water Systems database, the U.S. Geological Survey (USGS) National Water Inventory System, the DWR water well database, the California Drinking Water Quality Database, and the California Department of Conservation.

The EDR search did not identify any federal USGS wells, public water supply wells, or State wells within a 1-mile radius of the subject property. No oil or gas wells were identified within 1 mile of the subject property.

The DWR provided all of the DWR water well completion reports within a ¼-mile radius of the subject property. Of the 71 active wells and 16 abandoned wells located within the search radius, only 7 active wells are located potentially downgradient of the subject property. These wells all function as groundwater quality monitoring wells associated with local (not subject site) contamination. None of these wells are located downgradient of the subject property, based on the recorded site groundwater flow data; however, because regional groundwater flow is potentially to the northwest, the plume could migrate to the wells. (Note: As stated below, these well may reflect their own sources of contamination, which could be higher than the subject source.) All seven of the wells are located across 65th Street and to the northwest at 1650 65th Street. The wells were installed in 1990 to monitor contamination associated with a gasoline fuel leak (Global ID T0600100511). The wells were drilled to depths of 19 bgs to 32.7 feet bgs, and screened at depths from 6.1 feet bgs to 28.9 feet bgs. SES searched for any analytical results on these wells; however, the only document upload to the State of California GeoTracker site was a directive from ACEH requesting the uploading of all site documents by August 2008. As of the time of this report, no documents had been uploaded to GeoTracker. In conclusion, these wells are not considered a potential conduit.

Appendix E contains the EDR Report and downgradient well DWR documentation.

5.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

- The subject property parcel was developed as early as 1958 with the Garrett Motor Freight Station, associated with Delta Lines, Inc. The Delta Lines complex contained an “Oil and Gas” building, located at the site of the present-day Emery Bay Phase I Condo complex and parking garage. The building remained on the property until 1986, when it was demolished to build the present-day structures. Twelve UFSTs containing diesel and gasoline were removed from the Emery Bay Phase I and Phase II Condo complex parcels in 1987, at which time soil and groundwater contamination was discovered.
- Three monitoring wells were installed prior to 1985, and four more wells and one extraction well were installed by 1990. In 2004, an additional 10 groundwater monitoring wells were installed (monitoring wells MW-1 and MW-2 were either abandoned or paved over with asphalt during construction), bringing the current total to 17 monitoring wells and 1 extraction well in the Phase I parking garage area. In addition, three trenches, each containing three sump wells, were installed in 2004 for passive product removal.
- While groundwater monitoring has historically been sporadic, quarterly monitoring was conducted in the 2007-2008 year, and hydrological and contaminant trends have been established.
- The majority of contaminants occur in the northeastern area of the ground-floor parking garage. However, concentrations of gasoline and diesel commonly occur in the perimeter wells located in the building outdoor parking area, adjacent to Christie Avenue.
- According to current and historical water level data obtained from on-site monitoring wells, the depth to groundwater ranges from approximately 6 to 11 feet bgs. Groundwater elevations during the latest December 2008 event ranged from 6.97 to 9.91 feet above mean sea level. For the 2008 year, the average groundwater gradient, and the gradient for the December 2008 monitoring event, was 0.001 foot/foot.
- Groundwater flow direction has varied, but in general, groundwater on the northern portion of the site flows to the southwest, groundwater in the center of the site flows to the west, and groundwater on the southern portion of the site flows to the northwest.

- Of the five indoor air samples and one outdoor ambient air sample collected, only two sampling locations had detectible concentrations of contaminants above the CHHSLs and ESLs—IA-1 (in the ground-floor management/security office) and IA-3 (in the garage just above the source area). However, both of these samples were well below the PELs based on an 8-hour time-weighted average. As both of these sample areas (management/security offices and garage) are located in commercial areas of the building, SES feels that the PELs are the appropriate regulatory comparison value.
- There are multiple utilities located downgradient of the subject property site (to the west and northwest). These include an EBMUD municipal water line, PG&E gas and electrical lines, and City of Emeryville sanitary and storm sewer lines. Of those utilities, only the sanitary and storm sewer line are located at depths (at 8 feet and 11 feet, respectively) that could serve as preferential pathways for the subject property contaminant plume.
- Based on the range of historical groundwater depths (6 to 11 feet bgs), historical groundwater flow (to the southwest on the northern portion of the site, to the west on the central portion of the site, and to the northwest on the southern portion of the site), the depth of the sanitary sewer (approximately 8 feet bgs), and its downgradient location (to the west along Christie Avenue), this utility could potentially serve as a conduit for the subject property contamination. The stormwater sewer, which lies at 3.5 to 11 feet bgs and runs along 65th Street to the north, is potentially located downgradient (to the northwest) according to regional groundwater data; however, based on site-specific data, it does not appear as if this utility is serving as a conduit.
- Of the 71 active wells and 16 abandoned wells located within the search radius, only 7 active wells are adjacent to the site to the north (along 65th Street); however, the groundwater flow direction indicated by the site data is to the west. All seven of these wells, located across 65th Street and to the northwest at 1650 65th Street, were installed at 19 to 32.7 feet bgs to monitor contamination associated with a gasoline fuel leak. Thus, based on their indicated crossgradient (or even locally upgradient) location, it is unlikely that contamination from the subject property would migrate to these wells. In addition, the wells are being used to monitor contamination associated with a gasoline fuel leak (gasoline is one of the contaminants of concern); therefore, the risk of contamination from the subject property is negligible.

RECOMMENDATIONS

- In the event that work on the sewer or storm drain lines or other construction is to be conducted at depth greater than 8 feet bgs on Christie Avenue, preliminary and/or post-excavation sampling should be conducted to document any contamination from the subject site that could impact trenching health and safety or spoils disposal considerations. Because

both the subject property and the property to the west across Christie Avenue are capped due to elevated concentrations of metals (lead in particular) in soil, lead sampling and air monitoring on Christie Avenue would already be required. It is recommended, therefore, that hydrocarbons and hydrocarbon constituents be analyzed for and monitored in addition to metals contamination in the event of any excavation at depths of 8 feet or greater along Christie Avenue between 64th and 65th Streets.

- Based on the indoor air results, there is no immediate risk of exposure to either the residential or commercial occupants of the building. However, it is recommended that air exchange in the management/security offices be increased so that an exposure risk does not develop. SES recommends follow-up indoor air sampling in approximately 1 year.
- We recommend following up with ACEH following its receipt of this report, to discuss the requirements to move the site toward regulatory closure.
- We further recommend that this and all future technical reports be provided to the appropriate regulatory agencies, including electronic uploads to the ACEH ftp system and the State Water Board GeoTracker system.

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7.0 LIMITATIONS

This report has been prepared for the exclusive use of Emery Bay Commercial Association and their authorized representatives and assigns, and the regulatory agencies. No reliance on this report shall be made by anyone other than those for whom it was prepared.

The findings and conclusions presented in this report are based on a review of previous investigators' findings at the site, as well as site investigations conducted by SES in 2007 and 2008. This report has been prepared in accordance with generally accepted methodologies and standards of practice. The SES personnel who performed this limited remedial investigation are qualified to perform such investigations and have accurately reported the information available, but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions, and recommendations included in the report.

The findings of this report are valid as of the date of this report. Site conditions may change with the passage of time, natural processes, or human intervention, which can invalidate the findings and conclusions presented in this report. As such, this report should be considered a reflection of the current site conditions as based on the activities completed.

APPENDIX A

Historical Groundwater Well Analytical Results

TABLE A
Historical Groundwater Monitoring Well Groundwater Analytical Results
Petroleum and Aromatic Hydrocarbons (µg/L)
6400 Christie Avenue, Emeryville, California

MW-1									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	380	17,000	NA	8,600	940	250	570	NA
2	May-89	130	24,000	NA	16,000	2,100	300	1,200	NA
3	Feb-91	<10	22,000	NA	6,800	3,500	410	2,000	NA
Monitoring well abandoned - date unclear									

MW-2									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	72	22	NA	<0.5	<0.5	<0.5	<0.5	NA
2	May-89	40	18	NA	<0.5	<0.5	<0.5	<0.5	NA
3	Feb-91	83	<10	NA	<0.3	<0.3	<0.3	<0.6	NA
Monitoring well abandoned - date unclear									

MW-3									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	<10	4,200	NA	77	1,400	140	560	NA
2	May-89	110	1,800	NA	64	250	61	110	NA
3	Feb-91	NS	NS	NS	NS	NS	NS	NS	NS
4	Mar-04	3,400	440	3,900	<0.5	<0.5	1.5	<1.0	9.7
5	Dec-06	350	280	230	<0.5	<0.5	<0.5	<0.5	2.0
6	Dec-07	960	150	NA	0.54	0.54	<0.5	<0.5	<2.0
7	Mar-08	6,600	450	NA	<0.5	<0.5	1.8	2.0	4.3
8	Jun-08	4,500	440	NA	<0.5	<0.5	4.0	2.0	9.5
9	Sep-08	1,700	280	NA	<0.5	<0.5	1.0	<0.5	<2.0
10	Dec-08	2,300	240	NA	<0.5	<0.5	1.1	<0.5	<2.0

MW-4									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	<10	100	NA	2.0	1.0	<0.5	2.0	NA
2	May-89	60	18	NA	1.0	<0.5	<0.5	<0.5	NA
3	Feb-91	<10	<10	NA	<0.3	<0.3	<0.3	<0.6	NA
4	Mar-04	NS	NS	NS	NS	NS	NS	NS	NS
5	Dec-06	<50	50	<200	<0.5	<0.5	<0.5	<0.5	<1.0
6	Dec-07	710	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
7	Mar-08	680	57	NA	<0.5	<0.5	<0.5	<0.5	<2.0
8	Jun-08	620	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
9	Sep-08	440	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
10	Dec-08	730	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0

MW-5									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	530	890	NA	<1.0	<1.0	1.0	3.0	NA
2	May-89	90	5.0	NA	1.0	<0.5	<0.5	<0.5	NA
3	Feb-91	58	<10	NA	0.6	<0.3	<0.3	<0.6	NA
4	Mar-04	NS	NS	NS	NS	NS	NS	NS	NS
5	Dec-06	330	<25	<200	0.6	<0.5	<0.5	<0.5	<1.0
6	Dec-07	5,100	1.3	NA	1.3	<0.5	<0.5	1.23	<2.0
7	Mar-08	4,500	<50	NA	0.53	<0.5	<0.5	<0.5	<2.0
8	Jun-08	3,300	<50	NA	0.64	<0.5	<0.5	<0.5	<2.0
9	Sep-08	4,200	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
10	Dec-08	5,200	<50	NA	0.61	<0.5	<0.5	<0.5	<2.0

MW-6									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	<10	52	NA	1.0	<0.5	<0.5	<0.5	NA
2	May-89	140	31	NA	1.0	<0.5	<0.5	<0.5	NA
3	Feb-91	130	40	NA	0.8	<0.3	<0.3	<0.6	NA
4	Mar-04	NS	NS	NS	NS	NS	NS	NS	NS
5	Dec-06	200	43	<200	1.1	<0.5	<0.5	<0.5	<1.0
6	Dec-07	1,000	<50	NA	0.98	0.81	<0.5	0.5	<2.0
7	Mar-08	940	<50	NA	0.87	1.0	<0.5	<0.5	<2.0
8	Jun-08	1,100	56	NA	0.92	<0.5	<0.5	<0.5	2.9
9	Sep-08	1,000	<50	NA	0.91	<0.5	<0.5	<0.5	<2.0
10	Dec-08	1,400	<50	NA	1	<0.5	<0.5	<0.5	<2.0

MW-7									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
1	Mar-04	1,600	490	1,900	240	100	14	56	<2.5
2	Dec-06	420	<25	470	<0.5	<0.5	<0.5	<0.5	<1.0
3	Dec-07	6,300	3,100	NA	640	28	48	231	<1.0
4	Mar-08	7,000	360	NA	140	5.8	11	58	<2.0
5	Jun-08	5,400	1,700	NA	480	15	28	139	<2.0
6	Sep-08	9,400	1,200	NA	330	12	21	88	<2.0
7	Dec-08	8,700	2,200	NA	640	100	43	185	<4.0

MW-8									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
1	Mar-04	140,000	51,000	56,000	19,000	720	2,400	3,300	<50
2	Dec-06	2,400	29,000	<380	13,000	<100	640	500	<200
3	Dec-07	5,900	30,000	NA	11,000	180	650	561	<100
4	Mar-08	21,000	47,000	NA	10,000	260	1,200	458	<2.0
5	Jun-08	7,300	27,000	NA	9,300	140	790	290	<2.0
6	Sep-08	13,000	35,000	NA	11,000	190	900	402	<100
7	Dec-08	7,600	19,000	NA	6,800	110	380	236	<50

MW-9									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
1	Mar-04	1,300	95	1,500	4.7	0.68	<0.5	<1.0	<0.5
2	Dec-06	<50	92	<200	2.8	<0.5	<0.5	<0.5	<1.0
3	Dec-07	8,400	84	NA	4.7	1.1	<0.5	1.9	<2.0
4	Mar-08	8,600	100	NA	4.1	1.1	<0.5	<0.5	2.0
5	Jun-08	5,900	98	NA	4.9	<0.5	<0.5	<0.5	2.3
6	Sep-08	9,300	130	NA	4.6	<0.5	<0.5	<0.5	<50
7	Dec-08	7,800	95	NA	4	0.54	<0.5	<0.5	<2.0

MW-10									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
1	Mar-04	840,000	14,000	<100,000	4,000	77	200	120	<50
2	Dec-06	19,000	12,000	<4,000	4,600	42	90	52	<50
3	Dec-07	4,700	13,000	NA	5,300	96	42	86	<50
4	Mar-08	280,000	10,000	NA	2,600	50	37	58.7	22
5	Jun-08	4,800	10,000	NA	3,800	62	24	61	<2.0
6	Sep-08	4,700	1,200	NA	350	11	3.4	11	<2.0
7	Dec-08	3,200	2,900	NA	550	45	15	56	<20

MW-11									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in May 2004									
1	Dec-06	<50	920	<200	26	4.5	1.8	5.4	<1.0
2	Dec-07	6,900	1,500	NA	320	44	53	140	<2.0
3	Mar-08	7,500	1,200	NA	120	7.6	10	24.9	3.0
4	Jun-08	5,100	2,000	NA	190	11	7.7	16.3	<2.0
5	Sep-08	5,600	2,200	NA	260	20	34	60	<2.0
6	Dec-08	7,800	2,100	NA	270	14	7.6	15.6	<2.0

MW-12									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in May 2004									
1	Dec-06	<50	19,000	<200	9,100	51	<50	110	<100
2	Dec-07	2,700	17,000	NA	8,000	110	25	115	<40
3	Mar-08	3,300	33,000	NA	9,200	140	85	116	<2.0
4	Jun-08	3,000	17,000	NA	6,600	95	50	110	<2.0
5	Sep-08	3,100	14,000	NA	6,200	79	18	83	<10
6	Dec-08	3,600	19,000	NA	7,900	140	72	124	<50

MW-13									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	12,000	87,000	2,100	18,000	470	2,400	3,500	<400
2	Dec-07	NA	68,000	NA	19,000	650	1,700	2,440	<100
3	Mar-08	1,100,000	98,000	NA	19,000	820	2,300	3,190	<100
4	Jun-08	71,000	44,000	NA	12,000	510	1,600	1,950	<2.0
5	Sep-08	440,000	52,000	NA	<100	500	1,600	1,500	<100
6	Dec-08	1,100,000	2,700,000	NA	23,000	<250	40,000	45,000	<1,000

MW-14									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	<50	8,300	<200	3,700	240	230	260	<50
2	Dec-07	2,600	6,800	NA	3,100	150	220	168	<20
3	Mar-08	4,400	18,000	NA	4,400	330	340	245	<2.0
4	Jun-08	2,600	7,700	NA	2,600	180	200	141	<2.0
5	Sep-08	2,500	4,100	NA	1,300	50	80	61	<10
6	Dec-08	2,800	2,300	NA	830	27	45	30.7	<10

MW-15									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	<50	9,200	<200	3,700	<25	60	57	<50
2	Dec-07	3,300	8,100	NA	3,000	48	28	44.5	<20
3	Mar-08	3,000	13,000	NA	3,600	66	210	59.5	<64
4	Jun-08	2,900	15,000	NA	5,800	61	230	56.4	<2.0
5	Sep-08	3,400	18,000	NA	7,800	73	270	59.9	<10
6	Dec-08	3,000	20,000	NA	7,600	95	300	84.2	<50

MW-16									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	<50	190	<200	11.0	1.4	<0.5	<0.5	<1.0
2	Dec-07	8,500	71	NA	13	2.6	<0.5	1.46	<2.0
3	Mar-08	12,000	60	NA	11	0.73	<0.5	<0.5	<2.0
4	Jun-08	10,000	120	NA	13	2.2	<0.5	<0.5	2
5	Sep-08	8,200	64	NA	9.9	1.9	<0.5	<0.5	<2.0
6	Dec-08	8,800	60	NA	11	2.8	<0.5	0.53	<2.0

MW-17									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	<50	14,000	<200	3,400	1,100	480	<0.5	<1.0
2	Dec-07	2,900	5,000	NA	1,100	260	110	206	<10
3	Mar-08	3,100	6,800	NA	1,200	110	91	94	21
4	Jun-08	2,900	7,200	NA	1,100	45	75	66	<2.0
5	Sep-08	3,300	5,500	NA	900	63	69	69	<10
6	Dec-08	3,200	7,100	NA	1,100	530	190	390	<10

MW-18									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in May 2004									
1	Dec-06	<50	120	<200	22	6.2	3.2	6.2	<2.0
2	Dec-07	8,600	<50	NA	0.98	<0.5	<0.5	<0.5	<2.0
3	Mar-08	9,800	<50	NA	0.52	<0.5	<0.5	<0.5	2.0
4	Jun-08	8,800	<50	NA	<0.5	<0.5	<0.5	<0.5	3.1
5	Sep-08	8,600	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
6	Dec-08	9,300	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0

MW-E									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	100	5,400	NA	3,200	690	97	330	NA
2	May-89	NS	NS	NS	NS	NS	NS	NS	NS
3	Feb-91	NS	NS	NS	NS	NS	NS	NS	NS
4	Mar-04	470	810	<500	340	6.1	2.2	7.7	<1.0
5	Dec-06	280	1,900	<200	910	<10	10	<10	<20
6	Dec-07	6,900	7,000	NA	3,300	50	51	80	<20
7	Mar-08	6,300	2,700	NA	780	17	20	20.9	12
8	Jun-08	5,200	7,400	NA	2,900	43	85	50	<2.0
9	Sep-08	7,800	11,000	NA	3,800	170	130	257	<50
10	Dec-08	9,400	9,100	NA	3,400	110	180	182	<50

RW-1									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	NS	NS	NS	NS	NS	NS	NS	NS
2	May-89	NS	NS	NS	NS	NS	NS	NS	NS
3	Feb-91	NS	NS	NS	NS	NS	NS	NS	NS
4	Mar-04	NS	NS	NS	NS	NS	NS	NS	NS
5	Dec-06	<50	640	<200	100	1.3	2	1.6	<1.0
6	Dec-07	2,100	770	NA	110	<0.5	3.8	1.96	<2.0
7	Mar-08	11,000	890	NA	100	4.2	4.4	2.0	<2.0
8	Jun-08	1,500	1,200	NA	290	4.8	10	4.8	<2.0
9	Sep-08	1,900	1,400	NA	280	9.8	10	6.7	<2.0
10	Dec-08	54,000	1,100,000	NA	500	<250	3,200	530	<1,000

Notes:

The 1988, 1989, and 1991 sampling events were conducted by Groundwater Technology, Inc.

The 2004 and 2006 sampling events were conducted by PES Environmental.

NS = Not sampled

NA = Not analyzed for this constituent

All concentrations shown in µg/L

TABLE B
Historical Monitoring, Extraction, and Trench Well Elevations
6400 Christie Avenue, Emeryville, California

MW-1					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.39	9.60	NP	4.79
2	May-89	14.31 ^(a)	8.73	NP	5.58
3	Feb-91	14.31	9.18	NP	5.13
Monitoring well abandoned - date unclear					

MW-2					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.36	9.64	NP	4.72
2	May-89	14.28 ^(a)	8.78	NP	5.50
3	Feb-91	14.28	9.61	NP	4.67
Monitoring well abandoned - date unclear					

MW-3					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.53	8.93	trace	5.60
2	May-89	14.43 ^(a)	8.69	NP	5.74
3	Feb-91	14.43	8.31	NP	6.12
4	Mar-04	16.96 ^(b)	9.47	NP	7.49
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.65 ^(c)	7.76 ^(c)	7.76	8.89
7	Mar-08	16.65	8.72	8.70	7.93
8	Jun-08	16.65	8.56	NP	8.09
9	Sep-08	16.65	9.27	7.95	7.38
10	Dec-08	16.65	8.36	7.49	8.29

MW-4					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.21	8.29	NP	5.92
2	May-89	14.12 ^(a)	7.75	NP	6.37
3	Feb-91	14.12	8.04	NP	6.08
4	Mar-04	16.74 ^(b)	6.90	NP	7.49
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.29 ^(c)	6.61	NP	9.68
7	Mar-08	16.29	7.24	NP	9.05
8	Jun-08	16.29	6.94	NP	9.35
9	Sep-08	16.29	6.85	NP	6.85
10	Dec-08	16.29	7.42	NP	8.87

MW-5					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.65	10.23	NP	4.42
2	May-89	14.56 ^(a)	9.29	NP	5.27
3	Feb-91	14.56	10.04	NP	4.52
4	Mar-04	17.11 ^(b)	9.10	NP	8.01
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.72 ^(c)	9.66	NA	7.06
7	Mar-08	16.72	9.72	NP	7.00
8	Jun-08	16.72	9.72	NP	7.00
9	Sep-08	16.72	8.56	NP	8.16
10	Dec-08	16.72	9.75	NP	6.97

MW-6					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.75	8.10	NP	6.65
2	May-89	14.67 ^(a)	7.58	NP	7.09
3	Feb-91	14.67	7.05	NP	7.62
4	Mar-04	17.22 ^(b)	6.51	NP	10.71
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.82 ^(c)	6.61	NP	10.21
7	Mar-08	16.82	7.02	NP	9.80
8	Jun-08	16.82	7.55	NP	9.27
9	Sep-08	16.82	6.06	NP	10.76
10	Dec-08	16.82	6.91	NP	9.91

MW-7					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
1	Mar-04	18.09	9.93	NP	8.16
2	Dec-06	NA	NA	NA	NA
3	Dec-07	17.73 ^(c)	10.30	NP	7.43
4	Mar-08	17.73	10.51	NP	7.22
5	Jun-08	17.73	10.50	NP	7.23
6	Sep-08	17.73	10.37	NP	7.36
7	Dec-08	17.73	10.60	NP	7.13

MW-8					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
1	Mar-04	18.25	9.32	8.15	8.93
2	Nov-06 ^(d)	16.96	10.59	NP	6.37
3	Dec-07	17.84 ^(c)	9.42	NP	8.42
4	Mar-08	17.84	10.50	9.18	7.34
5	Jun-08	17.84	9.68	9.10	8.16
6	Sep-08	17.84	9.63	8.89	8.21
7	Dec-08	17.84	9.58	8.89	8.26

MW-9					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
1	Mar-04	18.27	9.38	NP	8.89
2	Dec-06	NA	NA	NA	NA
3	Dec-07	17.84 ^(c)	9.54	NP	8.30
4	Mar-08	17.84	9.77	NP	8.07
5	Jun-08	17.84	9.68	NP	9.27
6	Sep-08	17.84	9.30	NP	8.54
7	Dec-08	17.84	9.83	NP	8.01

MW-10					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
1	Mar-04	18.21	9.87	8.24	8.34
2	Dec-06	18.21	9.30	8.86	8.91
3	Dec-07	17.83 ^(c)	8.98 ^(e)	8.98	8.85
4	Mar-08	17.83	9.28	8.98	8.55
5	Jun-08	17.83	8.86	8.78	7.23
6	Sep-08	17.83	8.95	8.84	8.88
7	Dec-08	17.83	8.97	8.74	8.86

MW-11					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed May 2004					
1	Nov-06 ^(d)	17.76 ^(c)	10.33	NP	7.43
2	Dec-07	17.76	10.27	NP	7.49
3	Mar-08	17.76	10.34	NP	7.42
4	Jun-08	17.76	10.20	NP	8.16
5	Sep-08	17.76	10.03	NP	7.73
6	Dec-08	17.76	10.34	NP	7.42

MW-12					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Nov-06 ^(d)	17.83 ^(c)	9.37	NP	8.46
2	Dec-07	17.83	9.15	NP	8.68
3	Mar-08	17.83	9.11	NP	8.72
4	Jun-08	17.83	8.86	NP	8.97
5	Sep-08	17.83	8.76	NP	9.07
6	Dec-08	17.83	8.98	NP	8.85

MW-13					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	17.66 ^(c)	9.81	9.44	7.85
2	Dec-07	17.66	9.95	9.39	7.71
3	Mar-08	17.66	10.02	9.54	7.64
4	Jun-08	17.66	9.86	9.45	7.80
5	Sep-08	17.66	10.34	9.54	7.32
6	Dec-08	17.66	10.54	9.65	7.12

MW-14					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Nov-06 ^(d)	17.60 ^(c)	9.11	9.11(sheen)	8.49
2	Dec-07	17.60	8.86	8.84	8.74
3	Mar-08	17.60	8.91	8.88	8.69
4	Jun-08	17.60	8.66	8.62	8.94
5	Sep-08	17.60	8.64	NP	8.96
6	Dec-08	17.60	8.70	NP	8.90

MW-15					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	17.80 ^(c)	9.15	NP	8.65
2	Dec-07	17.80	9.30	NP	8.50
3	Mar-08	17.80	9.20	9.18	8.60
4	Jun-08	17.80	9.60	9.63	8.20
5	Sep-08	17.80	8.84	8.84 ^(f)	8.96
6	Dec-08	17.80	9.19	8.36	8.61

MW-16					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	NA	NA	NA	NA
2	Dec-07	17.74 ^(c)	9.36	NP	8.38
3	Mar-08	17.74	9.88	NP	7.86
4	Jun-08	17.74	9.25	NP	7.80
5	Sep-08	17.74	9.07	NP	8.67
6	Dec-08	17.74	9.45	NP	8.29

MW-17					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	NA	NA	NA	NA
2	Dec-07	18.17 ^(c)	9.40	9.32	8.77
3	Mar-08	18.17	9.34	9.18	8.83
4	Jun-08	18.17	8.98	8.97	9.19
5	Sep-08	18.17	9.21	7.92	8.96
6	Dec-08	18.17	9.25	9.11	8.92

MW-18					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	NA	NA	NA	NA
2	Dec-07	16.35 ^(c)	8.30	NP	8.05
3	Mar-04	16.35	8.34	NP	8.01
4	Jun-08	16.35	8.34	NP	8.20
5	Sep-08	16.35	8.48	NP	7.87
6	Dec-08	16.35	8.61	NP	7.74

MW-E					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	NM	NM	NM	NM
2	May-89	15.32	10.39	NP	4.93
3	Feb-91	NM	NM	NM	NM
4	Mar-04	17.80	9.92	NP	7.88
5	Nov-06 ^(d)	17.80	10.22	NP	7.58
6	Dec-07	17.47 ^(c)	10.03	NP	7.44
7	Mar-08	17.47	10.21	NP	7.26
8	Jun-08	17.47	10.20	NP	7.27
9	Sep-08	17.47	9.55	NP	7.92
10	Dec-08	17.47	10.32	NP	7.15

RW-1					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	NM	NM	NM	NM
2	May-89	14.54	10.17	10.14	4.37
3	Feb-91	14.54	11.46	10.85	3.57
4	Mar-04	18.32	7.20	5.62	11.12
5	Nov-06 ^(d)	18.32	9.15	9.11	9.17
6	Dec-07	16.70 ^(c)	9.53 ^(e)	9.53	7.17
7	Mar-08	16.70	8.99	8.92	7.71
8	Jun-08	16.70	8.95	8.87	7.75
9	Sep-08	16.70	NM ^(c)	NM ^(c)	NM ^(c)
10	Dec-08	16.70	NM ^(c)	NM ^(c)	NM ^(c)

Notes:

The 1988, 1989, and 1991 water elevations were measured by Groundwater Technology, Inc.

The 2004 and 2006 water elevations were measured by PES Environmental.

NS = Not sampled

NP = No product

NM - Not measured

NA = data not available from the previous consultant for this event

TOC Elevation = Top of Casing Elevation

DTW = Depth to water from the top of the casing

DTP - Depth to product from the top of the casing

GW Elevation - Groundwater elevation as compared to mean sea level

^(a) Wells resurveyed in May 1989

^(b) New elevation recorded by PES. Date of survey unclear.

^(c) Wells resurveyed by PES in April 2007

^(d) no water level data available for the December 2006 sampling event

^(e) Thickness of product interfered with determining oil/water interface.

^(f) Depth to groundwater = depth to free product as difference could not be determined

APPENDIX B

Indoor Air Sampling Photodocumentation



Subject: Indoor air sampling location IA-2.

Site: 6400 Christie Avenue, Emeryville, California

Date Taken: January 5, 2009

Project No.: SES 2007-65

Photographer: T. Glass

Photo No.: 01



Subject: Indoor air sampling location IA-5.

Site: 6400 Christie Avenue, Emeryville, California

Date Taken: January 5, 2009

Project No.: SES 2007-65

Photographer: T. Glass

Photo No.: 02

APPENDIX C

Indoor Air Sampling Analytical Laboratory Results and Chain-of-Custody Documentation



February 13, 2009

Teal Glass
Stellar Environmental Solutions, Inc
2198 6th Street
Berkeley, CA 94710
TEL: (510) 644-3123
FAX (510) 644-3859

RE: 2007-65/6400 Christie Ave, Emmerlyville

Order No.: 0902045

Dear Teal Glass:

Torrent Laboratory, Inc. received 6 samples on 2/6/2009 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,


Laboratory Director

2/13/09
Date

Patti Sandrock
QA Officer 



TORRENT LABORATORY, INC.

483 Sinclair Frontage Road * Milpitas, CA * Phone: (408) 2635258 * Fax: (408) 263-8293

Visit us at www.torrentlab.com email: analysis@torrentlab.com

Report Prepared For: Teal Glass

Stellar Environmental Solutions, Inc

Date Received:

2/6/2009

Date Reported:

2/13/2009

Summary Report

IA-1	TO-15 Petroleum ug/m3			Lab ID:	0902045-001A
<u>Parameter</u>	<u>Preped</u>	<u>Analyzed</u>	<u>Result</u>	<u>RL</u>	<u>Unit</u>
Benzene	2/11/2009	2/11/2009	5.0	0.80	µg/m ³
Ethyl Benzene	2/11/2009	2/11/2009	2.7	1.1	µg/m ³
m,p-Xylene	2/11/2009	2/11/2009	5.1	1.0	µg/m ³
o-xylene	2/11/2009	2/11/2009	1.9	1.4	µg/m ³
Toluene	2/11/2009	2/11/2009	4.4	0.94	µg/m ³

IA-2	TO-15 Petroleum ug/m3			Lab ID:	0902045-002A
<u>Parameter</u>	<u>Preped</u>	<u>Analyzed</u>	<u>Result</u>	<u>RL</u>	<u>Unit</u>
Toluene	2/11/2009	2/11/2009	3.9	0.94	µg/m ³

IA-3	TO-15 Petroleum ug/m3			Lab ID:	0902045-003A
<u>Parameter</u>	<u>Preped</u>	<u>Analyzed</u>	<u>Result</u>	<u>RL</u>	<u>Unit</u>
Benzene	2/11/2009	2/11/2009	3.8	0.80	µg/m ³
Ethyl Benzene	2/11/2009	2/11/2009	3.0	1.1	µg/m ³
m,p-Xylene	2/11/2009	2/11/2009	11	1.0	µg/m ³
Toluene	2/11/2009	2/11/2009	3.0	0.94	µg/m ³

IA-4	TO-15 Petroleum ug/m3			Lab ID:	0902045-004A
<u>Parameter</u>	<u>Preped</u>	<u>Analyzed</u>	<u>Result</u>	<u>RL</u>	<u>Unit</u>
Toluene	2/11/2009	2/11/2009	2.8	0.94	µg/m ³

IA-5	TO-15 Petroleum ug/m3			Lab ID:	0902045-005A
<u>Parameter</u>	<u>Preped</u>	<u>Analyzed</u>	<u>Result</u>	<u>RL</u>	<u>Unit</u>
Toluene	2/11/2009	2/11/2009	3.0	0.94	µg/m ³

OA-1	TO-15 Petroleum ug/m3			Lab ID:	0902045-006A
<u>Parameter</u>	<u>Preped</u>	<u>Analyzed</u>	<u>Result</u>	<u>RL</u>	<u>Unit</u>
Toluene	2/11/2009	2/11/2009	1.3	0.94	µg/m ³



TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at www.torrentlab.com email: analysis@torrentlab.com

Report prepared for: Teal Glass
Stellar Environmental Solutions, Inc

Date Received: 2/6/2009

Date Reported: 2/13/2009

Client Sample ID: IA-1
Sample Location: 6400 Christie Ave
Sample Matrix: AIR
Date/Time Sampled 2/5/2009

Lab Sample ID: 0902045-001

Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	TO-15	2/11/2009	1.6	1	0.80	5.0	µg/m ³	S18675
Ethyl Benzene	TO-15	2/11/2009	2.17	1	1.1	2.7	µg/m ³	S18675
m,p-Xylene	TO-15	2/11/2009	2.05	1	1.0	5.1	µg/m ³	S18675
o-xylene	TO-15	2/11/2009	2.7	1	1.4	1.9	µg/m ³	S18675
Toluene	TO-15	2/11/2009	1.89	1	0.94	4.4	µg/m ³	S18675
Surr: 4-Bromofluorobenzene	TO-15	2/11/2009	0	1	65-135	89.7	%REC	S18675

Client Sample ID: IA-2
Sample Location: 6400 Christie Ave
Sample Matrix: AIR
Date/Time Sampled 2/5/2009

Lab Sample ID: 0902045-002

Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	TO-15	2/11/2009	1.6	1	0.80	ND	µg/m ³	S18675
Ethyl Benzene	TO-15	2/11/2009	2.17	1	1.1	ND	µg/m ³	S18675
m,p-Xylene	TO-15	2/11/2009	2.05	1	1.0	ND	µg/m ³	S18675
o-xylene	TO-15	2/11/2009	2.7	1	1.4	ND	µg/m ³	S18675
Toluene	TO-15	2/11/2009	1.89	1	0.94	3.9	µg/m ³	S18675
Surr: 4-Bromofluorobenzene	TO-15	2/11/2009	0	1	65-135	89.0	%REC	S18675

Report prepared for: Teal Glass
Stellar Environmental Solutions, Inc

Date Received: 2/6/2009

Date Reported: 2/13/2009

Client Sample ID: IA-3
Sample Location: 6400 Christie Ave
Sample Matrix: AIR
Date/Time Sampled 2/5/2009

Lab Sample ID: 0902045-003
Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	TO-15	2/11/2009	1.6	1	0.80	3.8	µg/m ³	S18675
Ethyl Benzene	TO-15	2/11/2009	2.17	1	1.1	3.0	µg/m ³	S18675
m,p-Xylene	TO-15	2/11/2009	2.05	1	1.0	11	µg/m ³	S18675
o-xylene	TO-15	2/11/2009	2.7	1	1.4	ND	µg/m ³	S18675
Toluene	TO-15	2/11/2009	1.89	1	0.94	3.0	µg/m ³	S18675
Surr: 4-Bromofluorobenzene	TO-15	2/11/2009	0	1	65-135	91.7	%REC	S18675

Client Sample ID: IA-4
Sample Location: 6400 Christie Ave
Sample Matrix: AIR
Date/Time Sampled 2/5/2009

Lab Sample ID: 0902045-004
Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	TO-15	2/11/2009	1.6	1	0.80	ND	µg/m ³	S18675
Ethyl Benzene	TO-15	2/11/2009	2.17	1	1.1	ND	µg/m ³	S18675
m,p-Xylene	TO-15	2/11/2009	2.05	1	1.0	ND	µg/m ³	S18675
o-xylene	TO-15	2/11/2009	2.7	1	1.4	ND	µg/m ³	S18675
Toluene	TO-15	2/11/2009	1.89	1	0.94	2.8	µg/m ³	S18675
Surr: 4-Bromofluorobenzene	TO-15	2/11/2009	0	1	65-135	88.9	%REC	S18675

Client Sample ID: IA-5
Sample Location: 6400 Christie Ave
Sample Matrix: AIR
Date/Time Sampled 2/5/2009

Lab Sample ID: 0902045-005
Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	TO-15	2/11/2009	1.6	1	0.80	ND	µg/m ³	S18675
Ethyl Benzene	TO-15	2/11/2009	2.17	1	1.1	ND	µg/m ³	S18675
m,p-Xylene	TO-15	2/11/2009	2.05	1	1.0	ND	µg/m ³	S18675
o-xylene	TO-15	2/11/2009	2.7	1	1.4	ND	µg/m ³	S18675
Toluene	TO-15	2/11/2009	1.89	1	0.94	3.0	µg/m ³	S18675
Surr: 4-Bromofluorobenzene	TO-15	2/11/2009	0	1	65-135	89.4	%REC	S18675

Report prepared for: Teal Glass
Stellar Environmental Solutions, Inc

Date Received: 2/6/2009

Date Reported: 2/13/2009

Client Sample ID: OA-1
Sample Location: 6400 Christie Ave
Sample Matrix: AIR
Date/Time Sampled 2/5/2009

Lab Sample ID: 0902045-006

Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	TO-15	2/11/2009	1.6	1	0.80	ND	µg/m ³	S18675
Ethyl Benzene	TO-15	2/11/2009	2.17	1	1.1	ND	µg/m ³	S18675
m,p-Xylene	TO-15	2/11/2009	2.05	1	1.0	ND	µg/m ³	S18675
o-xylene	TO-15	2/11/2009	2.7	1	1.4	ND	µg/m ³	S18675
Toluene	TO-15	2/11/2009	1.89	1	0.94	1.3	µg/m ³	S18675
Surr: 4-Bromofluorobenzene	TO-15	2/11/2009	0	1	65-135	95.4	%REC	S18675

Definitions, legends and Notes

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
a	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

CLIENT: Stellar Environmental Solutions, Inc
Work Order: 0902045
Project: 2007-65/6400 Christie Ave, Emmerlyville

ANALYTICAL QC SUMMARY REPORT

BatchID: S18675

Sample ID MB-S18675	SampType: MBLK	TestCode: TO-15	Units: ppbv	Prep Date: 2/11/2009	RunNo: 18675						
Client ID: ZZZZZ	Batch ID: S18675	TestNo: TO-15		Analysis Date: 2/11/2009	SeqNo: 269523						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	ND	0.50									
Ethyl Benzene	ND	0.50									
m,p-Xylene	ND	0.50									
o-xylene	ND	0.50									
Toluene	ND	0.50									
Surr: 4-Bromofluorobenzene	18.86	0	20	0	94.3	65	135				

Sample ID LCS-S18675	SampType: LCS	TestCode: TO-15	Units: ppbv	Prep Date: 2/11/2009	RunNo: 18675						
Client ID: ZZZZZ	Batch ID: S18675	TestNo: TO-15		Analysis Date: 2/11/2009	SeqNo: 269525						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	22.53	0.50	20	0	113	65	135				
Ethyl Benzene	19.78	0.50	20	0	98.9	65	135				
m,p-Xylene	40.28	0.50	40	0	101	65	135				
o-xylene	19.76	0.50	20	0	98.8	65	135				
Toluene	20.60	0.50	20	0	103	65	135				
Surr: 4-Bromofluorobenzene	19.22	0	20	0	96.1	65	135				

Sample ID LCSD-S18675	SampType: LCSD	TestCode: TO-15	Units: ppbv	Prep Date: 2/11/2009	RunNo: 18675						
Client ID: ZZZZZ	Batch ID: S18675	TestNo: TO-15		Analysis Date: 2/11/2009	SeqNo: 269527						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	22.98	0.50	20	0	115	65	135	22.53	1.98	30	
Ethyl Benzene	20.08	0.50	20	0	100	65	135	19.78	1.51	30	
m,p-Xylene	39.70	0.50	40	0	99.2	65	135	40.28	1.45	30	
o-xylene	19.68	0.50	20	0	98.4	65	135	19.76	0.406	30	
Toluene	23.07	0.50	20	0	115	65	135	20.6	11.3	30	
Surr: 4-Bromofluorobenzene	20.05	0	20	0	100	65	135	0	0	30	

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



483 Sinclair Frontage Road
 Milpitas, CA 95035
 Phone: 408.263.5258
 FAX: 408.263.8293
 www.torrentlab.com

CHAIN OF CUSTODY

LAB WORK ORDER NO
0902045

• NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY •

Company Name: Stellar Environmental solutions, Inc			Location of Sampling: 6400 Christie Avenue, Emeryville, CA		
Address: 2198 Sixth St. Suite 201			Purpose: Indoor Air Survey		
City: Berkeley	State: CA	Zip Code: 94710	Special Instructions / Comments: TO-15 - Modified BTEX only		
Telephone: 510-644-3123		FAX: 510-644-3859	tglass@stellar-environmental.com		
REPORT TO: Teal Glass		SAMPLER: Teal Glass	P.O. #: 2007-65	EMAIL: tglass@stellar-environmental.com	

TURNAROUND TIME:

- 10 Work Days 3 Work Days Noon - Nxt Day
 7 Work Days 2 Work Days 2 - 8 Hours
 5 Work Days 1 Work Day Other

SAMPLE TYPE:

- Storm Water Air
 Waste Water Other
 Ground Water
 Soil

REPORT FORMAT:

- QC Level IV
 EDF
 Excel / EDD

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	TO-15 - Modified							Initial Pressure	final Pressure	ANALYSIS REQUESTED
															REMARKS
001A	IA-1	2-5-09	Air	1	summa	✓							-30	-2	Cannister # 893
002A	IA-2	2-5-09	Air	1	summa	✓							-26	-2	Cannister # 1427
003A	IA-3	2-5-09	Air	1	summa	✓							-28	-2	Cannister # 1431
004A	IA-4	2-5-09	Air	1	summa	✓							-30	-2	Cannister # 534
005A	IA-5	2-5-09	Air	1	summa	✓							-28	-2	Cannister # 901
006A	OA-1	2-5-09	Air	1	summa	✓							-30	-2	Cannister # 863

1	Relinquished By: <i>[Signature]</i> Print: Teal Glass	Date: 2-6-09	Time: 11:50	Received By: <i>[Signature]</i> Print: Shawn Balch	Date: 2/6/09	Time: 11:50
2	Relinquished By: <i>[Signature]</i> Print:	Date: 2/6/09	Time: 1:30	Received By: <i>[Signature]</i> Print: D. G. Ghadagaria-NAVIN	Date: 2/6/09	Time: 1:30 P.M.

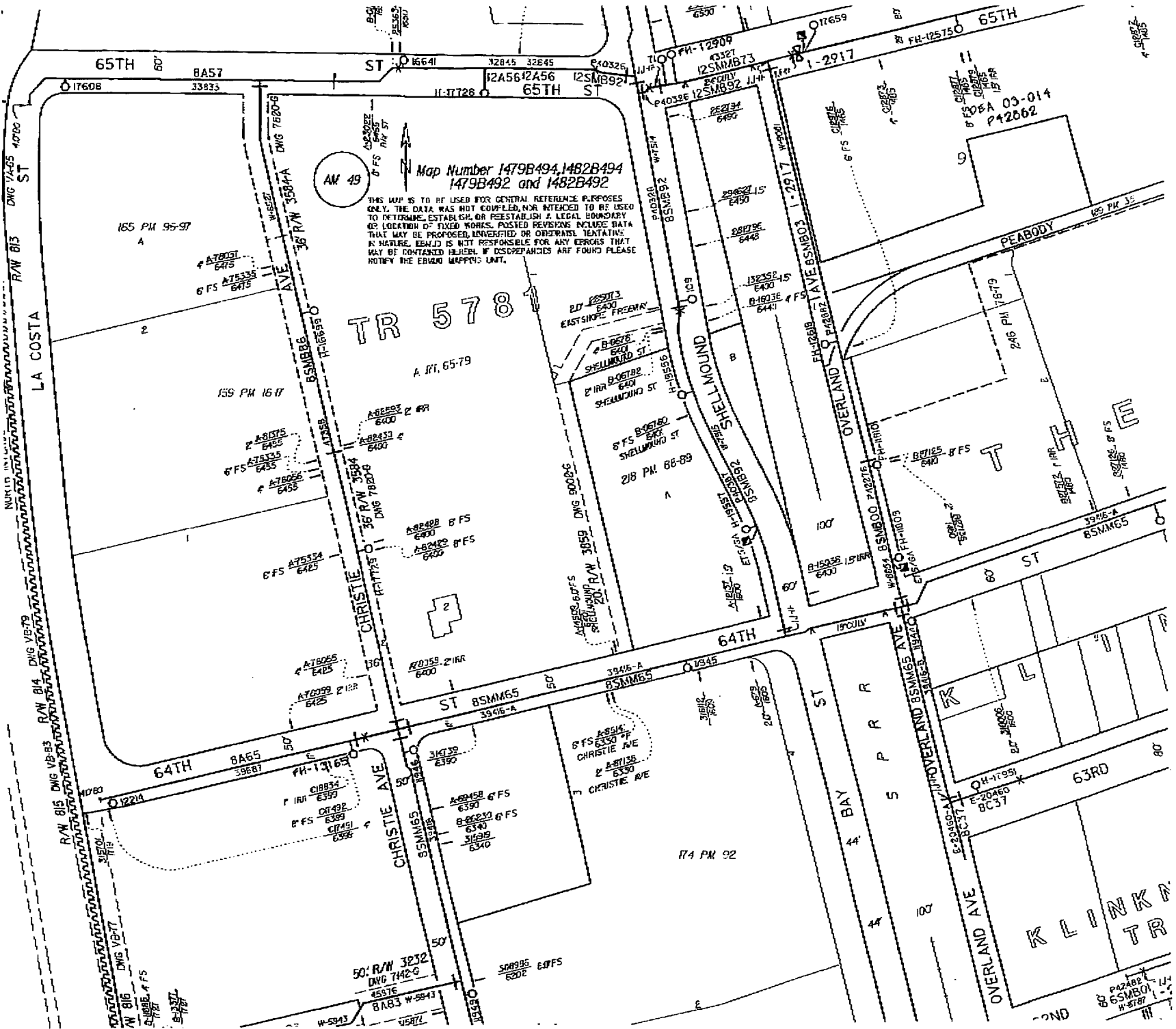
Were Samples Received in Good Condition? Yes NO Samples on Ice? Yes NO Method of Shipment Highspeed Sample seals intact? Yes NO N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrangements are made. Page 1 of 1

Log In By: _____ Date: _____ Log In Reviewed By: _____ Date: _____

APPENDIX D

Utility Maps and USA Confirmations

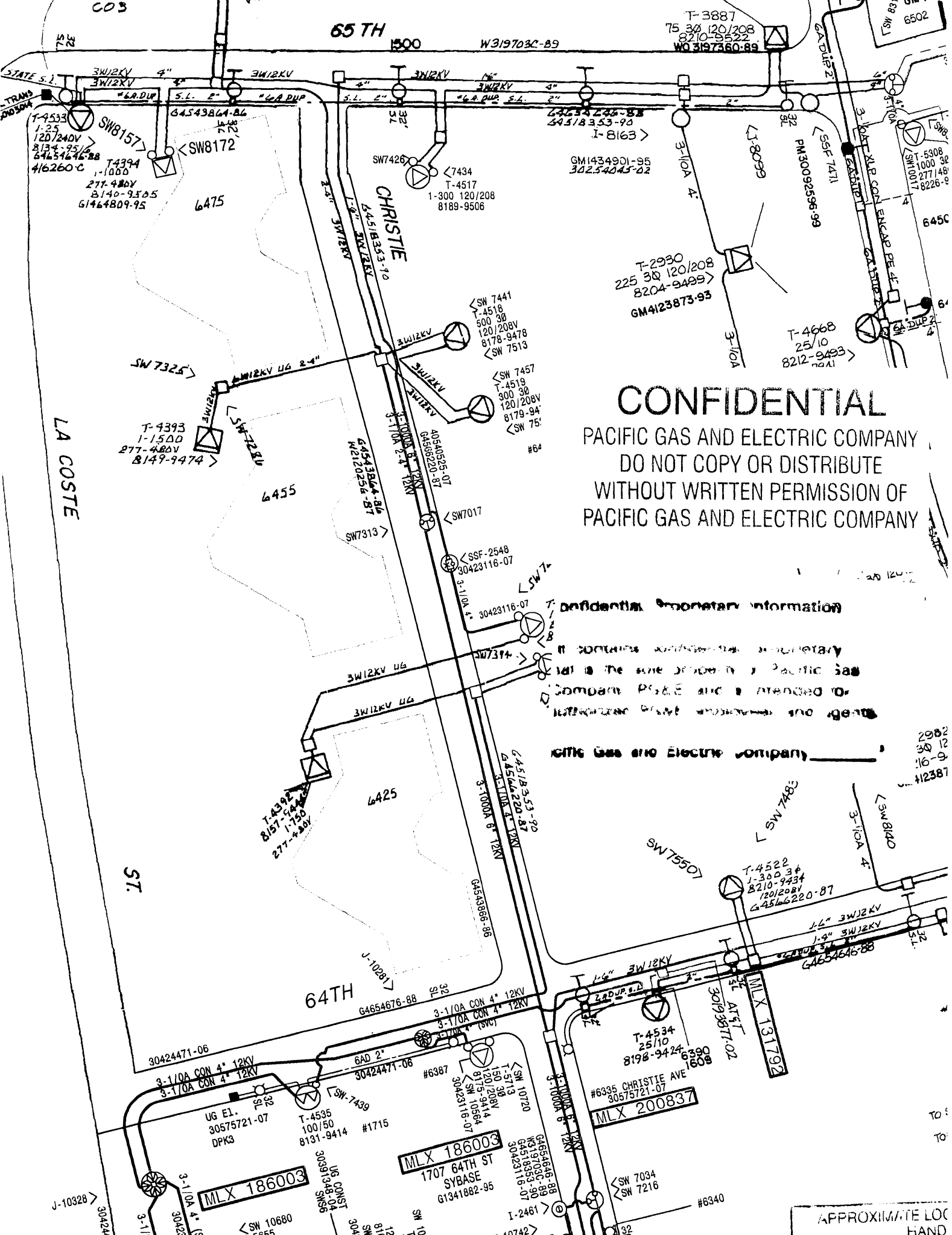


Map Number 1479B494, 1482B494
 1479B492 and 1482B492

THIS MAP IS TO BE USED FOR GENERAL REFERENCE PURPOSES ONLY. THE DATA WAS NOT COMPILED NOR INTENDED TO BE USED TO DETERMINE, ESTABLISH, OR REESTABLISH A LEGAL BOUNDARY OR LOCATION OF FIXED MONUMENTS. POSTED REVISIONS INCLUDE DATA THAT MAY BE PROPOSED, UNDETERMINED OR OTHERWISE TENTATIVE IN NATURE. EBIMUD IS NOT RESPONSIBLE FOR ANY ERRORS THAT MAY BE CONTAINED HEREIN. IF DISCREPANCIES ARE FOUND PLEASE NOTIFY THE ENGINE MAPPING UNIT.

TR 578

KLINKA TR



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PACIFIC GAS AND ELECTRIC COMPANY

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MLX 186003
1707 64TH ST
SYBASE
G1341882-95

MLX 200837
#635 CHRISTIE AVE
30575721-07

MLX 186003
3-1/0A 4\"/>

APPROXIMATE LOCATION

65TH ST.

OFF-SET
PM40320100-03 14-
4 95 -PC05104
45756-12

CHRISTIE

BLDG. 1
-1PL-88

BLDG. 2
-1PL-88

6425-1PL-86
(JT114 COND. 1)

AVE.

SE1-1

ST.

5F1-2

64TH

64TH

MAP
NO.
15

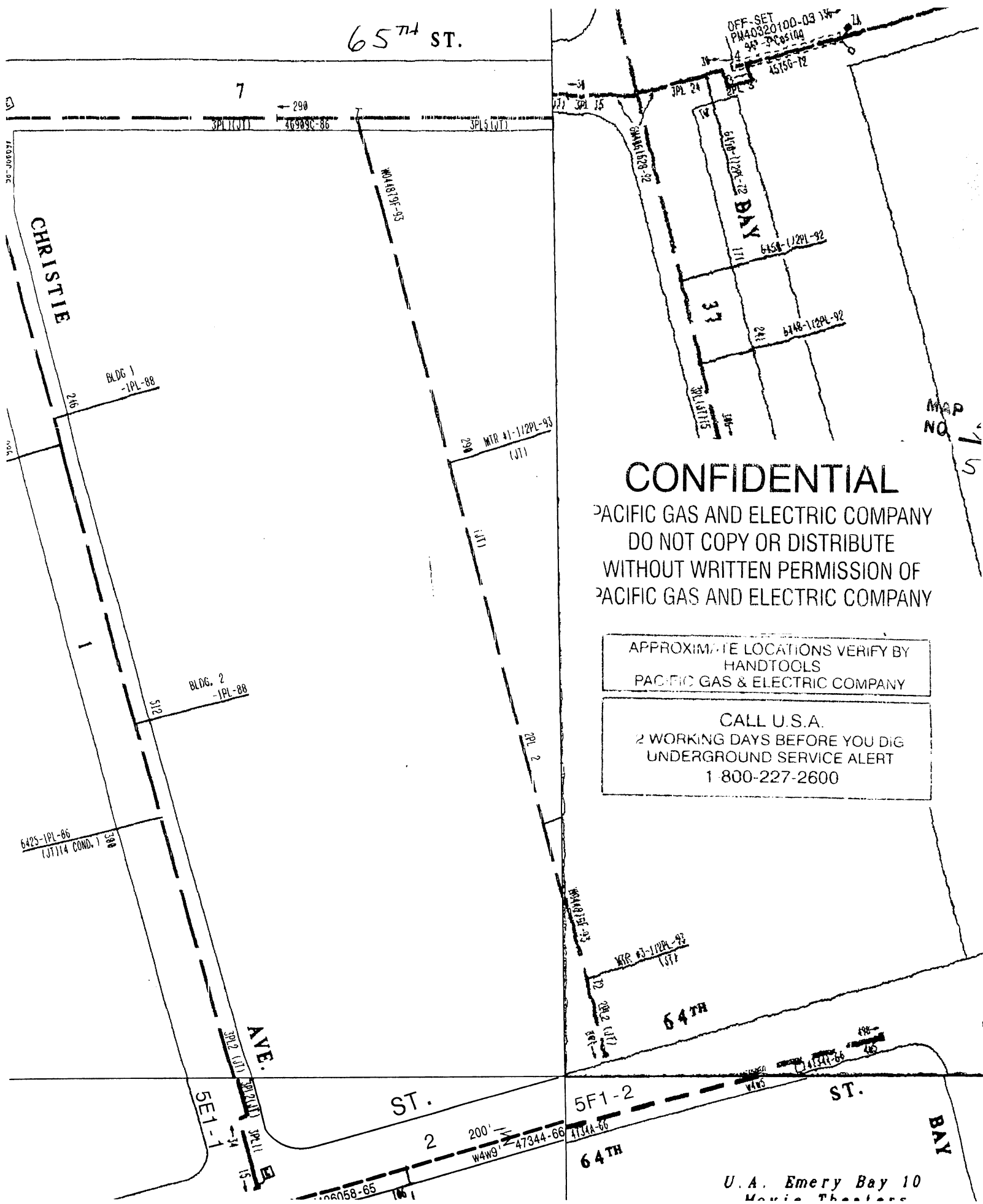
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HANDTOOLS
PACIFIC GAS & ELECTRIC COMPANY

CALL U.S.A.
2 WORKING DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
1 800-227-2600

U.A. Emery Bay 10
Movie Theaters



Teal Glass

From: support@usan.org
Sent: Thursday, March 12, 2009 8:21 AM
To: tglass@stellar-environmental.com
Subject: USAN 2009/03/12 #00000 0067531-000 NORM NEW

00000 USAN 03/12/09 08:20:20 0067531 NORMAL NOTICE

Message Number: 0067531 Received by USAN at 08:06 on 03/12/09 by EDS

Work Begins: 03/18/09 at 08:00 Notice: 039 hrs Priority: 2

Expires: 04/09/09 at 17:00 Update By: 04/07/09 at 16:59

Caller: TEAL GLASS
Company: STELLAR ENVIRONMENTAL SOLUTIONS
Address: 2198 6TH ST
City: BERKELEY State: CA Zip: 94710
Business Tel: 510-644-3123 Fax: 510-644-3859
Email Address: TGLASS@STELLAR-ENVIRONMENTAL.COM

Nature of Work: VERTICAL SOIL BORING
Done for: SAME Explosives: N
Foreman: CALLER
Field Tel: Cell Tel: 510-644-3123
Area Premarked: Y Premark Method: WHITE PAINT
Permit Type: NO
Vac / Pwr Equip Use In The Approx Location Of Member Facilities Requested: N Excavation
Enters Into Street Or Sidewalk Area: Y

Location:
B/SI/O CHRISTIE AVE FR 64TH ST TO 65TH ST

Place: EMERYVILLE County: ALAMEDA State: CA

Long/Lat Long: -122.297531 Lat: 37.842107 Long: -122.294527 Lat: 37.84687

Sent to:
ATTRN2 = ATT BROADBAND RING NETWK COMOAK = COMCAST-OAKLAND
CTYBER = CITY BERKELEY CTYEME = CITY EMERYVILLE ENGR
CTYOAK = CITY OAKLAND CONST DEPT EBWCMS = EAST BAY WATER
KMERCH = KINDER MORGAN / SFPP-RCH PBTHAY = PACIFIC BELL HAYWARD
PGEOK = PGE DISTR OAKLAND PTPCOM = POINT TO POINT INC.
SPTTEL = QWEST COMM (CA) TERDEX = TERRADEX INC.
XOCOM2 = XO COMM SVCS DBA XO COMM XOCOMM = XO COMM SVCS DBA XO COMM

The information contained herein ("Data") is provided to the recipient exclusively for informational purposes in response to a request by the recipient. Underground Service Alert of Northern California and Nevada, a California nonprofit mutual benefit corporation ("USA North"), makes absolutely no representations or warranties whatsoever, whether expressed or implied, as to the accuracy, thoroughness, value, quality, validity, suitability, condition or fitness for a particular purpose or use of the Data, nor as to whether the Data is error-free, up-to-date, complete or based upon accurate or meaningful facts. Further, the Data should not be relied-upon by the recipient for any purposes. USA North does not assume, and expressly disclaims, any and all liability for any damages incurred directly or indirectly, whether foreseeable or not, as a result of errors, omissions or discrepancies contained within or concerning the Data.

Teal Glass

From: irthq@qwest.com
Sent: Thursday, March 12, 2009 12:28 PM
To: TGLASS@STELLAR-ENVIRONMENTAL.COM
Subject: Ticket Status from QWEST COMMUNICATIONS

To: STELLAR ENVIRONMENTAL SOLUTIONS
Attn: TEAL GLASS
Voice: 510-644-3123
Fax: 510-644-3859

Re: Locating facilities in the area of your excavation

This is an important Safety Message from QWEST COMMUNICATIONS.

We are replying to your request to locate our underground facilities in an area where you are planning excavation work.

The following is the current status of our facility marking in the area specified in your notification.

Ticket number 0067531 is: Your excavation does not pose a risk to Qwest Worldwide Networks, but may be a risk to Qwest Local Networks. If you are in the 14 state area previously served by US West, and you have questions, please call Qwest Local Networks at 1-800-833-0825. Qwest Wo.
County: ALAMEDA
Place : EMERYVILLE
Street:

If you have any questions about these responses to your excavation notification, please call 1-800-283-4237.

Teal Glass

From: Michael Twomey [mike2me@surewest.net]
Sent: Thursday, March 12, 2009 7:02 PM
To: TGLASS@STELLAR-ENVIRONMENTAL.COM
Subject: FW: USAN PTPCOM 2009/03/12 #00001 0067531-000 NORM NEW

Point to Point Inc

Has no subsurface installation that would be affected by the proposed excavation area.

Thanks,

Mike Twomey
Vice President
916-240-6241 Mobile
916-244-0746 My Fax
mike2me@surewest.net

Step Two Construction, Inc
8628 Reetey Ave
Orangevale, CA 95662
530-644-1595 Office
916-244-0844 Fax
<http://www.steptwoconstruction.com>

-----Original Message-----

From: support@usan.org [mailto:support@usan.org]
Sent: Thursday, March 12, 2009 8:15 AM
To: mike2me@surewest.net
Subject: USAN PTPCOM 2009/03/12 #00001 0067531-000 NORM NEW

PTPCOM 00001 USAN 03/12/09 08:15:21 0067531 NORMAL NOTICE

Message Number: 0067531 Received by USAN at 08:06 on 03/12/09 by EDS

Work Begins: 03/18/09 at 08:00 Notice: 039 hrs Priority: 2

Expires: 04/09/09 at 17:00 Update By: 04/07/09 at 16:59

Caller: TEAL GLASS
Company: STELLAR ENVIRONMENTAL SOLUTIONS
Address: 2198 6TH ST
City: BERKELEY State: CA Zip: 94710
Business Tel: 510-644-3123 Fax: 510-644-3859

Email Address: TGLASS@STELLAR-ENVIRONMENTAL.COM

Nature of Work: VERTICAL SOIL BORING
Done for: SAME Explosives: N
Foreman: CALLER
Field Tel: Cell Tel: 510-644-3123

Area Premarked: Y Premark Method: WHITE PAINT

Permit Type: NO
Vac / Pwr Equip Use In The Approx Location Of Member Facilities Requested: N Excavation
Enters Into Street Or Sidewalk Area: Y

Location:
B/SI/O CHRISTIE AVE FR 64TH ST TO 65TH ST

Place: EMERYVILLE

County: ALAMEDA

State: CA

Long/Lat Long: -122.297531 Lat: 37.842107 Long: -122.294527 Lat: 37.84687

Sent to:

ATTRN2 = ATT BROADBAND RING NETWK
CTYBER = CITY BERKELEY
CTYOAK = CITY OAKLAND CONST DEPT
KMERCH = KINDER MORGAN / SFPP-RCH
PGEOAK = PGE DISTR OAKLAND
SPTTEL = QWEST COMM (CA)
XOCOM2 = XO COMM SVCS DBA XO COMM

COMOAK = COMCAST-OAKLAND
CTYEME = CITY EMERYVILLE ENGR
EBWCMS = EAST BAY WATER
PBTHAY = PACIFIC BELL HAYWARD
PTPCOM = POINT TO POINT INC.
TERDEX = TERRADEX INC.
XOCOMM = XO COMM SVCS DBA XO COMM

Teal Glass

From: Onecall_Notification1_Pacific_Region@kindermorgan.com
Sent: Thursday, March 12, 2009 7:41 PM
To: TGLASS@STELLAR-ENVIRONMENTAL.COM
Subject: No Locate Notification - DO NOT REPLY

In reference to: One Call Locate Request Number: 0067531 received by Terminal Code or CDC:
KMERCH

at address at intersection

in the town of EMERYVILLE

Kinder Morgan and its affiliates have received notice from the One Call System that you are planning an excavation, which may be in the vicinity of a Kinder Morgan pipeline.

Based upon the location of your planned excavation provided to Kinder Morgan, in our judgment, your excavation will not affect a Kinder Morgan pipeline maintained by the above Terminal Code or CDC. Therefore, this Kinder Morgan Terminal Code or CDC does not plan to mark the approximate location of its pipeline(s). Please be advised that there may be more than one Kinder Morgan Terminal Code or CDC in this vicinity and they will respond separately to your Locate Request.

Should you feel that your excavation will in fact affect a Kinder Morgan pipeline or if the area to be excavated changes in any way, please notify the One Call System of the new area of excavation.

If you have any questions regarding this notification please visit our website @

http://www.kindermorgan.com/ehs/pipeline_safety/pipeline_safety_products.cfm
for local contact information and our pipeline safety message.

In case of a pipeline Emergency Only, call:
Kinder Morgan Energy Partners, LP (collect) 213-624-9461

Thank You for Using the One Call System!

APPENDIX E

Department of Water Resources Reports

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

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