

TECHNICAL MEMORANDUM

DATE: June 4, 2015

TO: Gene Broussard
AMG & Associates, LLC

CC: Michelle Bimson, AmeriGas
Jonathan King, AmeriGas

FROM: Jerry Boyd, EPI

RE: Planned Soil Remediation
295 E Virginia Street
San Jose, CA

EPI Project Number: 004203.2

The purpose of this memorandum is to provide a conceptual plan for remediation of petroleum hydrocarbon contamination of soil at the property located at 295 E Virginia Street in San Jose, California (Property). Figure 1 depicts the general location of the Property and Figure 2 depicts a representation of the Property in reference to adjacent surface streets and pertinent Property structures.

BRIEF BACKGROUND

KCE Matrix Inc. Phase II ESA

Petroleum hydrocarbon concentrations were detected in soil during a Phase II Environmental Site Characterization (Phase II ESA) that was conducted for AMG & Associates, LLC (AMG) as part of pre-purchase environmental due diligence of the property.

Soil samples collected by KCE were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tert-butyl ether (MTBE), and gasoline-range organics (GRO). Aside from MTBE, each of the compounds was detected in at least one soil sample.

EPI Site Characterization

Based on KCE's Phase II ESA, EPI conducted an additional site characterization assessment to define the horizontal and vertical limits of the petroleum impacts to soil. In addition to the compounds analyzed by KCE and in compliance with the California State Water Board Leaking Underground Fuel Tank (LUFT) Manual, site characterization samples were also analyzed for fuel oxygenates, naphthalene, diesel-range organics (DRO), and oil-range organics (ORO). Sampling procedures and laboratory analyses were conducted in accordance with guidelines stipulated in the LUFT Manual.

Table 1 provides a summary of analytical results from both the KCE Phase II ESA and the EPI Site Characterization.

SOIL SCREENING LEVEL

Analytical results have been compared to the California Tier 2 Environmental Screening Level (Tier 2 ESL), which is for soil deeper than 15 feet below ground surface (bgs) in an area that is not a current or potential source of drinking water. Several petroleum compounds were measured at a concentration greater than their respective Tier 2 ESL. Concentrations that are greater than their respective Tier 2 ESL are presented in red on Table 1.

Sample locations and petroleum compound concentrations are depicted on Figure 3. Generally, Tier 2 ESL exceedances occur on the easternmost portions of the Property and at a depth that strongly suggests a release from the underground storage tanks (USTs) located at the Property in the 1970s. Review of historical documents suggests that the USTs were removed prior to 1984.

CONCEPTUAL SOIL REMEDIATION PLAN

Briefly, planned remediation of petroleum contaminated soil (i.e., soil with petroleum compound concentrations greater than their respective Tier 2 ESLs) involves the following:

1. Excavation and on-site storage of non-impacted soil overlying petroleum impacted soil;
2. Excavation and off-site disposal of petroleum contaminated soil;
3. If groundwater is encountered during excavation activities, it will be removed and disposed off-Property;
4. Application of oxygen releasing compounds to assist in aerobic in situ remediation of residual petroleum hydrocarbon concentrations;
5. Collection of performance soil samples to document compliance with Tier 2 ESLs;
6. Backfill and compaction of excavation(s); and
7. Preparation of a final report documenting assessment and remedial activities, final disposition of petroleum contaminated materials, and residual concentrations of petroleum compounds.

EPI will communicate the remedial task schedule with AMG and their environmental subcontractors so that soil split samples can be simultaneously collected and independent third-party confirmation of compliance with Tier 2 ESLs can be documented.

ENCLOSURES

Tables

Table 1 Summary of Soil Analytical Results

Figures

Figure 1 General Vicinity Map

Figure 2 Site Representation

Figure 3 Petroleum Concentrations in Soil (mg/kg)

Table 1
Summary of Soil Analytical Results
Site Characterization Report
AmeriGas Propane – San Jose, CA
295 E. Virginia Street, San Jose, California

Location	Sample Depth (feet)	Sample Date	TPH ^a GRO	TPH ^a DRO	TPH ^a ORO	TPH ^a C32-C40	Benzene ^b	Toluene ^b	Ethyl ^b benzene	Xylenes ^b	1,2-DBA ^b	1,2-DCA ^b	MTBE ^b	TBA ^b	NPTH ^b	Total ^c Lead
EB-1	10	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	15	8/5/14	51.5	-	-	-	0.384	<0.001	0.108	<0.002	-	-	<0.001	-	-	-
EB-2	10	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	15	8/5/14	22.5	-	-	-	0.087	0.002	0.021	0.009	-	-	<0.001	-	-	-
EB-3	20	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	10	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	15	8/5/14	249	-	-	-	0.071	<0.001	0.616	<0.002	-	-	<0.001	-	-	-
EB-4	20	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	10	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	15	8/5/14	354	-	-	-	1.56	0.027	2.07	0.065	-	-	<0.001	-	-	-
EB-5	20	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	10	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
EB-6	15	8/5/14	22.7	-	-	-	0.028	<0.001	0.008	0.007	-	-	<0.001	-	-	-
	5	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
EB-7	10	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	5	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
EB-8	5	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
	10	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
EB-9	5	8/5/14	<0.2	-	-	-	<0.001	<0.001	<0.001	<0.002	-	-	<0.001	-	-	-
EDB-1	10	2/9/15	<0.1	<4.8	<4.8	<4.8	<0.001	<0.006	<0.001	<0.003	<0.001	<0.001	<0.001	<0.006	<0.006	12
	15	2/9/15	120	2.6 J	<5.5	<5.5	1.5	<0.54	0.69	0.082 J	<0.11	<0.11	<0.11	<0.54	4.7	-
	20	2/9/15	<0.12	<5	<5	<5	<0.0012	<0.0062	<0.0012	<0.0037	<0.0012	<0.0012	<0.0012	<0.0062	<0.0062	-
EDB-2	10	2/9/15	0.93	<4.6	<4.6	<4.6	<0.0012	<0.0058	<0.0012	<0.0034	<0.0012	<0.0012	<0.0012	<0.0058	<0.0058	-
	15	2/9/15	1,600 E	39	<5.4	<5.4	5.4	0.062 J	62	0.32	<0.1	<0.1	<0.1	<0.52	20	17
EDB-3	20	2/9/15	<0.12	<5	<5	<5	<0.0012	<0.0062	<0.0012	<0.0037	<0.0012	<0.0012	<0.0012	<0.0062	0.0021	-
	12	2/9/15	<0.13	<5.3	<5.3	<5.3	0.00095 J	0.00092 J	<0.0013	<0.0039	<0.0013	<0.0013	<0.0013	<0.0066	<0.0066	-
	15	2/9/15	820	8.1	<5.5	<5.5	0.11 J	<1.4	0.51	0.23 J	<0.27	<0.27	<0.27	<1.4	6.3	-
EDB-4	18	2/9/15	0.14	<5	<5	<5	<0.0012	<0.0062	<0.0012	<0.0037	<0.0012	<0.0012	<0.0012	<0.0062	<0.0062	-
	10	2/9/15	<0.11	<4.6	1.8 J	1.8 J	0.0011 J	0.0012 J	<0.0011	<0.0034	<0.0011	<0.0011	<0.0011	<0.0057	<0.0057	-
	15	2/9/15	18	2.7 J	2.0 J	<5.2	<0.025	<0.13	0.0078 J	<0.076	<0.025	<0.025	<0.025	<0.13	<0.13	-
	18	2/9/15	<0.12	<4.9	<4.9	<4.9	<0.0012	<0.0061	<0.0012	<0.0037	<0.0012	<0.0012	<0.0012	<0.0061	<0.0061	-

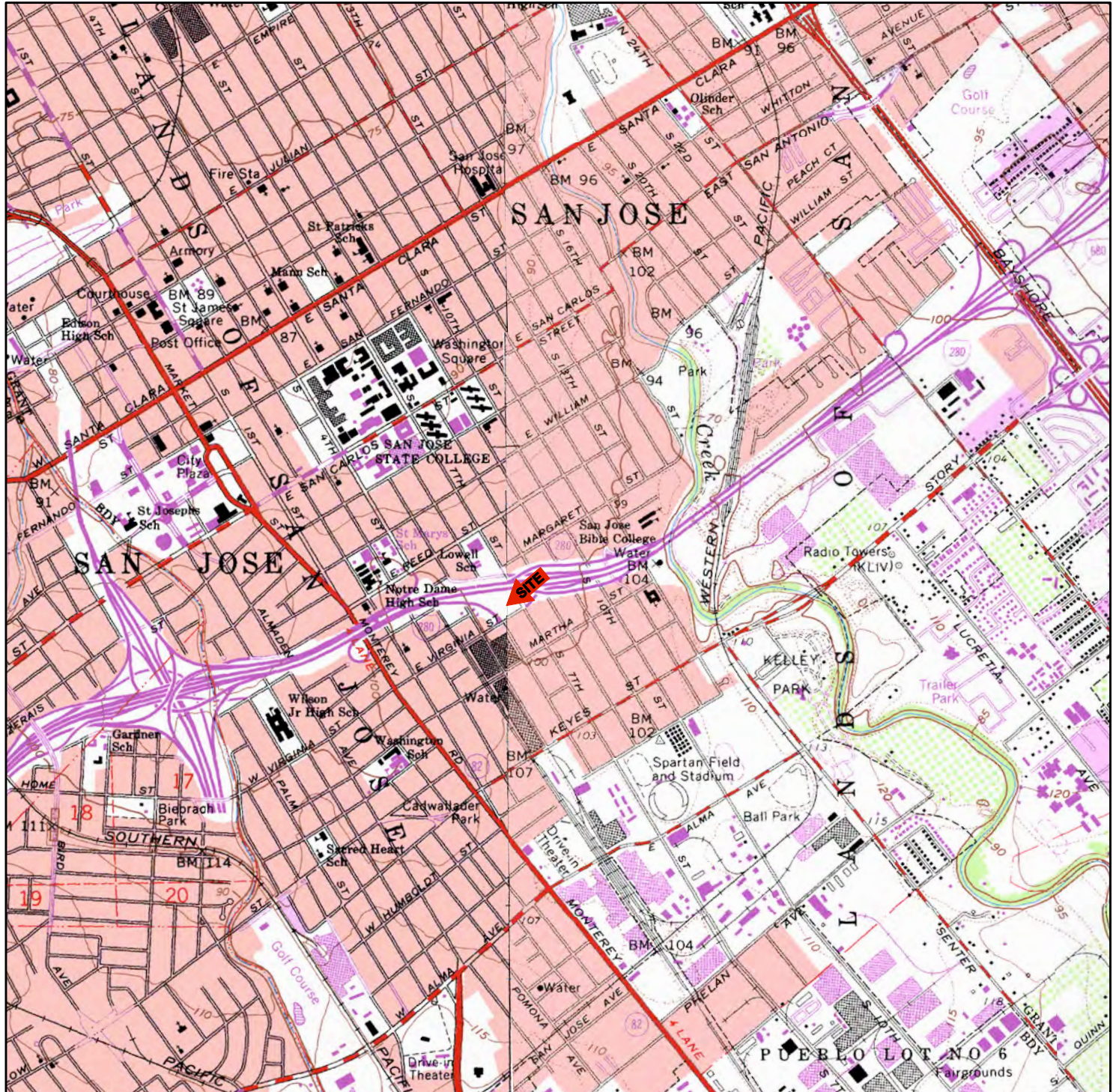
Table 1
Summary of Soil Analytical Results
Site Characterization Report
AmeriGas Propane – San Jose, CA
295 E. Virginia Street, San Jose, California

Location	Sample Depth (feet)	Sample Date	TPH ^a GRO	TPH ^a DRO	TPH ^a ORO	TPH ^a C32-C40	Benzene ^b	Toluene ^b	Ethyl ^b benzene	Xylenes ^b	1,2-DBA ^b	1,2-DCA ^b	MTBE ^b	TBA ^b	NPTH ^b	Total ^c Lead
EDB-5	10	2/9/15	<0.12	<4.7	2.7 J	2.8 J	<0.0012	<0.0059	<0.0012	<0.0035	<0.0012	<0.0012	<0.0012	<0.0059	<0.0059	-
	15	2/9/15	270	1.6 J	<5.4	<5.4	0.013	0.0028 J	0.062	0.012	<0.0013	<0.0013	0.00069 J	<0.0067	0.1	-
	18	2/9/15	0.067 J	<5	<5	<5	<0.0012	<0.0063	<0.0012	<0.0038	<0.0012	<0.0012	<0.0012	<0.0063	<0.0063	-
EDB-6	10	2/9/15	<0.11	<4.5	<4.5	<4.5	0.00091 J	0.00054 J	<0.0011	<0.0034	<0.0011	<0.0011	<0.0011	0.0078	<0.0056	-
	15	2/9/15	<0.13	<5.2	<5.2	<5.2	0.00054 J	<0.0065	<0.0013	<0.0039	<0.0013	<0.0013	<0.0013	0.0034 J	<0.0065	-
	18	2/9/15	1.7	<4.8	<4.8	<4.8	<0.0012	<0.006	<0.0012	<0.0036	<0.0012	<0.0012	<0.0012	<0.006	<0.006	-
EDB-7	15	2/9/15	20 E	<5.4	<5.4	<5.4	0.0032	0.0025 J	0.0028	0.0012 J	<0.0013	<0.0013	<0.0013	<0.0067	0.002 J	-
	18	2/9/15	100	2.0 J	<5.2	<5.2	<0.033	<0.16	<0.033	<0.098	<0.033	<0.033	<0.033	<0.16	0.37	-
EDB-8	15	2/9/15	0.1 J	1.2 J	<5.3	<5.3	0.00044 J	<0.0066	<0.0013	<0.004	<0.0013	<0.0013	<0.0013	<0.0066	<0.0066	-
	18	2/9/15	200	3.5 J	<5.2	<5.2	<0.062	<0.31	0.047 J	<0.19	<0.062	<0.062	<0.062	<0.31	<0.31	-
Tier 2 ESL^d			500	110	500	500	1.2	9	4.7	11	0.51	0.91	8.4	110	4.8	320

- Notes:
- All results presented in milligrams/kilogram (mg/kg).
 - Bold** Bold results indicate that the compound was detected.
 - RED** Red indicates that the compound was detected at a concentration greater than Tier 2 Environmental Screening Level.
 - Indicates that the sample was not analyzed for that compound.
 - a Petroleum hydrocarbons by U.S. EPA Method 8015B.
 - b Volatile organic compound analyzed by U.S. EPA Method 8260B.
 - c Metals by U.S. EPA Method 6010B.
 - d Tier 2 Environmental Screening Level (ESL) for deep soil in an area that is not a current or potential source of drinking water.

- Laboratory Data Qualifiers:
- E Greater than upper calibration limit: Actual value is known to be greater than the upper calibration range.
 - J Estimated value below the lowest calibration point. Confidence correlates with concentration.

- Compounds:
- TPH Total petroleum hydrocarbons
 - GRO Gasoline-range organics
 - DRO Diesel-range organics
 - ORO Oil-range organics
 - 1,2-DBA 1,2-Dibromoethane
 - 1,2-DCA 1,2-Dichloroethane
 - MTBE Methyl tert-butyl ether
 - TBA Tert-butyl alcohol
 - NPTH Naphthalene



NOTES:

SOURCE: USGS 7.5 MINUTE QUADRANGLE (TOPOGRAPHIC)

SAN JOSE EAST, CALIF. 1961 REVISED 1980

SAN JOSE WEST, CALIF. 1961 REVISED 1980

SCALE = 1:24,000



FIGURE 1			
GENERAL VICINITY MAP			
PREPARED BY	 ENVIRONMENTAL PARTNERS INC		
REPORT	DRAFT SITE CHARACTERIZATION REPORT		
LOCATION	295 E. VIRGINIA STREET SAN JOSE, CALIFORNIA		
PREPARED FOR	AMERIGAS PROPANE LP		
DATE	DRAWN BY	REVIEWED BY	PROJECT NUMBER
02/02/15	ALW	JLB	004203.1

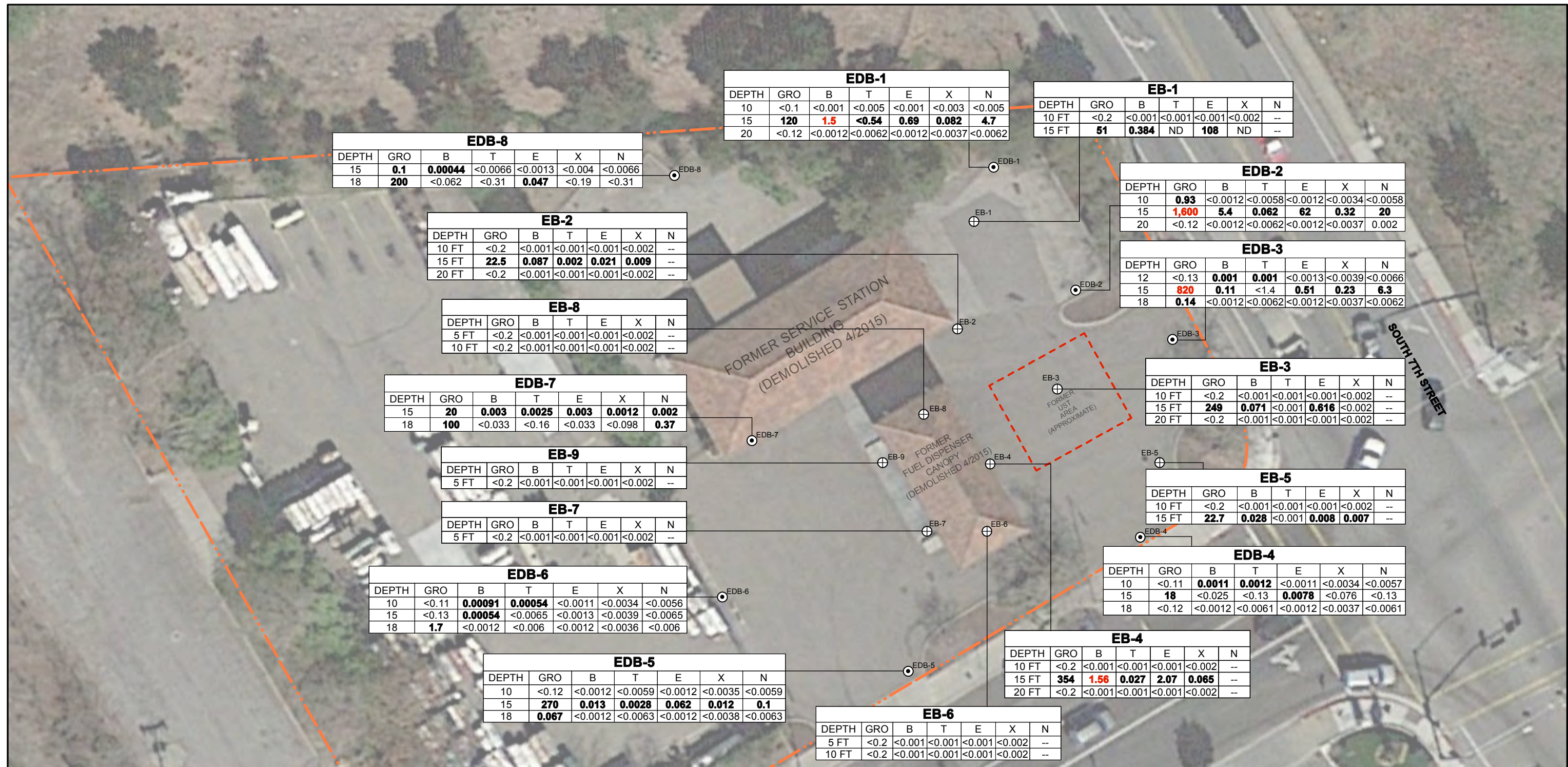


FIGURE 2			
SITE REPRESENTATION			
PREPARED BY	 ENVIRONMENTAL PARTNERS INC		
REPORT	DRAFT SITE CHARACTERIZATION REPORT		
LOCATION	295 E. VIRGINIA STREET SAN JOSE, CALIFORNIA		
PREPARED FOR	AMERIGAS PROPANE, LP		
DATE	DRAWN BY	REVIEWED BY	PROJECT NUMBER
02/24/15	VPB	JLB	004203.1

NOTES:

- ⊙ EPI BORING LOCATION (FEB 2015)
- ⊕ KCE BORING LOCATION (AUG 2014)
- - - - - APPROXIMATE PROPERTY BOUNDARY





EDB-1						
DEPTH	GRO	B	T	E	X	N
10	<0.1	<0.001	<0.005	<0.001	<0.003	<0.005
15	120	1.5	<0.54	0.69	0.082	4.7
20	<0.12	<0.0012	<0.0062	<0.0012	<0.0037	<0.0062

EB-1						
DEPTH	GRO	B	T	E	X	N
10 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--
15 FT	51	0.384	ND	108	ND	--

EDB-8						
DEPTH	GRO	B	T	E	X	N
15	0.1	0.00044	<0.0066	<0.0013	<0.004	<0.0066
18	200	<0.062	<0.31	0.047	<0.19	<0.31

EDB-2						
DEPTH	GRO	B	T	E	X	N
10	0.93	<0.0012	<0.0058	<0.0012	<0.0034	<0.0058
15	1,600	5.4	0.062	62	0.32	20
20	<0.12	<0.0012	<0.0062	<0.0012	<0.0037	0.002

EB-2						
DEPTH	GRO	B	T	E	X	N
10 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--
15 FT	22.5	0.087	0.002	0.021	0.009	--
20 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--

EDB-3						
DEPTH	GRO	B	T	E	X	N
12	<0.13	0.001	0.001	<0.0013	<0.0039	<0.0066
15	820	0.11	<1.4	0.51	0.23	6.3
18	0.14	<0.0012	<0.0062	<0.0012	<0.0037	<0.0062

EB-8						
DEPTH	GRO	B	T	E	X	N
5 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--
10 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--

EDB-7						
DEPTH	GRO	B	T	E	X	N
15	20	0.003	0.0025	0.003	0.0012	0.002
18	100	<0.033	<0.16	<0.033	<0.098	0.37

EB-3						
DEPTH	GRO	B	T	E	X	N
10 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--
15 FT	249	0.071	<0.001	0.616	<0.002	--
20 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--

EB-9						
DEPTH	GRO	B	T	E	X	N
5 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--

EB-5						
DEPTH	GRO	B	T	E	X	N
10 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--
15 FT	22.7	0.028	<0.001	0.008	0.007	--

EB-7						
DEPTH	GRO	B	T	E	X	N
5 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--

EDB-4						
DEPTH	GRO	B	T	E	X	N
10	<0.11	0.0011	0.0012	<0.0011	<0.0034	<0.0057
15	18	<0.025	<0.13	0.0078	<0.076	<0.13
18	<0.12	<0.0012	<0.0061	<0.0012	<0.0037	<0.0061

EDB-6						
DEPTH	GRO	B	T	E	X	N
10	<0.11	0.00091	0.00054	<0.0011	<0.0034	<0.0056
15	<0.13	0.00054	<0.0065	<0.0013	<0.0039	<0.0065
18	1.7	<0.0012	<0.006	<0.0012	<0.0036	<0.006

EB-4						
DEPTH	GRO	B	T	E	X	N
10 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--
15 FT	354	1.56	0.027	2.07	0.065	--
20 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--

EDB-5						
DEPTH	GRO	B	T	E	X	N
10	<0.12	<0.0012	<0.0059	<0.0012	<0.0035	<0.0059
15	270	0.013	0.0028	0.062	0.012	0.1
18	0.067	<0.0012	<0.0063	<0.0012	<0.0038	<0.0063

EB-6						
DEPTH	GRO	B	T	E	X	N
5 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--
10 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--

NOTES:

SAMPLE LOCATION

EB-40						
DEPTH	GRO	B	T	E	X	N
10 FT	<0.2	<0.001	<0.001	<0.001	<0.002	--
15 FT	501	1	<0.001	108	<0.002	--

BOLD INDICATES DETECTABLE CONCENTRATION
RED BOLD INDICATES COMPOUND CONCENTRATION GREATER THAN THE TIER 2 ENVIRONMENTAL SCREENING LEVEL
 -- INDICATES THAT THE SAMPLE WAS NOT ANALYZED FOR THIS COMPOUND
 ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)

GRO GRO
B BENZENE
T TOLUENE
E ETHYLBENZENE
X XYLENE
N NAPHTHALENE

⊙ EPI BORING LOCATION (FEB 2015)
 ⊕ KCE BORING LOCATION (AUG 2014)

FIGURE 3
 PETROLEUM CONCENTRATIONS IN SOIL (mg/kg)

PREPARED BY	EPI ENVIRONMENTAL PARTNERS INC		
REPORT	DRAFT SITE CHARACTERIZATION REPORT		
LOCATION	295 E. VIRGINIA STREET SAN JOSE, CALIFORNIA		
PREPARED FOR	AMERIGAS PROPANE, LP		
DATE	DRAWN BY	REVIEWED BY	PROJECT NUMBER
04/9/15	VPB	JLB	004203.1

