From: Roe, Dilan, Env. Health
To: "Tom Venus"
Cc: Couch, Shannon L. (URS); "Matt Herrick"
Subject: RE: Fuel Leak Case RO307, Former BP STation #402
Date: Wednesday, January 02, 2013 1:31:00 PM

Hi Tom:

Thanks for taking the time today to discuss the *Work Plan for Monitoring Well Installation and Vapor Intrusion Assessment* dated October 31, 2012 prepared on behalf of Atlantic Richfield Company by Broadbent. Please revise and resubmit the workplan to address the items discussed including:

- Rational and justification for proposed location of six groundwater monitoring wells – changes in groundwater flow gradient, access issues, plume delineation, etc. (reference March 7, 2005 proposed locations)
- Rationale and justification for proposed groundwater monitoring well screen intervals – purpose of monitoring (gravel aquifer, clay layers, water table fluctuations, etc). As discussed please consider use of short screen intervals so as to be representative of depth discrete groundwater conditions
- Additional detail on previous attempts to locate monitoring wells MW-1, MW-2 and MW-3 and proposed steps to locate/abandon prior to site closure
- Discussion and reference regarding proposal to collect soil samples at 2 foot intervals until the groundwater table is encountered (but not collect saturated soil samples)
- Revised figures

As discussed today, please give me a call prior to re-submittal to discuss the revised approach.

Regards,

Dilan Roe, P.E.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
510.567.6767; Ext. 36767
QIC: 30440
dilan.roe@acgov.org

PDF copies of case files can be reviewed/downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

From: Roe, Dilan, Env. Health
Sent: Wednesday, January 02, 2013 11:06 AM
To: 'Tom Venus'
Subject: Fuel Leak Case RO307, Former BP STation #402

Hi Tom:

I have attached files with some figures, tables, and other historic records I would like to discuss with you that are relevant to the proposed scope of work in the *Work Plan for Monitoring Well Installation and Vapor Intrusion Assessment* dated October 31, 2012. Please call to discuss.

Regards

Dilan Roe, P.E.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
510.567.6767; Ext. 36767
QIC: 30440
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ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

June 20, 2007

Mr. Herb Clough
Bay Counties Real Estate, Inc.
2648 International Blvd., Suite 800
Oakland, CA 94601

Subject: Fuel Leak Case No. RO0000307, Exxon Service Station, 1450 Fruitvale Avenue, Oakland, California

Dear Mr. Clough:

Under the direction of this office, Mr. Bill Phua is conducting an environmental investigation for a property located at 1450 Fruitvale Avenue, Oakland, CA. Groundwater contamination has been detected in monitoring wells at aforementioned location. The extent of the groundwater contamination is currently unknown. Alameda County Environmental Health is requiring Mr. Bill Phua to characterize the extent of contamination from their site. AEI Consultants, on behalf of Mr. Bill Phua, previously discussed with Ms. Mary Hoopes access to your property regarding the installation of a monitoring well at 3216 International Blvd., Oakland. It is imperative that this access agreement be completed in order to define the extent of contamination and prevent future contaminant migration.

Mr. Phua has conducted environmental investigation activities related to the release on their site, but has not been able to conduct planned environmental investigation activities downgradient of their site because no access agreement between yourself and Mr. Phua is in place. ACEH requests you complete the access agreement with Mr. Phua that (i) enables Mr. Phua to perform the necessary work and (ii) is signed by all relevant parties.

Owners of adjacent properties are generally not responsible for the cost of investigation and cleanup of contamination that migrates onto their property from an adjacent fuel leak site. However, owners of adjacent properties are expected to cooperate with the responsible party's investigation and cleanup activities to the extent that they are not experiencing undue hardship or alteration to their property.

These requests are made pursuant to Water Code Section 13267, which allows ACEH to require technical reports from persons whose activities may have an impact on water quality. You may be subject to administrative civil liability of up to $1,000 per day pursuant to Water Code Section 13268 if you fail to respond, respond late, or submit an inadequate response.

Please contact me at (510) 383-1767 or via email at mailto:steven.plunkett@acgov.org with any questions regarding this case.

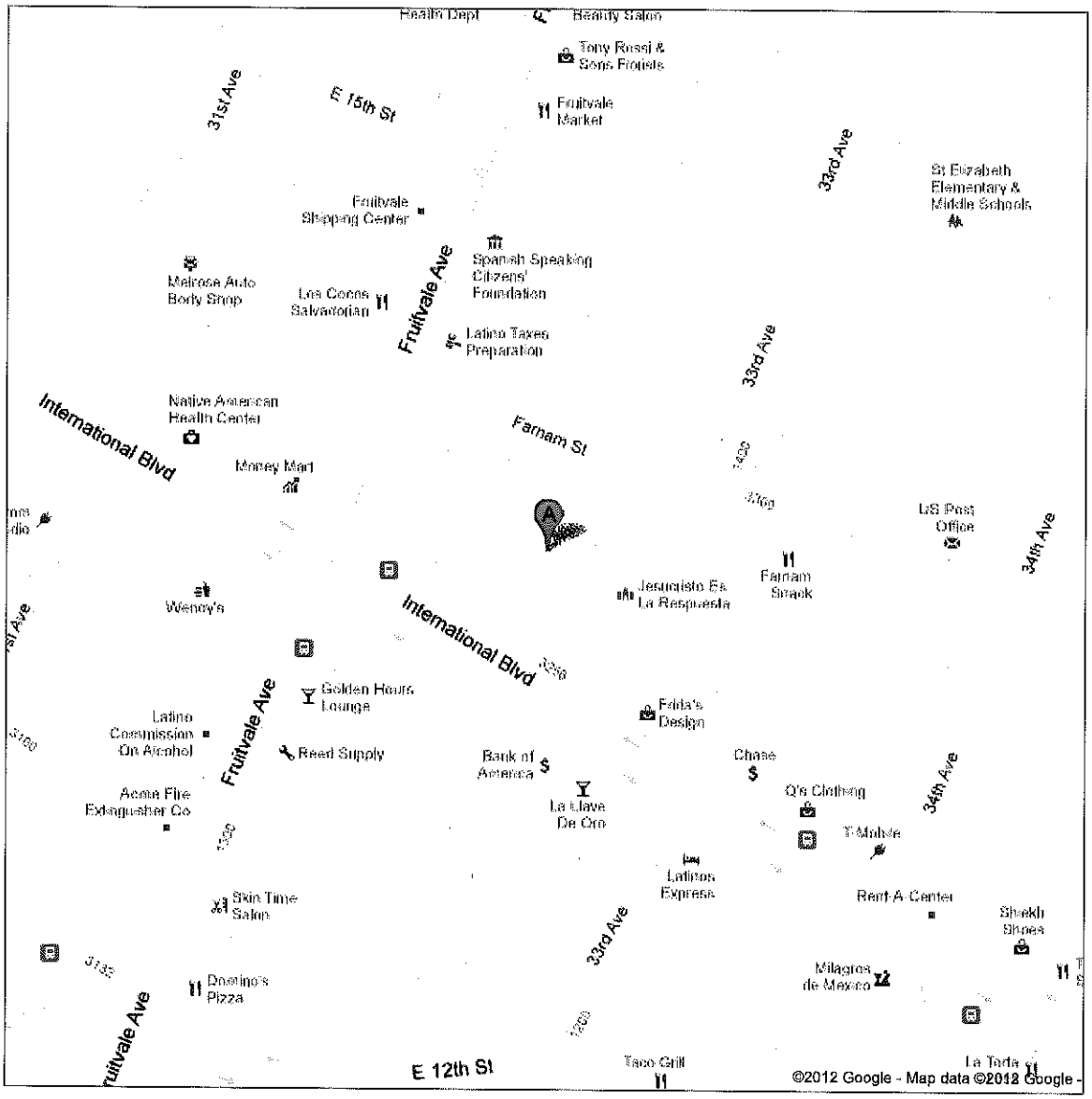
Sincerely,

Steven Plunkett
Hazardous Materials Specialist

Google

Address **3216 International Blvd**
Oakland, CA 94601

Get Google Maps on your phone
Text the word "GMAPS" to 466453



ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

December 20, 2006

Mr. Bill Puha
Fruitvale Farnam Associates, LLC
141 Woodland Way
Piedmont, CA 94611

Mr. Ken Phares
c/o Jay Phares Corporation
10700 Mac Arthur Blvd.
Oakland, CA 94605

Subject: Fuel Leak Case No. RO0000307, Arco #0402/Parking Lot, 1450 Fruitvale Avenue, Oakland, CA – Work Plan Approval

Dear Mr. Phua and Phares

Alameda County Environmental Health Department (ACEH) staff have reviewed the case file and the report entitled, "Work Plan for Monitoring Well Installation", dated March 7, 2005 and prepared on your behalf by AEI Consultants. ACEH has reviewed your request to relocate three monitoring wells MW-5, MW-6 and MW-8. ACEH generally agrees with the revised monitoring well locations as presented in Figure 3, Revised Proposed Monitoring Well Locations.

We request that you address the following technical comments and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to steven.plunkett@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Proposed Monitoring Well Locations.** ACEH understands the difficulty with off site encroachment and access issues regarding the installation of groundwater monitoring wells. AEI has revised the location of three proposed groundwater monitoring wells and ACEH concurs with the new monitoring well locations. ACEH suggests the use of monitoring wells designed with screen intervals of 2 feet to 5 feet or less, as these wells will likely be representative of depth discrete groundwater conditions. Please present your conclusions for monitoring well construction in the SWI report requested below.

2. **Geotracker EDF Submittals** – A review of the case file and the State Water Resources Control Board's (SWRCB) Geotracker website indicate you have not claimed your site and that electronic copies of analytical data have not been submitted for your site. Pursuant to CCR Sections 2729 and 2729.1, beginning September 1, 2001, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the LUFT program, must be transmitted electronically to the SWRCB Geotracker website via the internet. Additionally, beginning January 1, 2002, all permanent monitoring points utilized to collected groundwater samples (i.e. monitoring wells) and submitted in a report to a regulatory agency, must be surveyed (top of casing) to mean sea level and latitude and longitude accurate to within 1-meter accuracy, using NAD 83, and transmitted electronically to the SWRCB Geotracker website. Beginning July 1, 2005, electronic submittal of a

complete copy of all reports is required in Geotracker (in PDF format). In order to remain in regulatory compliance, please upload all analytical data (collected on or after September 1, 2001), to the SWRCB's Geotracker database website in accordance with the above-cited regulation. Please perform the electronic submittals for applicable data and submit verification to this Agency by **January 15, 2007**.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Mr. Steven Plunkett), according to the following schedule:

- February 1, 2007–Soil and Groundwater Investigation Report

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

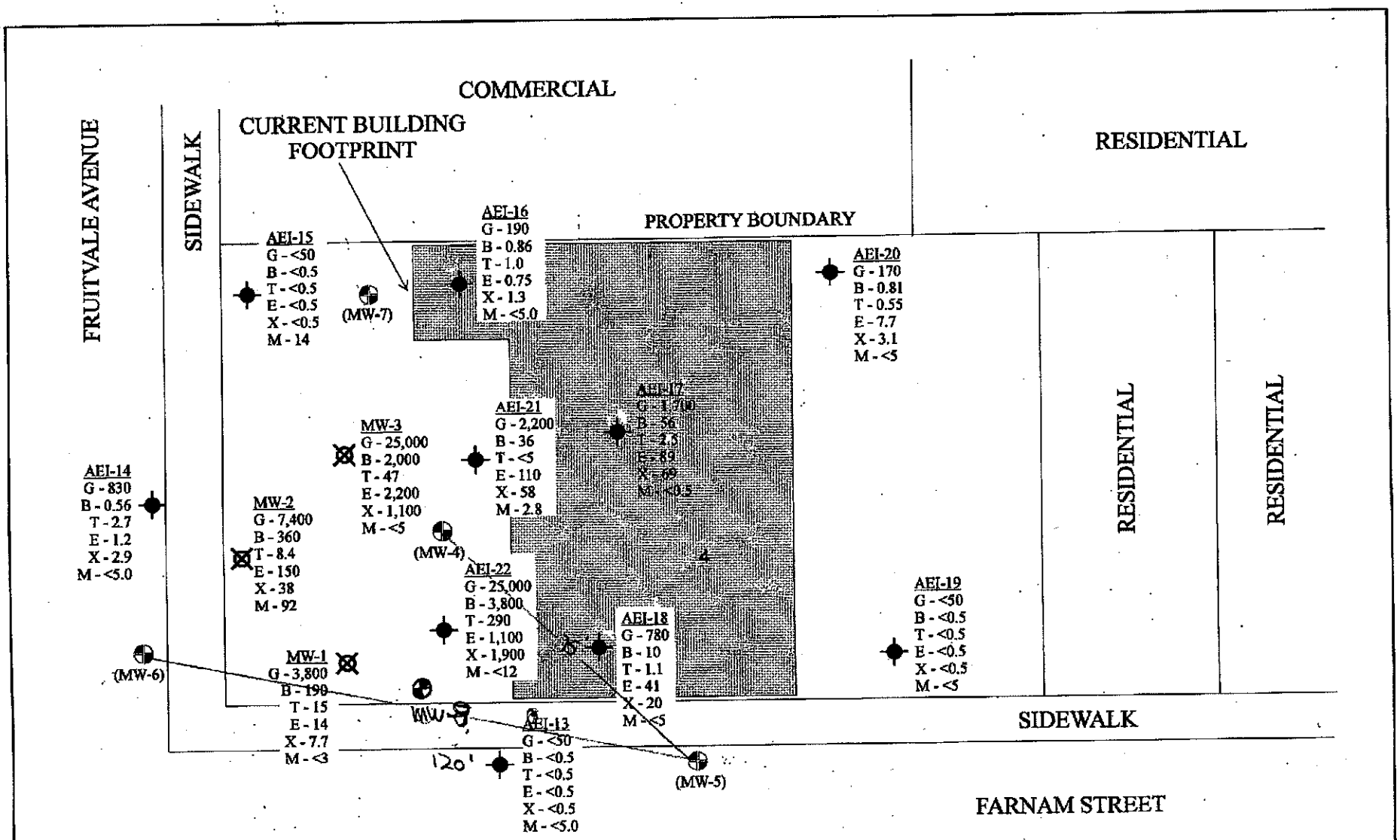
ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

In order to facilitate electronic correspondence, we request that you provide up to date electronic mail addresses for all responsible and interested parties. Please provide current electronic mail addresses and notify us of future changes to electronic mail addresses by sending an electronic mail message to me at steven.plunkett@acgov.org.

PERJURY STATEMENT

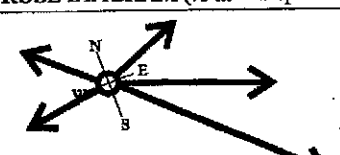


KEY

- Existing 2" Monitoring Wells
- Proposed Well Locations
- Temporary Borings: June 2002

Sample Results in µg/l. Data for wells from 9/16/02 event.

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM (½ in = 1 episode)



AS OF 9/16/02

N

SCALE: 1 in = 30 ft

0' 15' 30'

AEI CONSULTANTS

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

GROUNDWATER ANALYTICAL DATA WITH PROPOSED WELL LOCATIONS

1450 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

FIGURE 5
AEI PROJECT NO. 10460

wp-fl-2005 03-03

9/16/02

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

June 22, 2006

Mr. Bill Puha
Fruitvale Farnam Associates, LLC
141 Woodland Way
Piedmont, CA 94611

Mr. Ken Phares
c/o Jay Phares Corporation
10700 Mac Arthur Blvd.
Oakland, CA 94605

Mr. Paul Supple
BP West Coast Products, LLC
PO Box 6549
Moraga, CA 94549

Subject: Fuel Leak Case No. RO0000307, Arco #0402/Parking Lot, 1450 Fruitvale Avenue, Oakland, CA

Dear Mr. Phua: Phares and Supple

Alameda County Environmental Health Department (ACEH) staff has reviewed recently submitted report entitled, "Work Plan for Monitoring Well Installation", dated March 7, 2005 and prepared on your behalf by AEI Consultants. As a result of redevelopment activities at the site three onsite monitoring wells MW-1, MW-2 and MW-3 have been lost or destroyed. The former monitoring wells MW-1, MW-2 and MW-3 tested for TPHg in groundwater returned results of 3800 µg/L, 7400 µg/L and 25,000 µg/L, respectively. The residual concentrations in groundwater indicate that petroleum hydrocarbon contamination continues to be a concern at the site. ACEH generally agrees with the proposed scope of work presented in the Work Plan report. However, ACEH requests that one additional monitoring well be installed approximately midway between MW-5 and MW-6, which will help refine onsite soil and groundwater conditions. MW-8

We request that you address the following technical comments and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to steven.plunkett@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Proposed Monitoring Well Installation and Soil Sampling.** Prior to monitoring well installation, soil samples should be screened with a PID and examined for visible staining and hydrocarbon odor. ACEH request that soil samples be collected as follows. Any interval

where staining, odor, or elevated PID readings occur, the capillary fringe, where groundwater is first encountered and at distinct changes in lithology. If no change in lithology then at five foot intervals until a total depth is reached. Upon completion of the monitoring well installation we request that you submit all well construction details, technical specifications and well litohoigic logs in the report requested below. In addition, we request that a licensed professional surveyor survey the monitoring well location. Please present the result of the monitoring well installation in the report requested below.

2. **Chemical Analysis.** ACEH concurs with the proposed chemical analyses for all soil and groundwater samples. We also request that EtOH be added to the list of constituents for laboratory analysis for both soil and groundwater.

3. **Groundwater Flow Direction.** Review of groundwater elevation data in the area indicate the hydraulic gradient for the site appears to vary between southeast, northwest and southwest as shown on the rose diagram on Figure 3 for the September 2002 monitoring event. The groundwater flow direction identified in 2002 may not be consistent with the regional hydraulic gradient in the area. Please review groundwater elevation data in the area to reflect current conditions. Please present the updated hydraulic gradient in the report requested below.

4. **Hydrogeologic cross-sections.** Please incorporate data from the proposed monitoring wells and existing soil borings data into hydrogeologic cross sections. Include an interpretive drawing of the vertical extent of soil and groundwater contamination (i.e., an interpretive drawing—not a plot of laboratory results). The report requested below is to include one cross section parallel and one cross section perpendicular to the contaminant plume axis, at a minimum. Please present the cross sections in the Soil Water Investigaton Report requested below. Each cross section should include, but not be limited to, the following:

    a. Subsurface geologic features, depth to groundwater and man-made conduits.
    b. Surface topography. The cross sections should be extended off-site where necessary to show significant breaks in slope.
    c. Soil descriptions for all borings and wells along the line of section.
    d. Screen and filter pack intervals for each monitoring well.
    e. Sampling locations and results for soil and grab groundwater samples.
    f. Site features such as the tank pit, dispensers, buildings etc. Where appropriate, monitoring well location and soil boring locations will be projected back to the strike of the cross section line.

5. **Quarterly Groundwater Monitoring and Sampling.** Please begin quarterly groundwater monitoring for the site once the proposed monitoring wells have been installed and developed. Water samples are to be analyzed for TPHg, BTEX, and MtBE on a quarterly basis. Results are to be presented in the quarterly monitoring reports requested below. However, after one year a determination will be made by ACEH to establish if further investigation and monitoring will be needed. Please present the result of groundwater monitoring and sampling in the reports requested below.

TECHNICAL REPORT REQUEST

Chan, Barney, Env. Health

RO307

From: Chan, Barney, Env. Health
Sent: Wednesday, October 23, 2002 11:47 AM
To: Peter McIntyre (E-mail)
Subject: 1450 Fruitvale Ave., Oakland 94601

Peter:

I have reviewed your site summary and risk evaluation report and discussed it with a collegue. We have the following comments and concerns:

- for subsurface soil, you should conservatively look at all soils above the historic lowest groundwater depth at the site
- according to the East Bay Plain Study, the area within this site is of potential groundwater use unless it can be shown that the groundwater is not potable ie TDS, conducitivity, yield
- In regards to your conduit study, please get from the City the depths of the utilities, particularly sanitary and storm sewers, to verify no preferential migration is occurring
- it appears that the monitoring wells at the site are not properly screened. They are screened from 15' to the bottom of the well, while gw elevations are typically 10-12' bgs. In addition, the long screen has a dilution affect. Therefore, the site may not be adequately characterized.
- A channelized culvert was identified as going down Fruitvale Ave. and boring logs identify a gravelly layer that may be associated with this former streambed.
- It appears that natural bio-remediation is not occurring within the heart of the plume.

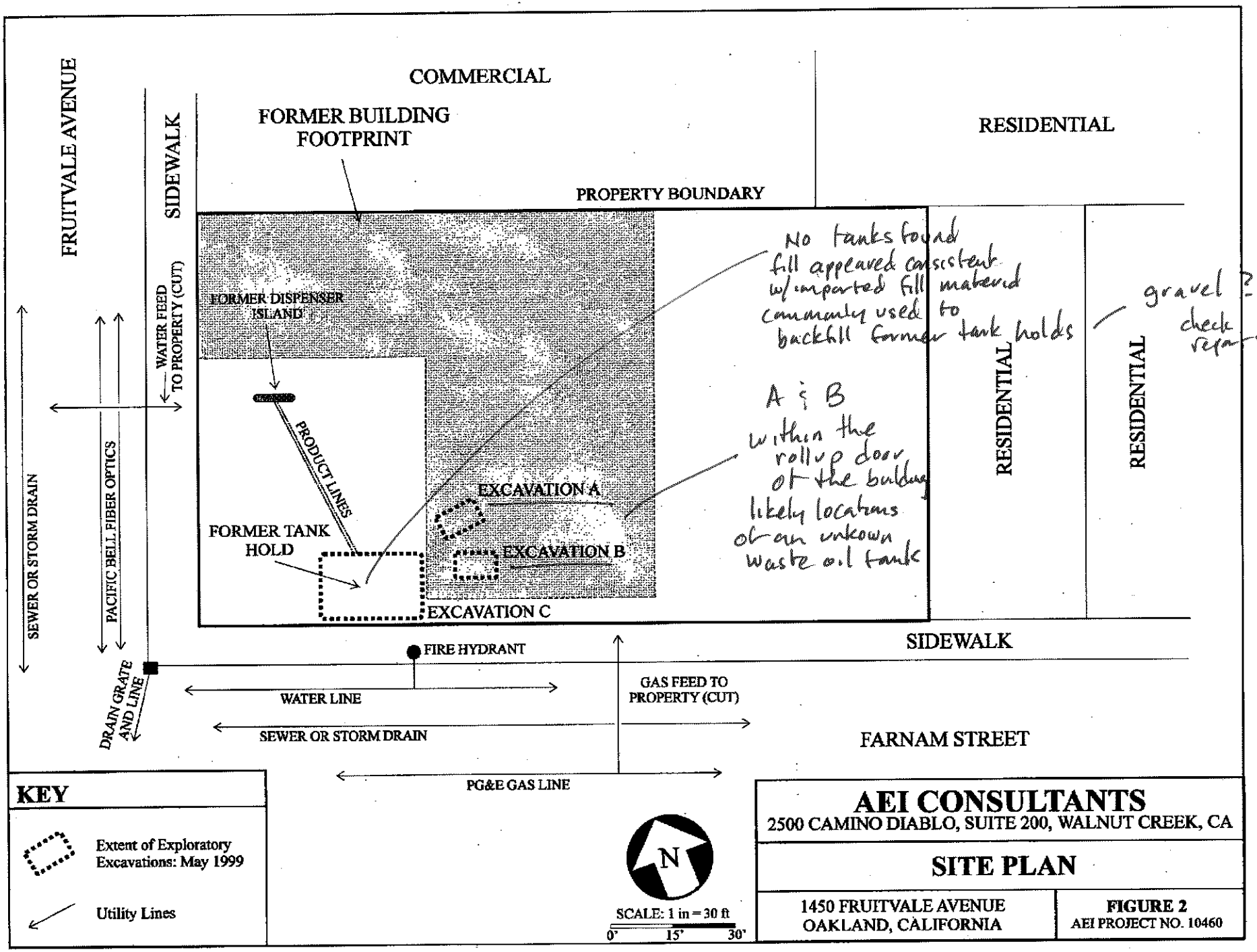
Please comment on these items of concern.

PS I will send out a letter for 625 Hegenberger Rd.

Sincerely,

Barney Chan

- They need Soil Vapor Samples
- Shorter screened wells ~ 10-15' screen interval for sw splng



UP_R-2005-03-03

5.3 Conduit Survey

Subsurface, manmade conduits have the potential to provide preferential contaminant migration pathways for contaminants away from the source area to receptors. Sewer and utility lines may be set in gravel filled trenches, which can act as a high permeability material for impacted groundwater and free phase product movement. Utility corridors may accumulate high contaminant vapors concentrations.

no depths?

No existing underground utilities could be identified at the site. The former building was demolished in December 2001, at which time, natural gas, water, and sanitary sewer lines were cut and capped. Electrical and phone service for the site were connected via overhead lines. Locations of the water and natural gas feed lines are on Figure 3. The location of the sewer connection could not be located. No storm drains were observed by AEI on the property prior to demolition of the building.

The sidewalk and streets were inspected for the presence of utility lines. Underground Service Alert (USA) north was contact during recent drilling activities. Results of the inspection are presented on Figure 3. Along Fruitvale Avenue, a Pacific Bell fiber optics line was marked. Along Farnam Street, a natural gas line and a water line were marked. Wastewater (sanitary sewer and/or storm drain) manholes were observed along both Fruitvale and Farnam.

Generally, water lines, natural gas lines, and telecommunications lines are set at depths ranging from 2 to 5 feet below ground surface. A storm drain was also observed at the corner of Fruitvale and Farnam, with a pipe leading away from the site, at a depth of approximately 2 ½ feet. In this depth range, these utilities should not present a conduit for preferential groundwater migration, even at high water table. In addition, these utilities did not appear to be in large conduit tunnels. Therefore the accumulation of excessive vapor is not expected along these shallow utilities.

The depth of the wastewater lines could not be determined, however the locations of these lines relative to recently advance groundwater sampling points indicates that minimal hydrocarbon have migrated from the site toward these lines.

Table 3 - Groundwater Elevation Data
1450 Fruitvale Avenue, Oakland, CA - AEI Project # 10460

Well ID (Screen - ft bgs)	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-1 (15-30)	10/16/00	42.13	17.72	24.41
	1/19/01	42.13	9.15	32.98
	4/26/01	42.13	9.40	32.73
	8/3/01	42.13	12.38	29.75
	11/5/01	42.13	16.22	25.91
	3/29/02	42.13	7.96	34.17
	6/11/02	42.13	12.18	29.95
	9/16/02	**42.13**	**11.35**	**30.78**
MW-2 (15-30)	10/16/00	42.08	14.98	27.10
	1/19/01	42.08	9.00	33.08
	4/26/01	42.08	8.34	33.74
	8/3/01	42.08	11.70	30.38
	11/5/01	42.08	15.08	27.00
	3/29/02	42.08	8.96	33.12
	6/11/02	42.08	12.49	29.59
	9/16/02	**42.08**	**10.52**	**31.56**
MW-3 (15-30)	10/16/00	42.55	17.98	24.57
	1/19/01	42.55	10.90	31.65
	4/26/01	42.55	9.21	33.34
	8/3/01	42.55	12.67	29.88
	11/5/01	42.55	15.90	26.65
	3/29/02	42.55	9.20	33.35
	6/11/02	42.55	11.83	30.72
	9/16/02	**42.55**	**11.42**	**31.13**

Episode #	Date	Average Water Table (ft msl)	Change from Previous Episode	Flow direction (gradient)
1	10/16/00	25.36	-	E/SE (0.116)
2	1/19/01	32.57	+7.21	E/NE (0.041)
3	4/26/01	33.27	+0.70	SE (0.034)
4	8/3/01	30.00	-3.27	ESE (0.024)
5	11/5/01	26.52	-3.48	SE (0.033)
6	3/29/02	33.55	+7.03	NW (0.032)
7	6/11/02	30.09	-3.46	SW (0.040)
8	**9/16/02**	**31.16**	**+1.07**	**SE (0.028)**

Notes:
All well elevations are measured from the top of the casings
ft msl = feet above mean sea level

5.2.1 Groundwater Exposure Pathways

[redacted]

[redacted] Table 2.4 of the Basin Plan (p. 2-17) indicates that the only beneficial uses of water within the sub-basin are surface water recreation and waters (assumed to be surface waters) for spawning and general wildlife. No beneficial use of groundwater is noted in the plan for this sub-basin.

NOT Accord. To East Bay Plain Study

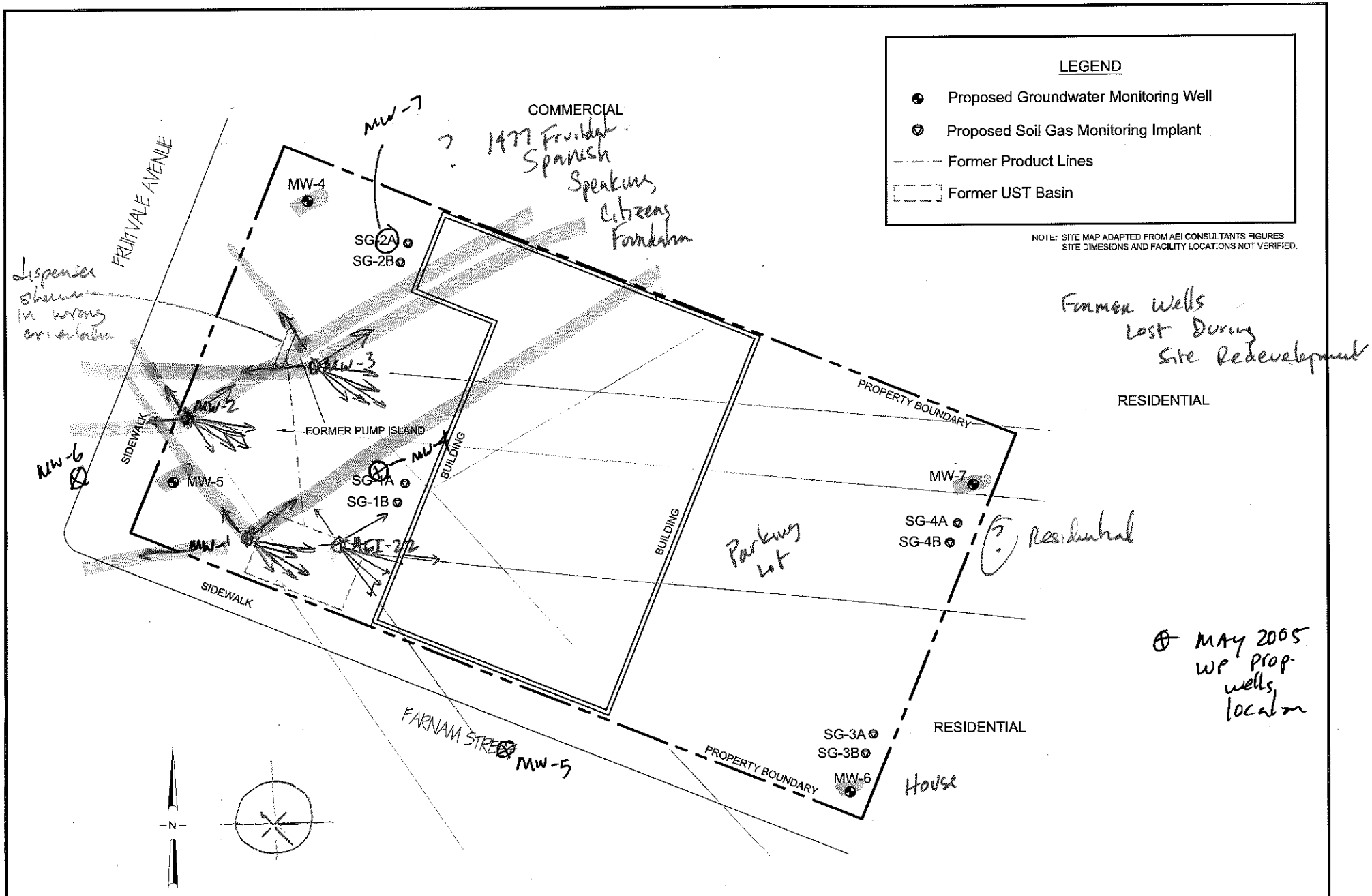
The Department of Water Resources (DWR) was contacted to review well reports on behalf of AEI. The search was performed for all wells, excluding shallow monitoring wells, within approximately ½ mile of the site. A total of five (5) wells were identified during the search. Due to confidentiality law governing well driller's reports, copies are not included in this report; however, they can be forwarded to the ACHCSA if requested from their office. The following table summarizes the result of the survey.

Exhibit 2: Well Survey Results

Location	Direction / Distance from site (feet)	Depth (feet)	Use
3101 Chapman St.	South SW / 2,400	20 (max)	5 temporary borings
2928 Chapman St.	South SW / 2,500	108	Unknown
1601 39th Avenue	East SE / 2,300	30	Irrigation
29th Avenue @ E. 14th	West NW / 1,300	381	Unknown
Unknown	Unknown	345	Unknown

Of the five sites identified, four are known to be over 1,200 feet from the site. The well of unknown location was reportedly drilled to 345 feet bgs. No screen interval details are available; however, a well drilled to that depth is unlikely to be screened within the shallowest aquifer.

Based on the distance and direction of the wells from the site and the results of recent plume definition, it is concluded that these wells are not potential receptors of the release. With the exception of the monitoring wells present on the site for the purpose of the release investigation, no other wells or access to groundwater is present on the site. Groundwater beneath the site is not considered a drinking water resource for the purpose of the following risk evaluations. In addition, migration of groundwater to surface water and aquatic receptors is also not considered complete due to 1) the distance to nearest surface water bodies, 2) lack of dissolved phase

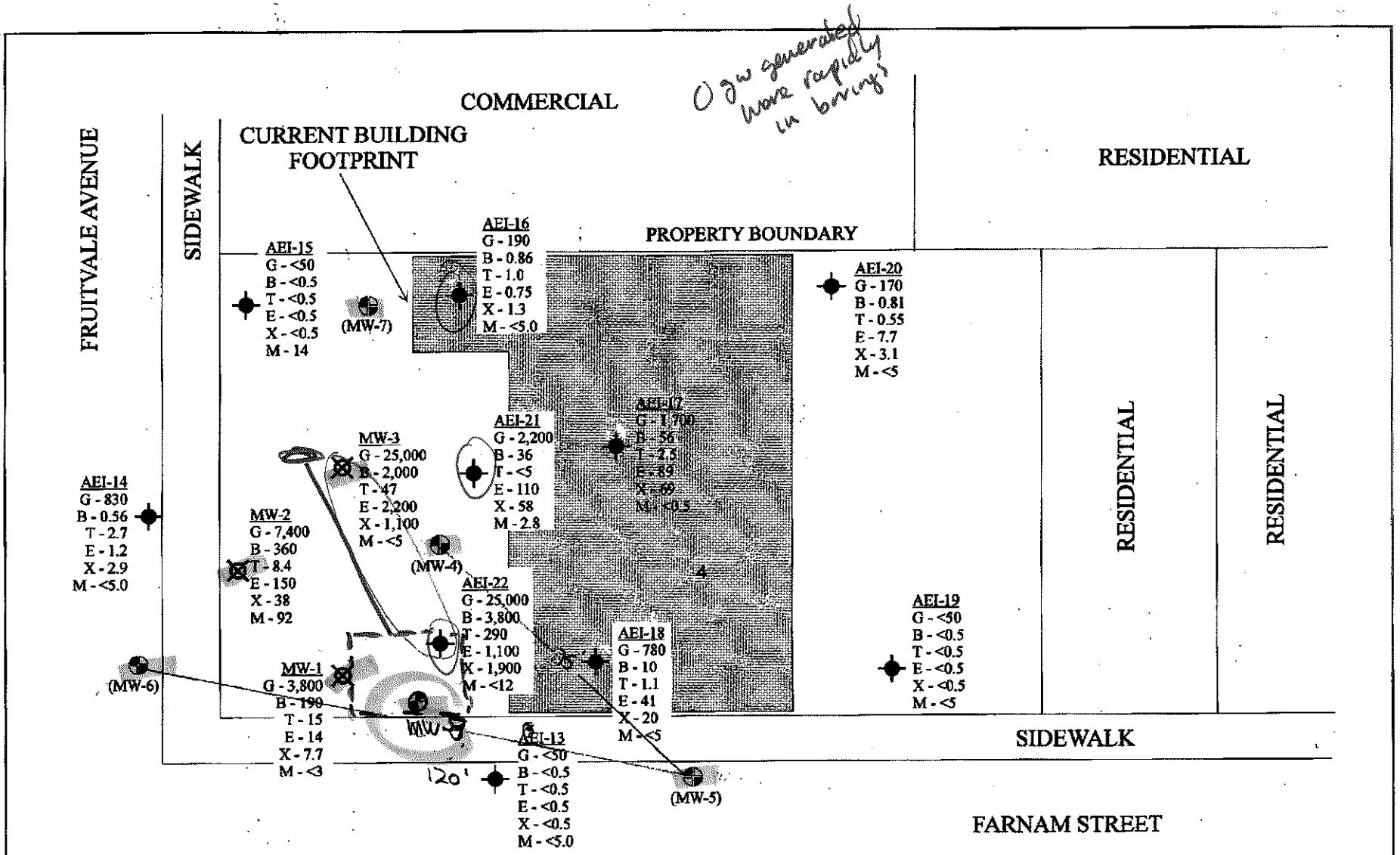


BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California 95926
Project No.: 08-88-602 Date: 09/06/2012

Former Station #402
1450 Fruitvale Avenue
Oakland, California

Site Map with Proposed Sampling Locations

Drawing
3



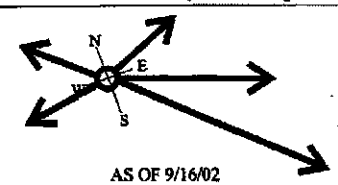
O gw generated more rapidly in borings

KEY

- Existing 2" Monitoring Wells
- Proposed Well Locations
- Temporary Borings: June 2002

Sample Results in µg/l. Data for wells from 9/16/02 event.

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM (½ in = 1 episode)



AS OF 9/16/02

N

SCALE: 1 in = 30 ft

0' 15' 30'

AEI CONSULTANTS

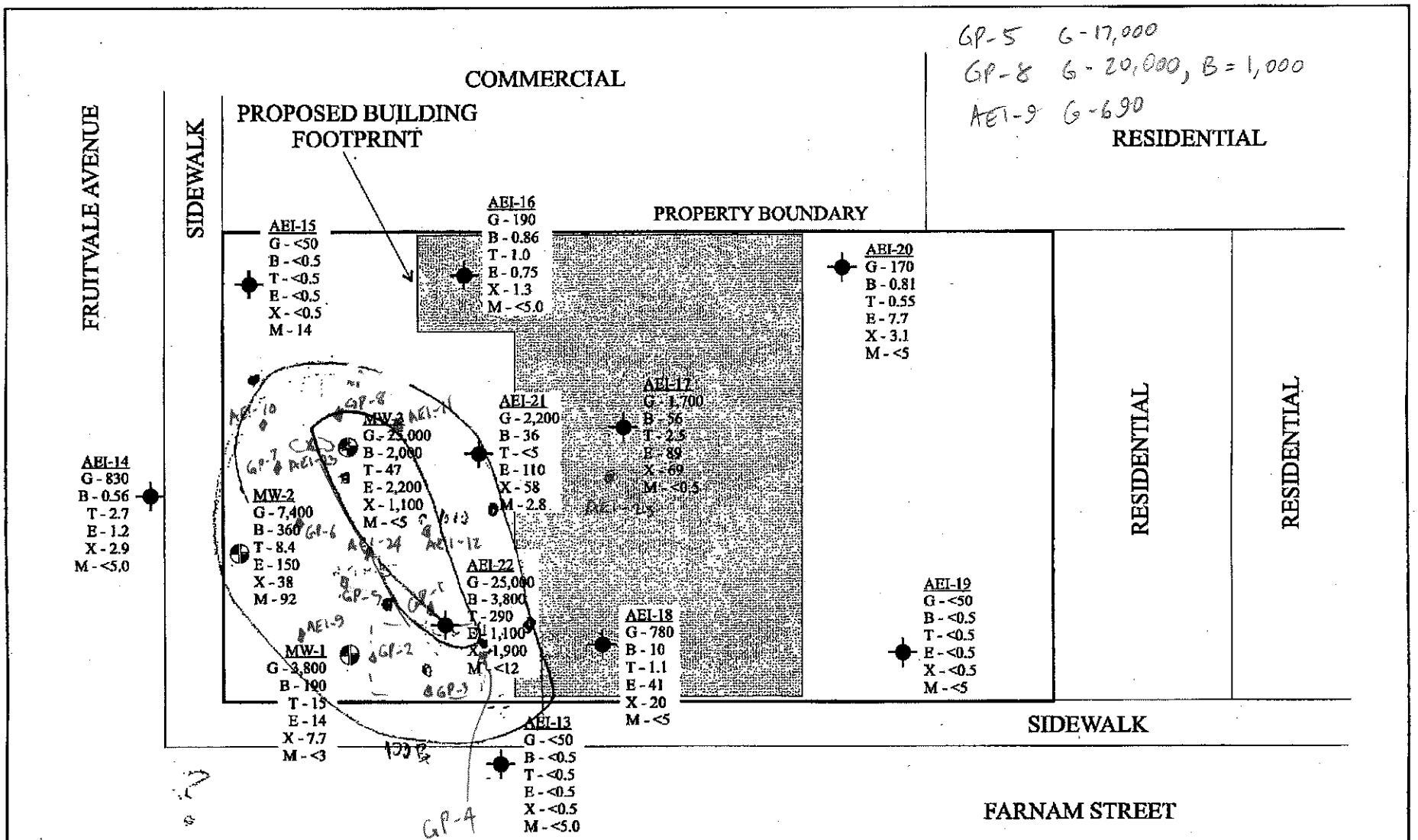
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

GROUNDWATER ANALYTICAL DATA WITH PROPOSED WELL LOCATIONS

1450 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

FIGURE 5
AEI PROJECT NO. 10460

WP-R-2005-03-03

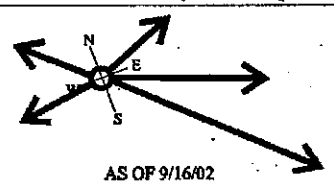


KEY

- Existing 2" Monitoring Wells
- Temporary Borings: June 2002

Sample Results in µg/l. Data for wells from 9/16/02 event.

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM (½ in = 1 episode)



AS OF 9/16/02

SCALE: 1 in = 30 ft

0' 15' 30'

AEI CONSULTANTS

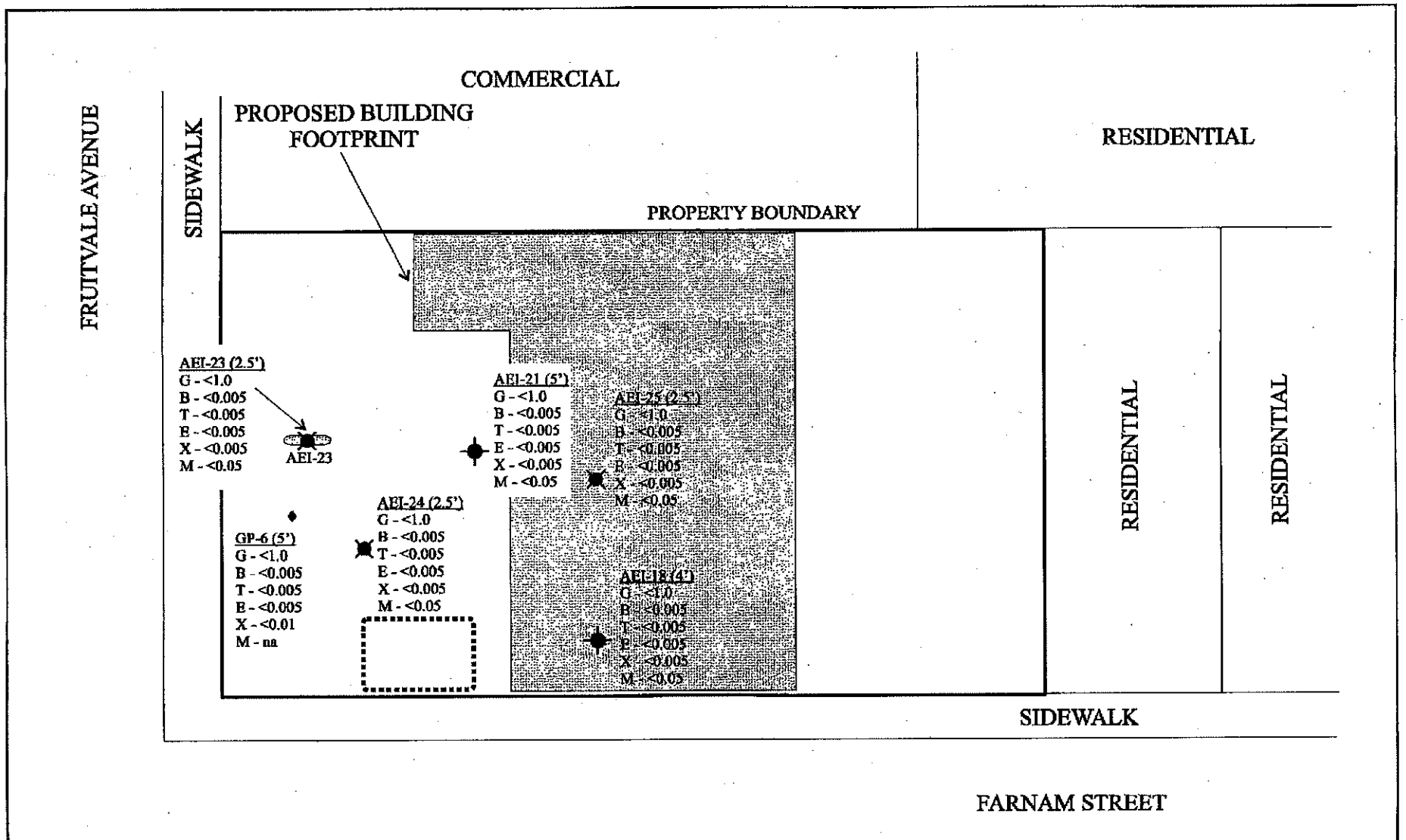
3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

GROUNDWATER SAMPLE ANALYTICAL DATA

1450 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

FIGURE 6
AEI PROJECT NO 5624

SITE_SUM_MAP_2002-10-09

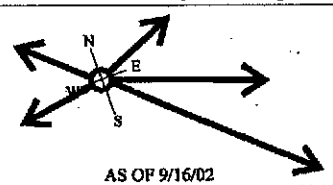


KEY

Boring and well locations with sample depth in parenthesis. All soil sample data in mg/kg

G-TPH gasoline
B-Benzene
T-Toluene
E-Ethylbenzene
X-Xylenes
M-MTBE

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM (½ in = 1 episode)



AS OF 9/16/02

N

SCALE: 1 in = 30 ft

0' 15' 30'

AEI CONSULTANTS

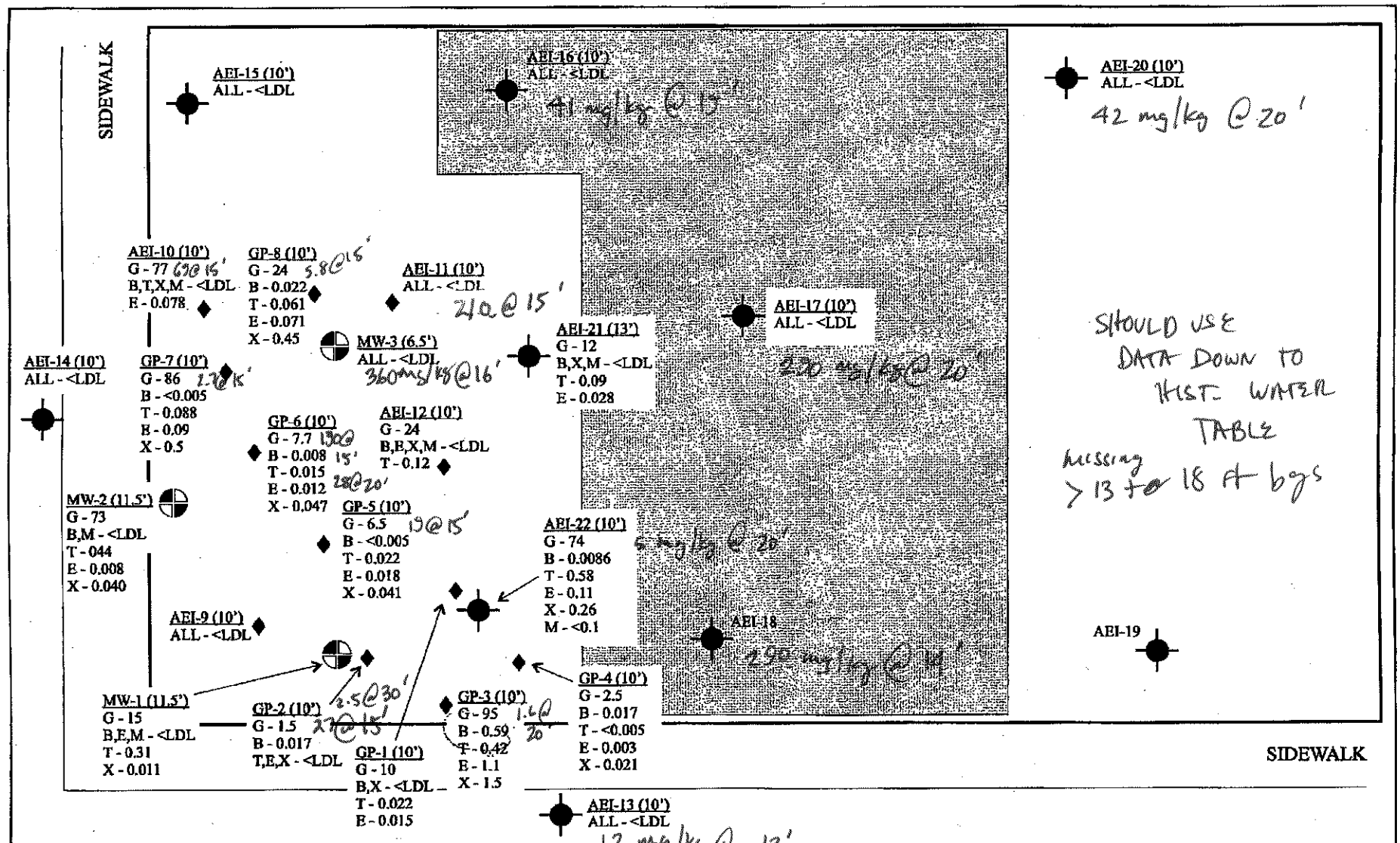
3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

SOIL SAMPLE ANALYTICAL DATA (0 TO 5 FEET BGS)

1450 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

FIGURE 7
AEI PROJECT NO 5624

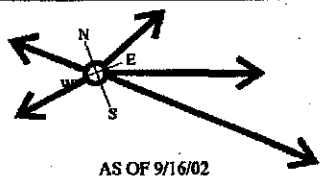
SITE-SUM-RISK-R-2002-10-09



KEY

◓ ♦ ✚ ✖	Boring and well locations with sample depth in parenthesis. All soil sample data in mg/kg. <LDL= less than detection limit.
G-TPH gasoline B-Benzene T-Toluene E-Ethylbenzene X-Xylenes M-MTBE	

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM (½ in = 1 episode)



AS OF 9/16/02

N

SCALE: 1 in = 20 ft

0' 10H' 20'

AEI CONSULTANTS

3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

SOIL SAMPLE ANALYTICAL DATA (5 FEET BGS TO WATER TABLE)

1450 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

FIGURE 8
AEI PROJECT NO 5624

13 ft bgs

Site_Sum-Risk_M_2002-10-03

Table 1 - Soil Sample Analytical Data
1450 Fruitvale Avenue, Oakland, CA - AEI Project # 10460

Sample ID	Consultant	Sample Date	TPH-g mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Xylenes mg/kg	Total Lead mg/kg
GP-1 10'	Glenfos	7/9/1998	10	-	<0.005	0.022	0.015	<0.01	-
GP-2 10'	Glenfos	7/9/1998	1.5	-	0.017	<0.005	<0.005	<0.01	-
GP-2 15'	Glenfos	7/9/1998	27	-	0.017	0.056	0.052	0.51	-
GP-2 20'	Glenfos	7/9/1998	2.5	-	<0.005	<0.005	<0.005	<0.01	-
GP-3 10'	Glenfos	7/9/1998	95	-	0.59	0.42	1.1	1.5	7.3
GP-3 15'	Glenfos	7/9/1998	2.5	-	0.055	0.018	0.055	0.26	-
GP-3 20'	Glenfos	7/9/1998	1.6	-	0.02	<0.005	0.02	0.032	-
GP-3 25'	Glenfos	7/9/1998	<1	-	<0.005	<0.005	<0.005	<0.01	-
GP-4 10'	Glenfos	7/9/1998	2.5	-	0.017	<0.005	0.003	0.021	4.1
GP-5 10'	Glenfos	7/9/1998	6.5	-	<0.005	0.022	0.018	0.041	-
GP-5 15'	Glenfos	7/9/1998	19	-	0.077	0.016	0.43	0.49	-
GP-5 20'	Glenfos	7/9/1998	<1	-	<0.005	<0.005	<0.005	<0.01	-
GP-6 5'	Glenfos	7/9/1998	<1	-	<0.005	<0.005	<0.005	<0.01	-
GP-6 10'	Glenfos	7/9/1998	7.7	-	0.008	0.015	0.012	0.047	6.2
GP-6 15'	Glenfos	7/9/1998	190	-	0.34	0.53	2.3	4.7	-
GP-6 20'	Glenfos	7/9/1998	28	-	0.083	0.081	0.052	0.19	-
GP-7 10'	Glenfos	7/9/1998	86	-	<0.005	0.088	0.09	0.5	-
GP-7 15'	Glenfos	7/9/1998	2.7	-	0.008	0.012	<0.005	0.031	-
GP-8 10'	Glenfos	7/9/1998	24	-	0.022	0.061	0.071	0.45	-
GP-8 15'	Glenfos	7/9/1998	5.8	-	0.021	0.014	0.022	0.06	-
GP-8 20'	Glenfos	8/23/1999	<1	-	<0.005	<0.005	<0.005	<0.01	-
AEI-9 10'	AEI	8/23/1999	<1	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-9 20'	AEI	8/23/1999	<1	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-10 10'	AEI	8/23/1999	77	<0.05	<0.005	<0.005	0.078	<0.005	-
AEI-10 15'	AEI	8/23/1999	69	0.071	0.1	0.21	0.23	<0.005	-
AEI-11 10'	AEI	8/23/1999	<1	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-11 15'	AEI	8/23/1999	210	<0.40	<0.020	1.1	1.2	2.4	-
AEI-12 10'	AEI	8/23/1999	24	<0.05	<0.005	0.12	<0.005	<0.005	-
AEI-12 15'	AEI	8/23/1999	120	<0.40	<0.020	<0.020	1.6	1.6	-
MW-1 6.5'	AEI	9/25-26/00	<1.0	<.05	<.005	<.005	<.005	<.005	-
MW-1 11.5'	AEI	9/25-26/00	15.0	<.05	<.005	0.31	<.005	0.011	-
MW-2 6.5'	AEI	9/25-26/00	<1.0	<.05	<.005	<.005	<.005	<.005	-
MW-2 11'	AEI	9/25-26/00	73.0	<.05	<.005	0.044	0.0080	0.040	-
MW-3 6.5'	AEI	9/25-26/00	<1.0	<.05	<.005	<.005	<.005	<.005	-
MW-3 16'	AEI	9/25-26/00	360.0	<1.0	0.42	2.1	6.5	11.0	-
MDL			1.0	0.05	0.005	0.005	0.005	0.005	

MDL = Method Detection Limit
mg/kg = milligrams per kilogram (ppm)
- Sample not analyzed for this chemical
TPH-g = Total petroleum hydrocarbons as gasoline

shaded = 0 to 5 ft bgs

O = sample collected below lowest recorded gw table depth (~ 18 ft bgs)

Table 1 - Soil Sample Analytical Data: Continued
1450 Fruitvale Avenue, Oakland, CA - AEI Project # 10460

Sample ID	Date	TPH-g mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Xylenes mg/kg
AEI-13 10'	610-12/02	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-14 10'	610-12/02	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-15 10'	610-12/02	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-16 10'	610-12/02	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-16 19'	610-12/02	41	<0.2	<0.02	<0.02	0.038	0.079
AEI-17 10'	610-12/02	<1	<0.5	<0.005	<0.005	<0.005	<0.005
AEI-17 20'	610-12/02	290	<0.05	0.84	1.3	1.8	2.8
AEI-18 4'	610-12/02	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-18 14'	610-12/02	290	<0.02*	<0.2	0.91	2.3	2.9
AEI-19 15'	610-12/02	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-20 10'	610-12/02	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-20 20'	610-12/02	42	<0.5	<0.05	0.20	0.12	0.15
AEI-21 5'	610-12/02	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-21 13'	610-12/02	12	<0.05	<0.005	0.090	0.028	<0.005
AEI-22 10'	610-12/02	74	<0.1	0.0086	0.58	0.11	0.26
AEI-22 20'	610-12/02	5	<0.05	0.30	0.016	0.26	0.42
AEI-23 2.5'	9/27/2002	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-24 2.5'	9/27/2002	<1	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-25 2.5'	9/27/2002	<1	<0.05	<0.005	<0.005	<0.005	<0.005
MDL		1.0	0.05	0.005	0.005	0.005	0.005

MDL = Method Detection Limit

mg/kg = milligrams per kilogram (ppm)

- Sample not analyzed for this chemical

TPH-g = Total petroleum hydrocarbons as gasoline

* MTBE by EPA method 8260, all others by 602/8020

Table 5 - Sample Analtyical Data: Exploratory Excavation Project
1450 Fruitvale Avenue, Oakland, CA - AEI Project # 10460

Sample ID	Location	TPH-g mg/kg	TPH-d mg/kg	TOG mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Xylenes mg/kg	Total Lead mg/kg
AEI EBA 6'	Exc. A - Bottom	<1.0	<1.0	<50.0	<0.05	<0.005	<0.005	<0.005	<0.005	**6.9**
AEI EBB 6'	Exc. B - Bottom	<1.0	<1.0	<50.0	<0.05	<0.005	<0.005	<0.005	<0.005	**9.1**
AEI EBW 8'	Exc. C - West	<1.0	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	**9.4**
AEI EBE 8'	Exc. C - East	**11**	<1.0	-	<0.05	<0.005	**0.059**	**0.028**	**0.042**	**32**
AEI EBN 8'	Exc. C - North	<1.0	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	**8.7**
AEI EBS 8'	Exc. C - South	<1.0	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	**80**

VOCs ? near waste oil tank location tested

Fuel Oxygenates

Table 4 - Groundwater Monitoring Well Analytical Data
1450 Fruitvale Avenue, Oakland, CA - AEI Project # 10460

Well/Sample ID	Date Collected	Consultant/ Lab	TPHg µg/L EPA 8015	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L
				EPA method 8020				
MW-1	10/16/00	AEI/MAI	4,500	<20	560	14	53	62
	01/19/01	AEI/MAI	13,000	<100	790	46	1,100	210
	04/26/01	AEI/MAI	7,500	<30	470	23	720	120
	08/03/01	AEI/MAI	4,500	<10	440	11	55	6.6
	11/05/01	AEI/MAI	1,700	<10	100	6.0	4.6	2.1
	03/29/02	AEI/MAI	9,500	ND<100	880	32	400	59
	06/11/02	AEI/MAI	3,400	<50	620	9.7	75	11
	09/16/02	**AEI/MAI**	**3,800**	**<10**	**190**	**15.0**	**14**	**7.7**
MW-2	10/16/00	AEI/MAI	4,600	<300	380	3.8	95	33
	01/19/01	AEI/MAI	4,200	<10	450	4.7	120	50
	04/26/01	AEI/MAI	5,600	<20	810	12	210	65
	08/03/01	AEI/MAI	2,900	<20	360	3	97	46
	11/05/01	AEI/MAI	2,400	<85	280	3.2	76	25
	03/29/02	AEI/MAI	7,100	ND<100	930	11	220	39
	06/11/02	AEI/MAI	4,400	<150	680	8.1	160	38
	09/16/02	**AEI/MAI**	**7,400**	**<250**	**360**	**8.4**	**150**	**38**
MW-3	10/16/00	AEI/MAI	12,000	<10	570	32	680	1,200
	01/19/01	AEI/MAI	27,000	<200	3,400	110	2,200	2,700
	04/26/01	AEI/MAI	33,000	<200	3,300	190	2,800	3,400
	08/03/01	AEI/MAI	23,000	<50	2,300	52	1,800	1,400
	11/05/01	AEI/MAI	30,000	<200	1,900	58	2,000	1,600
	03/29/02	AEI/MAI	29,000	ND<100	2,100	57	2,500	1,700
	06/11/02	AEI/MAI	22,000	<50	2,100	44	2,300	1,600
	09/16/02	**AEI/MAI**	**25,000**	**<220**	**2,000**	**47**	**2,200**	**1,100**
MRL			50.0	5.0	0.5	0.5	0.5	0.5

Fuel Oxygenates

Well/Sample ID	Date Collected	DIPE µg/L	ETBE µg/L	MTBE µg/L	TAME µg/L	TBA µg/L	EDB µg/L	1,2-DCA µg/L
					EPA method 8260			
MW-1	**06/11/02**	-	-	2.4	-	-	-	-
	09/16/02	**0.56**	**<0.5**	**<3.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-2	**06/11/02**	-	-	23	-	-	-	-
	09/16/02	**7.30**	**<1.2**	**92**	**<1.2**	**<1.2**	**<1.2**	**<1.2**
MW-3	**06/11/02**	-	-	<2.5	-	-	-	-
	09/16/02	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**<50**	**<5.0**	**<5.0**
MRL		0.5	0.5	0.5	0.5	5.0	0.5	0.5

MRL = Method Reporting Limit, unless otherwise shown
µg/L = micrograms per liter
AEI = AEI Consultants
MAI = McCampbell Analytical, Inc.
TPHg = total petroleum hydrocarbons as gasoline
MTBE = methyl tertiary butyl ether