Former Fiesta Beverage

November 20, 2009

Barbara J. Jakub, P.G.
Hazardous Materials Specialist
Alameda County Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Perjury Statement**
Soil Vapor Investigation Work Plan
Former Fiesta Beverage
966 89th Avenue
Oakland, California
ACDEH Fuel leak Site # RO0000314

Dear Ms. Jakub,

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report are true and correct.

Please call me at (805) 286-4303 if you have any questions.

Sincerely,

Ted Walbey

November 20, 2009
Project 308.001.001

Ms. Barbara J. Jakub, PG
Hazardous Materials Specialist
Alameda County Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: *Soil Vapor Investigation Work Plan*
Former Fiesta Beverage
966 89th Avenue
Oakland, CA 94621

Dear Ms. Jakub:

This letter, prepared by Trinity Source Group, Inc. (Trinity) on behalf of Fiesta Beverages, presents a *Soil Vapor Investigation Work Plan (Work Plan)* for the referenced site (Figures 1 and 2). This *Work Plan* is in response to the August 14, 2009 letter from Alameda County Environmental Health Services (ACEHS), which reviewed the March 17, 2009 *Report on Interim Corrective Actions,* prepared by Blymyer Engineers, Inc (Blymyer) for the site. A copy of the ACEHS letter and subsequent correspondence is provided as Attachment A.

BACKGROUND

The site has been subject to assessment, monitoring and remediation following the removal of one 500-gallon and one 1,000-gallon gasoline underground storage tanks (USTs) in August 1990. To date, 10 groundwater monitoring wells have been installed, with one destroyed, and 15 exploratory boreholes have been completed. The background and history of these activities is summarized in the March 17, 2009 *Report on Interim Corrective Actions,* prepared by Blymyer, and is not reproduced in this *Work Plan*, but is provided as Attachment B. Historic soil and groundwater analytical data and boring and well locations are presented in Attachment C.

In the March 17, 2009 *Report on Interim Corrective Actions,* Blymyer recommends site closure, a soil management plan (SMP), and well destruction upon approval of the SMP and acceptance of site closure. However, in the August 14, 2009 letter from the ACEHS, the following is stated:

> *"Residual contamination remains in soil and groundwater at the site and the vapor migration pathway from these sources have not been evaluated."*

As a result, the ACEHS requested that soil vapor sampling be conducted to evaluate the soil vapor pathway, and that a ¼-mile well survey be performed to complete the preferential pathway study, which had been partially completed by Blymyer. Blymyer has completed the utility study portion, with the results summarized in the *Report on Interim Corrective Actions.* Trinity has completed the well survey for this *Work Plan*.

Well Survey

Trinity conducted a ¼-mile well survey to identify the locations, use, and construction of nearby wells. Well data was requested from the California Department of Water Resources (DWR) and from the Alameda County Public Works Department (ACPWD). The DWR records include well logs, which were marked confidential and are not included with this report. The well use, location owner, and various construction and groundwater data are summarized on Table 1, and the locations of the wells are shown on Figure 3.

The well survey identified a total of 47 monitoring wells, one destroyed well, one irrigation well and one piezometer well within ¼-mile of the site. Other than the site monitoring wells, the well potentially closest to the site is a 25-foot deep monitoring well located approximately 268 feet northeast of the site. The closest well in the downgradient direction is a 22-foot deep monitoring well, located approximately 300 feet east of the site. An irrigation well is located within approximately 1,050 feet of the site, also to the northeast. At these distances, these wells are unlikely to be affected by the site dissolved plume considering the limited extent of the plume.

SCOPE OF WORK

The proposed scope of work includes:

- Installing one semi-permanent soil gas probe (SGP-1) west of the existing building to assess inhalation risks associated with the residual hydrocarbons;
- Installing one sub-slab soil vapor probe (SVP-1) inside the existing building at the site to assess indoor inhalation risks associated with the residual hydrocarbons at the site; and
- A one-time groundwater monitoring and sampling event as requested by ACEHS.

The following tasks will be completed:

Prefield

Prefield tasks will include obtaining any necessary permits, preparing a site-specific health and safety plan, notifying USA Underground, and scheduling subcontractors and inspectors.

Semi-Permanent Soil Gas Probe and Sub-Slab Vapor Probe Installation

Trinity will install one semi-permanent soil gas probe (SGP-1) to approximately 5 feet bgs, using hand auger methods. The probe depth may be modified to a shallower or deeper depth to target soils of higher relative permeability (sandy horizons) and/or elevated PID readings, if such conditions exist.

Trinity will also install one sub-slab soil vapor probe (SVP-1) in the office area of the existing building, through the concrete slab.

The locations of these probes were selected to sample areas which historically have had elevated hydrocarbon concentrations in soil and groundwater.

A minimum of one week after installation, Probes SGP-1 and SVP-1 will be sampled. Field procedures for installation and sampling are presented in Attachment D.

The locations of these two probes are shown on Figure 2.

One-time Groundwater Monitoring and Sampling Event

Trinity will conduct a one-time groundwater monitoring and sampling event of all the existing wells, MW-1R through MW-9, at the site. Collected groundwater samples will be submitted to the laboratory for analysis. Procedures for these activities are provided in Attachment D.

Laboratory Analysis

Soil vapor samples from SGP-1 and SVP-1 will be submitted under chain-of-custody protocol to Torrent Laboratory, Inc., of Milpitas, California, a State-certified analytical laboratory (ELAP #1991). These samples will be analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, ethylbenzene, toluene, and xylenes (collectively BTEX), methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), and ethylene dichloride (EDC), by EPA Methods TO-3 and TO-15. In addition, helium (the leak test compound) will be analyzed by Method ASTM-1946D. Soil vapor samples will be analyzed within 14 days of collection.

Groundwater samples from the one-time groundwater monitoring event will be submitted under chain-of-custody protocol to Torrent. These samples will be analyzed for TPHg by EPA Method 8015, and BTEX, MTBE, ETBE, DIPE, TAME, TBA, EDB, and EDC, by EPA Method 8260B. Groundwater samples will be analyzed within 14 days of collection.

Reporting

The methods, findings, and results of the work proposed herein will be presented in a report, which will include a site map, boring logs, chain-of custody documentation, and certified analytical reports.

The boring logs and certified analytical reports will be uploaded to GeoTracker.

SCHEDULE

Trinity will initiate the proposed scope of work after an approval letter of this *Work Plan* is received from the ACEHS. Upon approval to proceed, and under normal circumstances, the soil vapor investigation will

take approximately 8 to 10 weeks to complete. The results report will be submitted within 6 to 8 weeks after receipt of all analytical data.

DISTRIBUTION

A copy of this report has been forwarded to:

Mr. Ted Walbey
9890 Steel Head Road
Paso Robles, CA 93446

Should you have any questions regarding this letter, please call Trinity at (831) 426-5600.

Sincerely,

TRINITY SOURCE GROUP, INC.

Debra J. Moser, PG, CEG, CHG
Senior Geologist

Cathy Trujillo
Senior Staff Geologist

Attachments:

Table 1:	Well Survey Summary
Figure 1:	Site Location Map
Figure 2:	Proposed Semi-Permanent Soil Gas and Sub-Slab Probe Location Map
Figure 3:	Well Survey Map
Attachment A:	ACEHS Correspondence
Attachment B:	Background and Previous Investigations from *Report on Interim Corrective Actions* (Blymyer, March 17, 2009)
Attachment C:	Historic Soil and Groundwater Analytical Data (Blymyer, March 17, 2009)
Attachment D:	Field Procedures

TABLE

TABLE 1

WELL SURVEY SUMMARY
Former Fiesta Beverage
966 89th Ave.
Oakland, California

No.	Use	Address	Owner	T/R/S	Diameter (inches)	Drill Date	Depth (feet)	Interval (feet)	Slot Size	Depth to Water	Final Depth to Water (feet)	Distance from Site (feet)
1	DES	910 89TH AVE.	DON L. MARCHMAN	2S/3W-22C1	2	6/22/1988	26	16-26	0.020	12.0	13	410
2	IRR	8609 G ST.	LUCCHESI	2S/3W-22D1	12	--	175	--	--	--	0	1,050
3	PIE	852 85TH AVE.	GEO M ROBINSON & CO	2S/3W-22D18	4	7/93	20	--	--	--	15	1,290
4	MON	1009 89TH AVE.	MANUEL RODRIGUES	2S/3W-22C10	2	1/94	25	--	--	--	10	268
5	MON	1009 89TH AVE.	MANUEL RODRIGUES	2S/3W-22C11	2	1/94	25	--	--	--	10	275
6	MON	925 89TH AVE.	SENECA.LANAIDOR	2S/3W-22C6	2	8/6/1992	22	7-22	0.020	14.2	10.92	300
7	MON	925 89TH AVE.	SENECA.LANAIDOR	2S/3W-22C5	2	4/17/1992	22	7-22	0.020	14.0	9.91	312
8	MON	910 89TH AVE.	BARRETT'S METAL FINISHING	2S/3W-22C2	2	12/19/88	20	9-18.5	0.020	13.0	9.8	420
9	MON	910 89TH AVE.	BARRETT'S METAL FINISHING	2S/3W-22C3	2	12/19/88	20	10-19.5	0.020	13.0	9.8	431
10	MON	910 89TH AVE.	BARRETT'S METAL FINISHING	2S/3W-22C4	2	08/11/89	20	10-19.5	0.020	17.0	14	440
11	MON	8717 G ST.	BROCKWAY GLASS CO.	2S/3W-22D5	2	5/26/1987	28	9-26	0.020	11.0	9.9	712
12	MON	923 87TH AVE.	MR. J. W. SILVERA	2S/3W-22D15	2	9/19/2009	20	5-20	0.020	9.5	9	725
13	MON	923 87TH AVE.	MR. J. W. SILVERA	2S/3W-22D13	2	9/19/2009	25	5-25	0.020	15.0	9	730
14	MON	923 87TH AVE.	MR. J. W. SILVERA	2S/3W-22D14	2	9/19/2009	20	5-20	0.020	10.5	9	740
15	MON	8718 G ST.	OWENS-BROCKWAY	2S/3W-22D10	2	06/25/91	21.5	10-20	0.020	12.5	12.3	750
16	MON	8718 G ST.	OWENS BROCKWAY	2S/3W-22D9	2	6/25/1991	21.5	10-20	0.020	13.5	13.4	760
17	MON	8718 G ST.	OWENS-BROCKWAY	2S/3W-22D11	2	06/25/91	21.5	8-18	0.020	8.5	8.5	762
18	MON	8717 G ST.	BROCKWAY GLASS CO.	2S/3W-22D6	2	5/87	26	--	--	--	10	764
19	MON	8718 G ST.	OWENS-BROCKWAY	2S/3W-22D12	2	06/26/91	21.5	8-18	0.020	8.5	8.4	771
20	MON	888 92ND AVE.	PUGET SOUND PIPE	2S/3W-22F3	2	06/01/88	25	5-25	0.020	13.0	13	967
21	MON	888 92ND AVE.	PUGET SOUND PIPE	2S/3W-22F4	2	06/30/88	25	5-25	0.020	13.0	13	979
22	MON	888 92ND AVE.	PUGET SOUND PIPE	2S/3W-22F8	2	06/30/88	25	5-25	0.020	13.0	13	1,006
23	MON	888 92ND AVE.	PUGET SOUND PIPE	2S/3W-22F6	2	06/30/88	25	5-25	0.020	13.0	13	1,114
24	MON	888 92ND AVE.	PUGET SOUND PIPE	2S/3W-22F2	2	6/29/1988	24	4-24	0.020	13.0	13	1,120
25	MON	888 92ND AVE.	PUGET SOUND PIPE	2S/3W-22F7	2	06/29/88	24	4-24	0.020	13.0	13	1,125
26	MON	888 92ND AVE.	PUGET SOUND PIPE	2S/3W-22F5	2	06/30/88	25	5-25	0.020	13.0	13	1,129
27	MON	845 92ND AVE.	PACO PUMPS	2S/3W-22F14	4	11/92	21	--	--	--	11	1,034
28	MON	845 92ND AVE.	PACO PUMPS	2S/3W-22F12	4	11/92	21	--	--	--	10	1,038
29	MON	845 92ND AVE.	PACO PUMPS	2S/3W-22F10	4	11/92	21	--	--	--	9	1,040
30	MON	845 92ND AVE.	PACO PUMPS	2S/3W-22F9	4	6/95	20	--	--	--	15	1,045
31	MON	845 92ND AVE.	PACO PUMPS	2S/3W-22F11	4	11/92	21	--	--	--	11	1,050
32	MON	845 92ND AVE.	PACO PUMPS	2S/3W-22F13	4	11/92	21	--	--	--	11	1,055
33	MON	860 92ND AVE.	DREISBACH ENTERPRISES	2S/3W-22F17	2	5/97	20	--	--	--	12	1,070
34	MON	860 92ND AVE.	DREISBACH ENTERPRISES	2S/3W-22F16	2	5/97	20	--	--		12	1,076
35	MON	860 92ND AVE.	DREISBACH ENTERPRISES	2S/3W-22F18	2	7/96	20	--	--	--	11	1,083
36	MON	852 85TH AVE.	GEO M ROBINSON & CO	2S/3W-22D17	4	7/93	20	--	--	--	16	1,295
37	MON	852 85TH AVE.	GEO M ROBINSON & CO	2S/3W-22D16	4	7/93	20	--	--	--	16	1,300

TABLE 1

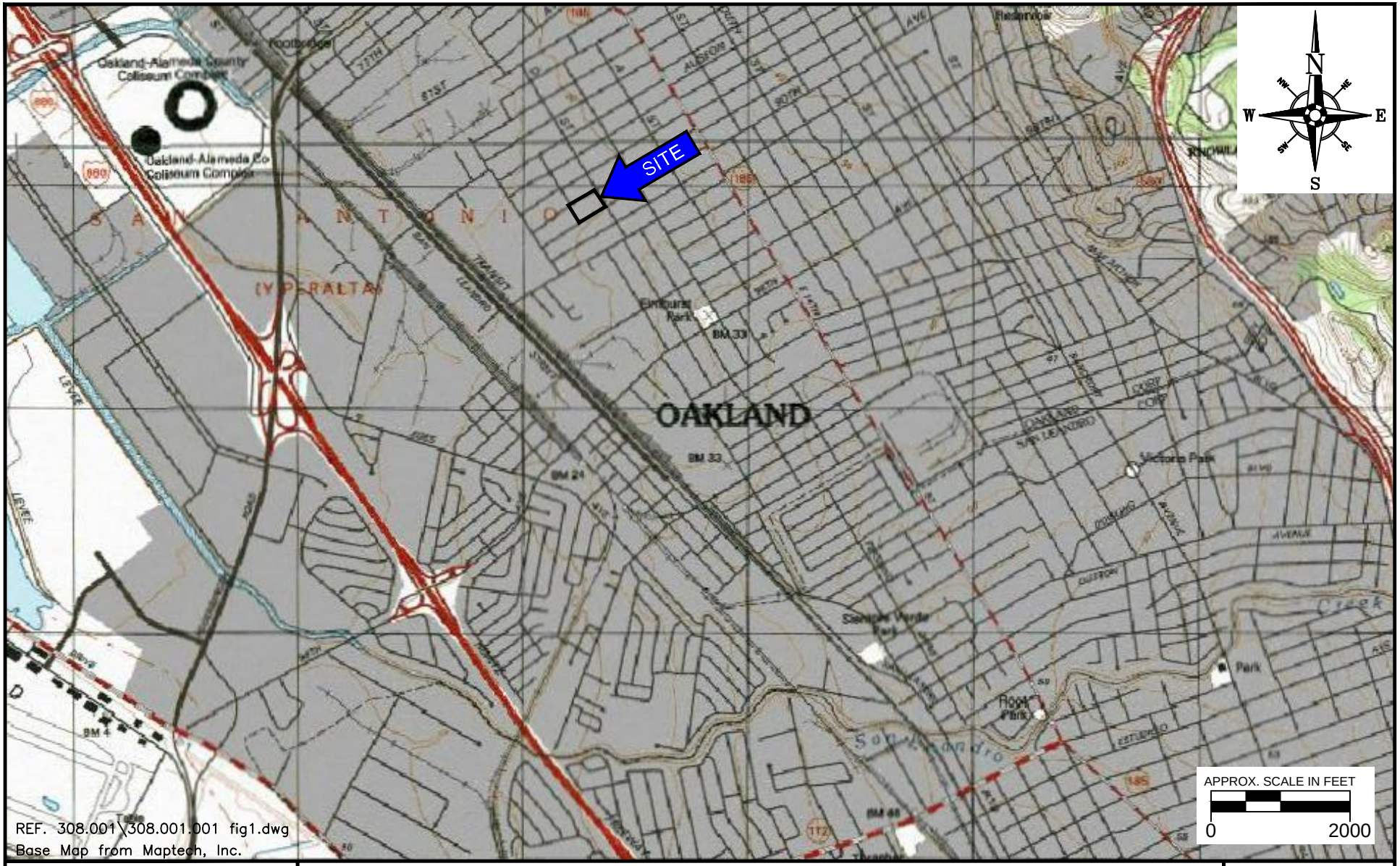
WELL SURVEY SUMMARY
Former Fiesta Beverage
966 89th Ave.
Oakland, California

No.	Use	Address	Owner	T/R/S	Diameter (inches)	Drill Date	Depth (feet)	Interval (feet)	Slot Size	Depth to Water	Final Depth to Water (feet)	Distance from Site (feet)
38*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22C7	--	06/24/93	25	10-25	0.010	13.0	--	0
39*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22C8	--	06/24/93	25	10-25	0.010	13.0	--	0
40*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22C9	--	06/24/93	25	10-25	0.010	13.0	--	0
41*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22	--	05/08/06	20	10-20	0.010	14.0	8.25	0
42*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22	--	05/09/06	22	12-22	0.010	14.0	8.5	0
43*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22	--	05/09/06	22	12-22	0.010	15.5	8.5	0
44*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22	--	06/02/06	22	12-22	0.010	14.0	8.20	0
45*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22	--	06/02/06	22	12-22	0.010	14.0	8.20	0
46*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22	--	06/02/06	21.5	10.5-21.5	0.010	15.0	9.2	0
47*	MON	966 & 960 89TH AVE.	TED WALBEY	2/3W-22	--	06/02/06	22	12-22	0.010	16.0	8.45	0

Notes:

T/R/S = township/range/section
-- = not available
DES = destroyed well
IRR = irrigation well
PIE = piezometer well
MON = monitoring well
* = 10 monitoring wells are located on the subject site: Former Fiesta Beverage located at 966 89th Ave. in Oakland, California. These are shown on Figure 3, Well Survey Map.
- Alameda County Public Works Agency - Water Resources Section noted that results from the well survey search were obtained in sections 2S/3W 15 NP and 2S/3W CDEFG, however no results were found in sections 2S/3W 15 Q or 2SD/3W B.
- Well log information was provided from the California Department of Water Resources -- Division of Planning and Local Assistance and from the Alameda County Public Works Agency - Water Resources Section.
- Locations and distances are not exact measurements; they are estimated based on utilizing 2007 Google™ , Earth Data SIO, NOAA, U.S. Navy, NCA, GEBCO © 2009 Tele Atlas US Department of State Geographer © 2009 Europa Technologies.

FIGURES



PREPARED BY

TRINITY source group, inc.
Environmental Consultants

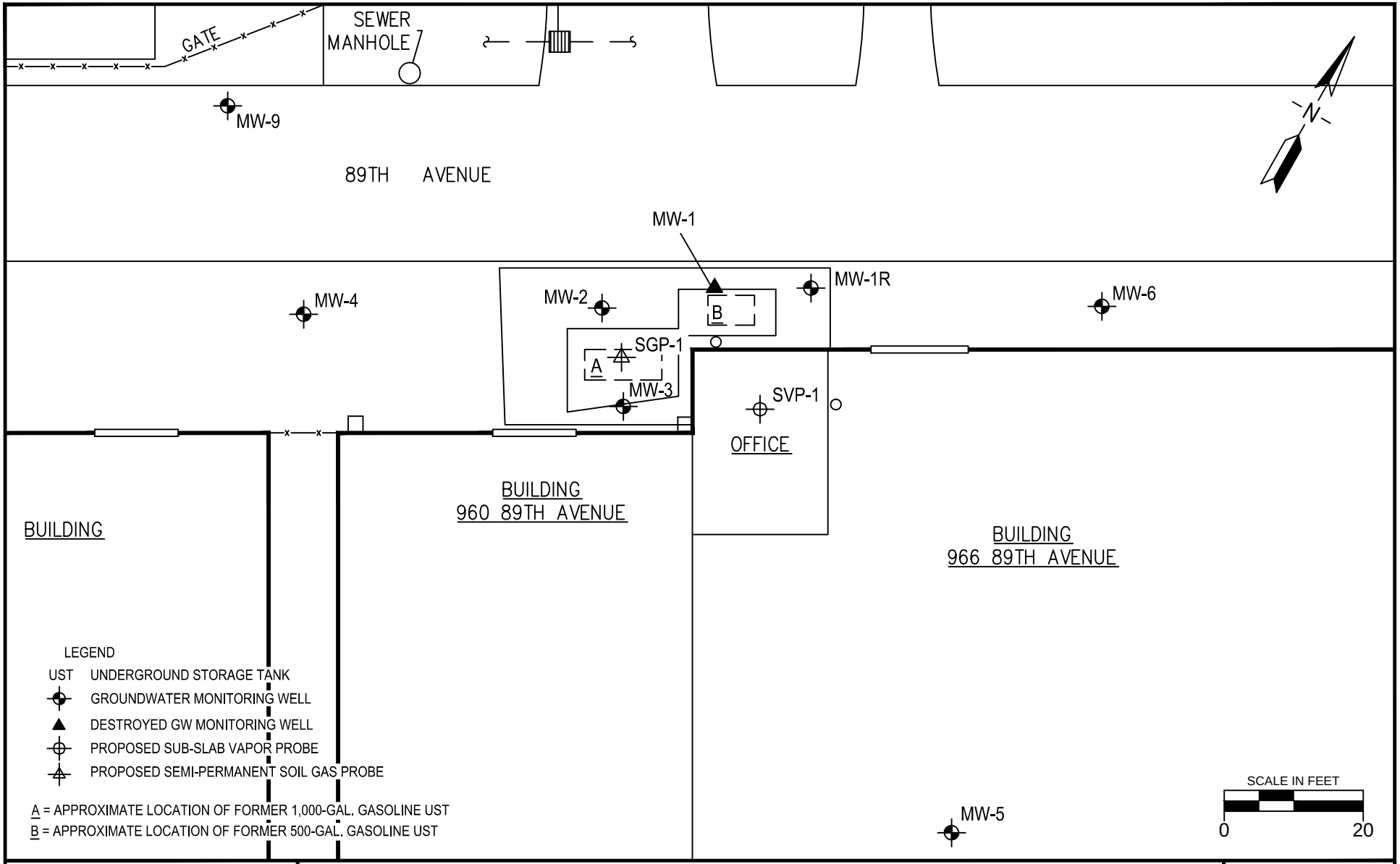
500 Chestnut Street, Suite 225
Santa Cruz, California 95060
v: 831.426.5600
f: 831.426.5602

SITE LOCATION MAP

Former Fiesta Beverage
966 89th Ave.
Oakland, California

PROJECT:
308.001.001

FIGURE:
1



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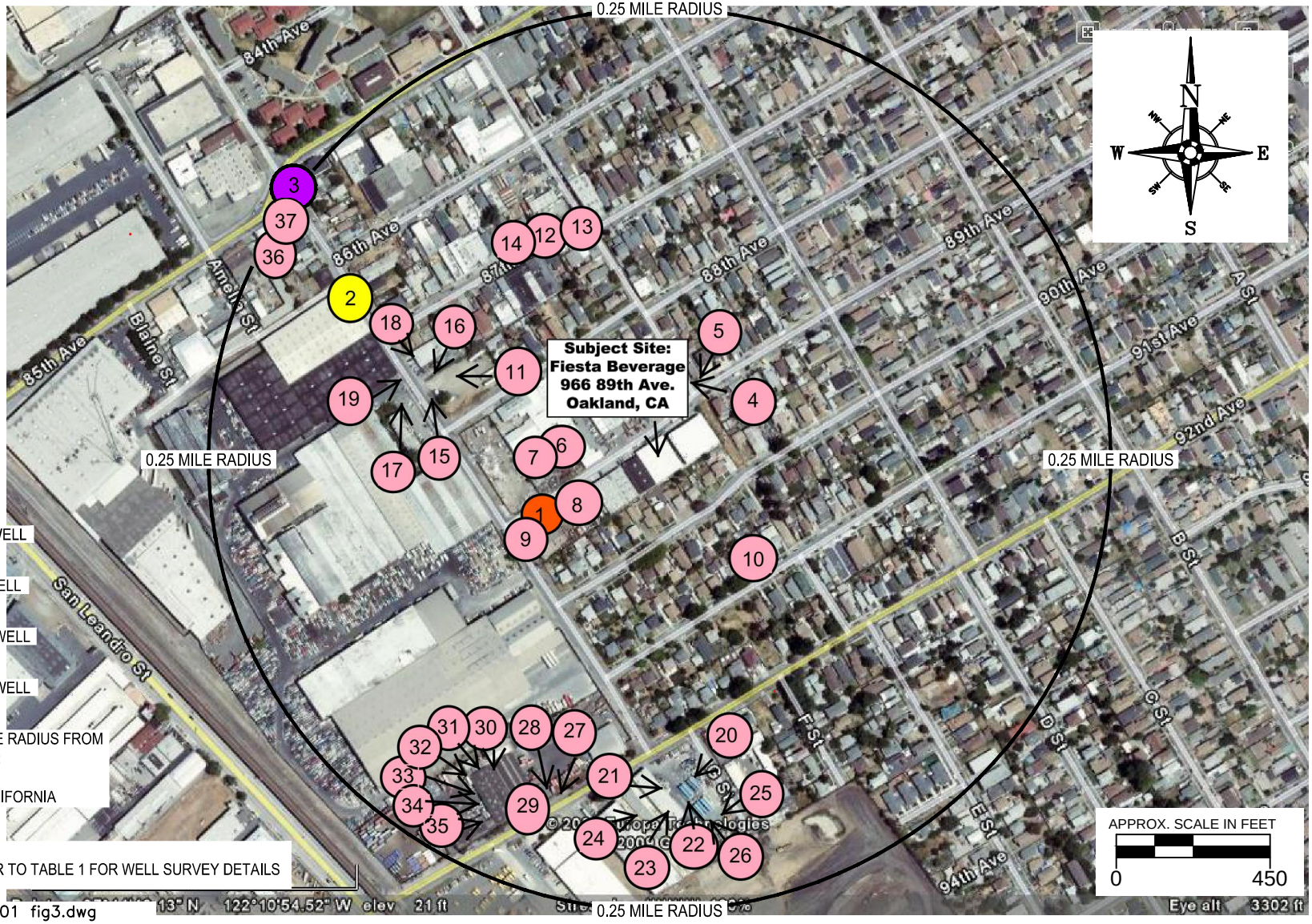
PROPOSED SUB-SLAB VAPOR AND SEMI-PERMANENT SOIL GAS PROBE LOCATION MAP

Former Fiesta Beverage
966 89th Ave.
Oakland, California

PROJECT:
308.001.001

FIGURE:
2

REF. 308_001/308.001.001 figures.dwg



REF. 308.001\308.001.001 fig3.dwg
Base Map from Google Earth

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WELL SURVEY MAP

Former Fiesta Beverage
966 89th Ave.
Oakland, California

PROJECT:
308.001.001

FIGURE:
3

ATTACHMENT A

ACEHS CORRESPONDENCE

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

Ted Walbey
805. 280. 4303

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

August 14, 2009

Ted Walbey
Fiesta Beverages
7150 Island Queen Drive
Sparks, NV 89436

Subject: Fuel Leak Case No. RO0000314 and Geotracker Global ID T0600101573, Fiesta Beverage, 966 89th Avenue, Oakland, CA 94621

Dear Mr. Walbey:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the site including the most recent document *Report on Interim Corrective Actions* dated March 17, 2009 and prepared by Blymyer Engineers, Inc. The report recommends that the site be closed, a soil management plan (SMP) be developed and that the wells be decommissioned after the agency approves closure. However, residual contamination remains in soil and groundwater at the site and the vapor migration pathway from these sources have not been evaluated. At this time we request that you perform the following work and submit the requested document by the due date below.

TECHNICAL COMMENTS

1. **Soil Vapor Sampling** - Residual contamination was detected in on-site wells MW-1R and former well MW-1 at maximum concentrations of 4,900 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline and 59 mg/kg benzene. The residual soil concentrations detected at the site appear to pose a potential contaminant volatilization to indoor air exposure risk. Since the soil is located under a building and cannot be removed, as stated in Blymyer's most recent reports, ACEH requests that you present a plan to evaluate the soil vapor pathway by performing soil vapor sampling to address the vapor concern. Please submit your proposal in the work plan requested below.

2. **Preferential Pathway Study** – The purpose of the preferential pathway study is to locate potential migration pathways and conduits and determine the probability of dissolved contaminant plume(s) encountering preferential pathways and conduits that could spread contamination due to the shallow groundwater at the site and surrounding area. Your consultant has already provided a utility survey. However, a well survey has not been submitted. We request that you complete the preferential pathway study by submitting the requested well survey in the report requested below.

   a. Well Survey

The preferential pathway study shall include a well survey of all wells (monitoring and production wells: active, inactive, standby, decommissioned (sealed with concrete), abandoned (improperly decommissioned or lost); dewatering, and cathodic protection wells) within a ¼-mile radius of the subject site.

3. **Monitoring Schedule and Analytes** – Groundwater concentrations are at a current maximum concentration of 130 micrograms per liter (µg/L) TPHg and 11 µg/L benzene. Please perform a one-time groundwater monitoring event at the site that includes the following analytes: TPHg by EPA Method 8015M, benzene, toluene, ethylbenzene, toluene, xylenes, methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), and ethylene dichloride (EDC), by EPA Method 8260. The need to continue groundwater monitoring will be evaluated, based on the results of the investigation and groundwater monitoring event.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Barbara Jakub), according to the schedule presented below:

- **October 31, 2009** – Soil Vapor Work Plan

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

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to 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 Instructions." 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. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all 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 monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml.

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 639-1287 or send me an electronic mail message at barbara.jakub@acgov.org.

Sincerely,

Barbara J. Jakub, P.G.
Hazardous Materials Specialist

Enclosures: ACEH Electronic Report Upload (ftp) Instructions

cc: Michael Lewis, Blymyer Engineers, Inc., 1829 Clement Avenue, Alameda, CA 94501
Donna Drogos, ACEH
Barbara Jakub, ACEH
File

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	**ISSUE DATE:** July 5, 2005
	REVISION DATE: March 27, 2009
	PREVIOUS REVISIONS: December 16, 2005, October 31, 2005
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

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.

REQUIREMENTS

- Entire report including cover letter must be submitted to the ftp site as a **single portable document format (PDF) with no password protection**. (Please do not submit reports as attachments to electronic mail.)
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements must be included and have either original or electronic signature.
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:
  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Additional Recommendations

- A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in **Excel** format. These are for use by assigned Caseworker only.

Submission Instructions

1) Obtain User Name and Password:
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to dehloptoxic@acgov.org
         Or
      ii) Send a fax on company letterhead to (510) 337-9335, to the attention of My Le Huynh.
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for.**

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape and Firefox browsers will not open the FTP site.
   b) Click on File, then on Login As.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO# use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

Debra Moser

From: Jakub, Barbara, Env. Health [barbara.jakub@acgov.org]
Sent: Wednesday, October 28, 2009 9:50 AM
To: Debra Moser
Cc: David Reinsma
Subject: RE: Request for Extension, Fiesta Beverages Fuel Leak Case No. RO0000314

Debbie,
Your request for an extension to November 20 so you can include the well survey with the work plan is approved.
Regards,

Barbara Jakub, P.G.
Alameda County Environmental Health
(510) 639-1287 (direct)
(510) 337-9335 (fax)
barbara.jakub@acgov.org

Online case files are available at the website below
http://www.acgov.org/aceh/lop/resources.htm

From: Debra Moser [mailto:djm@tsgcorp.net]
Sent: Wednesday, October 28, 2009 9:39 AM
To: Jakub, Barbara, Env. Health
Cc: 'David Reinsma'
Subject: Request for Extension, Fiesta Beverages Fuel Leak Case No. RO0000314

Hi Barb,
As we discussed by telephone, Trinity Source Group, Inc., is requesting an extension for submittal of the Soil Vapor Work Plan for the referenced site. The Work Plan will include the well survey requested by Alameda County Environmental Health.

We request that the submittal date for the Work Plan be changed from October 31, 2009 to November 20, 2009.

Thank you for your assistance in this project.

Regards,
Debbie

Debra J. Moser, PG, CEG, CHG
Senior Geologist
Trinity Source Group, Inc.
500 Chestnut Street, Suite 225
Santa Cruz, CA 95060
Tel: (831) 426-5600
Fax: (831) 426-5602
Cell: (831) 212-8846

ATTACHMENT B

BACKGROUND AND PREVIOUS INVESTIGATIONS FROM *REPORT ON INTERIM CORRECTIVE ACTIONS* (BLYMYER, MARCH 17, 2009)

1.0 Introduction

1.1 Background

In August 1990, one 500-gallon and one 1,000-gallon gasoline underground storage tanks (USTs) were removed from the subject site (Figures 1 and 2). Soil and groundwater were reported to be impacted from releases from one or both USTs. Overexcavation of the former UST basins occurred in January 1991. The excavations were reported to have reached approximately 15 feet by 8 feet by 14 feet deep and 12 feet by 7 feet by 14 feet deep, respectively, on January 14, 1991. Beginning in April 1991, aeration of the soil occurred onsite. In April 1993, 74.28 tons of soil were transported to the Remco recycling facility. Soil with no or low residual hydrocarbon concentrations is reported to have been reused in the northern UST excavation, while the southern excavation is reported to consist predominately of imported fill (personal communication, Ted Walbey, 2008).

In June 1993, groundwater monitoring wells MW-1, MW-2, and MW-3 were installed (Table I). In general, the wells encountered black to grey to light brown clay to a depth of approximately 15 below grade surface (bgs). At 15 feet bgs, the three bores encountered a 0.5- to 2.0-foot-thick clayey sand. Below this unit, a light brown to grey clay was present to a depth of 18 to 21 feet bgs. Underneath this unit, a 1- to 3-foot-thick sand was encountered in bores MW-1 and MW-2, while a clayey silt was encountered in bore MW-3. Below approximately 21 feet bgs, green-grey or black clay was encountered to the full explored depth of 26.5 feet bgs in bore MW-1 and to 25 feet bgs in bores MW-2 and MW-3. Saturated soil was encountered below a depth of approximately 13 feet bgs (in clay overlaying the uppermost sand unit). The wells were installed with a screened interval between 10 and 25 feet bgs. Groundwater from the three wells was sampled six times between August 1993 and December 1998 (Tables II to IV).

In November 1999, after obtaining appropriate permits, AllCal Property Services, Inc. (AllCal) installed four Geoprobe® soil bores downgradient from the former location of the two USTs. The bores were installed in the public right-of-way across 89th Avenue from the subject site, in an unpaved portion of the roadway. Soil bores SB-1 and SB-2 were logged to a depth of 16 feet bgs. Silty clay was encountered to a depth of approximately 13 to 14 feet bgs. Below that depth, soil consisted of clayey silt that alternated between moist and saturated for several vertical feet. Bore SB-1 also encountered poorly graded sand at 16 feet bgs. Hydrocarbon odors were present

in both bores at a depth of approximately 6 feet bgs and green discolored soil was present at 10 feet bgs in bore SB-1. Discolored soil and gasoline odors were noted in both bores throughout the clayey silt, while brownish colored clay was present in both bores just above the silt. The groundwater interface appears to have been encountered at an approximate depth of 16 feet bgs in the sand. Sheen was noted at that depth in SB-1. Groundwater samples were obtained from bores SB-1 and SB-2 after pushing the Geoprobe[7] system to a total depth of 18 feet bgs. Soil bores SB-3 and SB-4 were directly pushed to a total depth of 18 feet bgs in order to obtain grab groundwater samples. Groundwater samples from bores SB-1 and SB-2 contained elevated concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline, and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Significantly lower concentrations of TPH as gasoline and total xylenes were encountered in the groundwater sample from soil bore SB-3, while all analytes were nondetectable in groundwater collected from soil bore SB-4. No soil samples were submitted for laboratory analysis from the four Geoprobe[7] bores.

After the review of the January 2001 groundwater monitoring report, the Alameda County Department of Environmental Health (ACDEH) approved the application of a 7% solution of hydrogen peroxide to the wells in an attempt to remediate dissolved constituents. On March 7, 2001, the solution was applied by AllCal and on April 25, 2001, a groundwater monitoring event was conducted to determine if a reduction in dissolved constituents had occurred. Based on the analytical data, a reduction was seen in wells MW-1 and MW-2, with some reductions also seen in well MW-3. This sampling event and subsequent interpretation was complicated by the presumed mis-marking of samples from wells MW-1 and MW-3. No further work at the site is known to have occurred between April 2001 and the March 2003 groundwater monitoring event.

On January 16, 2003, a new case manager, Mr. Amir Gholami, was appointed by the ACDEH. On September 17, 2003, a workplan for a Geoprobe[7] investigation of the site was submitted to the ACDEH. The intent was to attempt to determine the lateral and vertical extent of impacted soil and groundwater in order to better target the residual contamination in future remedial actions to be determined. Due to the lack of a response from the ACDEH, on February 17, 2004, Blymyer Engineers issued a *Letter of Intent to Proceed: Geoprobe[7] Investigation*.

The *Fourth Quarter 2003 Groundwater Monitoring Event* report, dated January 6, 2004, recommended that analysis for fuel oxygenates by EPA Method 8260B be eliminated from the analytical program. It was reasoned that the data generated to date had been very consistent, and further quantification would not significantly add to the level of understanding at the site. Additionally, the concentration of methyl *tert*-butyl ether (MTBE) could be monitored using EPA Method 8021B for no additional cost and the resultant concentration of MTBE can be used as a proxy for the approximate concentration of the remaining fuel oxygenates. Based on the lack of response from the ACDEH, it has been presumed that this was found reasonable and acceptable.

On March 15, 2004, Blymyer Engineers issued a letter entitled *Recommendation for Reduction of Groundwater Monitoring* that provided additional rationale for decreasing the groundwater sampling interval from quarterly to semi-annually. It argued that generation of quarterly analytical data would not significantly improve the level of understanding of impacts to the subsurface at the site, and recommended a reduction of the sampling interval to semi-annual. Based on the lack of response from the ACDEH, it has been presumed that this was found reasonable and acceptable.

On December 14, 2004, Blymyer Engineers issued to the ACDEH the *Report on a Geoprobe® Subsurface Investigation* which documented the installation of nine Geoprobe® soil bores at the site. The work further refined the known lateral and vertical extent of soil impacted by the petroleum release at the site. Grab groundwater samples in the upgradient and the eastern cross-gradient directions defined all petroleum compounds in groundwater to concentrations below the San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs). Grab groundwater samples in the downgradient and western cross-gradient directions were unable to define most petroleum compounds to concentrations below the RWQCB ESLs. The installation of additional permanent groundwater monitoring wells was recommended as appropriate at the site in order to allow for groundwater sampling from repeatedly accessed locations. It was reasoned that data generated from these locations would assist in determining appropriate remedial actions, and in monitoring remedial progress.

On July 6, 2005, the new case manager for the ACDEH, Mr. Barney Chan, issued the letter *Fuel Leak Case RO0000314* commenting on the December 14, 2004 report. The ACDEH determined that the collection of additional data is needed to progress the site towards closure. The letter requested a workplan to clear well MW-1 of several feet of sediment due to the potential for groundwater gradient biasing, requested further definition of the groundwater and soil plumes through the installation of additional wells and soil bores, requested a conduit study, and requested a Feasibility Study and Remedial Action Plan.

Blymyer Engineers submitted the *Workplan for Remedial Investigation / Feasibility Study*, on October 10, 2005. The Workplan detailed the procedures for the collection of Remediation by Natural Attenuation (RNA) analytical parameters (Tables V and VI) from existing wells as an initial phase of a Remedial Investigation / Feasibility Study (RI/FS), as well as the installation of four additional groundwater monitoring wells, and the destruction and reinstallation of groundwater monitoring well MW-1. On November 18, 2005, the ACDEH issued the letter *Fuel Leak Case RO0000314* commenting on the Workplan. The ACDEH requested the following:

- The addition of two wells at specified locations for further plume characterization,
- Use of a maximum of 10 feet of screen in the wells,
- Confirmation of the presence of MTBE by EPA Method 8260 if MTBE concentrations rose significantly, and
- Collection of the RNA parameters.

The ACDEH requested confirmation that the additional wells would be added by December 19, 2005, and that a RI/FS report would be submitted by February 19, 2006. Confirmation that the additional wells would be included was provided by telephone in December 2005; however, permitting issues delayed installation of the wells. The *Remedial Investigation / Feasibility Study Report* (RI/FS Report), dated September 8, 2006, was submitted to ACDEH on October 6, 2006.

The RI/FS Report documented the destruction of well MW-1, the installation of replacement well MW-1R, and the installation of wells MW-4 through MW-9. The soil and groundwater data collected in the effort achieved vertical delineation, as well as upgradient, lateral, and

downgradient delineation of all hydrocarbon compounds in soil and groundwater, with the exception of MTBE in groundwater. MTBE was delineated to below the Maximum Contaminant Level (MCL) and the *non-drinking water* ESL goal for the compound, but was slightly above the *drinking water* goal. Because the site is in an area that is not known to extensively use groundwater as a drinking water source, the numeric remedial goals are predominantly compared to the *non-drinking water* ESL goals; however, the ACDEH may ultimately apply *drinking water* ESL goals to remedial efforts at the site.

Higher concentrations of TPH as gasoline appear to be relatively isolated near the former source (MW-1, MW-1R, GP-5, and GP-2; the latter based on PID results only). The presence of slightly higher concentrations at GP-6 or GP-8 likely indicates lateral migration through the clay units in the vadose zone in very thin, interbedded coarser grained deposits with more permeability and porosity. A conduit survey indicated that, due to depth of burial, the utility corridors do not appear to be acting as significant conduits in the site vicinity for groundwater movement and therefore contaminant migration. A notable decrease in analyte concentrations in soil is apparent with increasing depth. Generic *non-drinking water* ESL goals for soil were not exceeded for any compound beneath approximately 12 feet bgs.

The distribution of nitrate, methane and dissolved oxygen indicate that the TPH as gasoline groundwater plume is undergoing anaerobic degradation. Specifically, the elevated concentrations of nitrate observed in perimeter wells MW-4 through MW-9, in comparison to the concentration of nitrate in plume core wells MW-1/1R, MW-2 and MW-3, where the concentration is reduced to essentially one-half of its perimeter levels, and the correspondingly high methane concentrations in the plume core area suggest that active anaerobic degradation is occurring. The source of nitrate is likely leaking sewer lines located along 89th Avenue.

For the site as a whole, the limited area of hydrocarbon degradation suggested by the RNA data, collectively with the laboratory notes indicating relatively unmodified gasoline range hydrocarbons are present in soil and groundwater samples, and the continued recontamination of groundwater documented by graphs depicted on Figures 10 through 13 of the RI/FS Report, appear to document a release that is undergoing anaerobic microbial degradation, that RNA is oxygen limited, has reached stability with the surrounding area, and will not progress significantly further without remedial efforts.

Six potential remedial options were evaluated for appropriateness at the site; monitored natural attenuation (MNA), groundwater pump and treat, enhanced insitu bioremediation (EIB), air sparging-vapor recovery (ASVR), dual phase extraction, and insitu chemical oxidation (ISCO). A combination of EIB and ISCO was selected as the most appropriate remedial technology for the site due to multiple factors. ISCO was selected for the vicinity of the former tank excavation and would consist of the injection of the commercial oxidation product RegenOx. Chemical oxidation of residual source soil and groundwater containing higher hydrocarbon concentrations is anticipated to eliminate potential residual free-phase hydrocarbons in the tank vicinity. EIB using Oxygen Releasing Compound Advanced (ORC Advanced) was selected for the larger area around and downgradient of the former tank location. Petroleum hydrocarbon compounds are recognized to degrade favorably and rapidly under aerobic (oxygen rich) conditions. To stimulate aerobic bacterial activity and increase the rate of biodegradation within the hydrocarbon plume, non-toxic inorganic chemicals (bionutrients) can be added to the groundwater that release oxygen, nitrogen and phosphate, such as ORC Advanced and bionutrient compounds (typically, nitrogen/phosphorus/potassium (NPK) fertilizer). At sites where stagnant hydrocarbon plumes are present, one or more of the essential bio-nutrient elements is commonly depleted, and natural attenuation of the hydrocarbon plume due to microbial activity ceases. By determining a site's "bio-needs," the missing elements can be injected into the hydrocarbon plume to boost bioactivity.

At the site, dissolved oxygen in groundwater is depleted to less than 1 milligram per liter (mg/L), and based on available information the lack of dissolved oxygen is the limiting factor retarding current biological activity. For EIB, the supply of bio-nutrients is assessed prior to and during remediation. During the course of remediation, if nutrient concentrations are found to be inadequate, then further nutrient addition is performed.

On December 18, 2006, the ACDEH issued a letter indicating that it was in agreement with the proposed plan of action, namely EIB with localized ISCO, using a combination of ORC Advanced and RegenOx, respectively. The December 18, 2006 letter requested an interim corrective action plan (ICAP) by January 19, 2007, and quarterly monitoring reports by January 30, and April 30, 2007. A request for deadline extension was later submitted to, and approved by, the ACDEH. The *Interim Corrective Action Plan* was submitted on February 7, 2007, and

was approved by the ACDEH on May 4, 2007. A pre-remedial groundwater sampling event to determine pre-remedial bacterial populations in groundwater, in the event of a bacterial die-off related to remedial injections, occurred on April 27, 2007. Remedial activities began on May 22, 2007, with a volume test injection. The first injection of RegenOx occurred between June 4 and June 7, 2007, and the second event occurred on June 26 and 27, 2007. On August 9, 2007, an abbreviated interim round of sampling occurred on selected wells (MW-1R, MW-2, MW-3, and MW-5) to help determine the progress of the remedial actions at the site. Elevated concentrations of hydrocarbons were detected in plume core wells MW-1R and MW-3. Because it had not been possible to inject the entire volume of RegenOx specified by Regenesis due to resurfacing of the injected material, an additional round of RegenOx injection occurred on September 12 and 13, 2007. Activities associated with these events are reported in the following sections of this report.

On August 28, 2007, twenty-three 55-gallon drums of soil and fifteen 55-gallon drums of purge water, development water, and groundwater were removed from the subject site. The drums were transported by NRC Environmental to Crosby and Overton in Long Beach, California. The drums of soil represented soil cuttings from the installation of all soil bores and wells since 1993. The drums of water had accumulated since the installation of wells MW-1R, and MW-4 through MW-9, and as a result of fluid return flow to the surface during remedial injection activities.

On March 28, 2008, Blymyer Engineers was notified that a new case worker, Ms. Barbara Jakub, had been assigned to the project by the ACDEH. In order to monitor the trend of hydrocarbon concentrations in groundwater, quarterly reporting resumed shortly before implementation of interim corrective actions. Quarterly events and reports have been conducted and generated consistently since the First Quarter 2007; the most recent being Fourth Quarter 2008. Case closure was recommended in the quarterly report for Third Quarter 2008 event, should groundwater concentrations continued to decrease.

1.2 Site Conditions

The subject site consists of two buildings (960 and 966 89th Avenue) on the southeast side of 89th Avenue in the city of Oakland, Alameda County, California (Figures 1 and 2). The site is situated in an industrial district of the city, and is bounded on the north by 89th Avenue, on the

west and east by small warehouses and industrial buildings, and on the south by an older residential community. Across 89th Avenue are additional small warehouses and industrial facilities. The site is currently leased by two occupants, Best Equipment (966 89th Avenue), a custom builder of towing equipment, and an importer of Chinese food goods (960 89th Avenue), as a warehouse. The current study area is located at the front of both addresses, in and just outside the area normally reserved as sidewalk. The investigation area is paved with asphalt, except the interior of the buildings, which consist of slab-on-grade concrete.

Based on existing evidence and the comments of Ted Walbey of Fiesta Beverages, the former UST system was a suction system with a single dispenser located approximately 5 feet inside the roll-up door closest to the former northern tank system. A vent line remains fastened to the northern wall of the building at 966 89th Avenue.

ATTACHMENT C

HISTORICAL SOIL AND GROUNDWATER DATA (BLYMYER, MARCH 17, 2009)

Table I, Summary of Soil Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California								
Well ID	Depth (ft)	Sample Date	Modified EPA Method 8015	EPA Method 8020 or 8021B (mg/Kg)				
			TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Commercial / Industrial Drinking Water ESL, Shallow or Deep Soil [1]			83	0.044	2.9	3.3	2.3	0.023
Commercial / Industrial Non-Drinking Water ESL, Shallow Soil [2]			180	0.27	9.3	4.7	11	8.4
Commercial / Industrial Non-Drinking Water ESL, Deep Soil [3]			180	2.0	9.3	4.7	11	8.4
1	9*	8/24/1990	**350**	**3.5**	**15**	**4.5**	**28**	NA
2	9*	8/24/1990	**4900**	**59**	**260**	**100**	**500**	NA
3	9*	8/24/1990	**780**	**13**	**41**	**13**	**67**	NA
4	9*	8/24/1990	**810**	**16**	**52**	**17**	**87**	NA
Composite 1	N/A	8/24/1990	**1000**	**0.16**	**1.8**	**0.57**	**22**	NA
Composite 2	N/A	8/24/1990	**10**	**0.0071**	**0.032**	**0.037**	**1.1**	NA
Composite 3	N/A	8/24/1990	**440**	**0.1**	**0.59**	**1.7**	**13**	NA
S1	14**	1/15/1991	<0.5	<0.005	**0.0068**	<0.005	**0.0077**	NA
S2	14**	1/15/1991	**2.2**	**0.081**	**0.013**	<0.005	**0.0092**	NA
MW-1	6	6/24/1993	**43**	**0.9**	**0.71**	**0.7**	**3.8**	NA
MW-1	11	6/24/1993	**60**	**2.8**	**2.3**	**3.5**	**10**	NA
MW-2	6	6/24/1993	**260**	**7.9**	**30**	**6.3**	**49**	NA
MW-2	11	6/24/1993	**11**	**0.097**	**0.34**	**0.44**	**1.6**	NA
MW-3	6	6/24/1993	**5**	**0.15**	**0.16**	**0.18**	**0.48**	NA
MW-3	11	6/24/1993	**22**	**0.29**	**2.2**	**0.29**	**5.6**	NA
GP1-6	6	9/27/2004	**2.1** [c]	**0.027**	**0.009**	<0.005	<0.005	<5.0
GP1-15.5	15.5	9/27/2004	**23** [d]	**0.0056**	<0.005	<0.005	**0.07**	<5.0
GP2-11.5	11.5	9/27/2004	**140** [c]	**1.4**	**2**	**2.3**	**6.4**	<0.50
GP3-14.5	14.5	9/27/2004	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0
GP4-11.5	11.5	9/27/2004	**310** [c]	**0.28**	**0.4**	**1.4**	**2.1**	<1.0
GP5-11	11	9/27/2004	**540** [c]	**1.1**	**0.22**	**8.3**	**12**	<0.50
GP5-12.5	12.5	9/27/2004	**23** [c]	**0.13**	**0.03**	**0.24**	**0.62**	<5.0

Table I, Summary of Soil Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California								
Well ID	Depth (ft)	Sample Date	Modified EPA Method 8015	EPA Method 8020 or 8021B (mg/Kg)				
			TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
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Commercial / Industrial Non-Drinking Water ESL, Shallow Soil [2]			180	0.27	9.3	4.7	11	8.4
Commercial / Industrial Non-Drinking Water ESL, Deep Soil [3]			180	2.0	9.3	4.7	11	8.4
GP6-6	6	9/27/2004	**200** [c]	**0.63**	**0.83**	**3.3**	**12**	<1.0
GP6-11.5	11.5	9/27/2004	**390** [c]	**0.63**	**0.56**	**4.5**	**18**	<1.0
GP7-2.5	2.5	9/27/2004	**2.7** [c]	**0.028**	<0.005	<0.005	**0.018**	<5.0
GP7-11.5	11.5	9/27/2004	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0
GP8-6.5	6.5	9/27/2004	**170** [c]	**1.8**	**2.5**	**3.2**	**10**	<0.50
GP8-11.5	11.5	9/27/2004	**32** [c]	**0.27**	**1.1**	**0.44**	**2.2**	<0.50
GP9-11.5	11.5	9/27/2004	**120** [c]	**0.2**	**0.32**	**1.3**	**5.3**	<0.50
GP9-15.5	15.5	9/27/2004	**40** [d]	**0.011**	**0.037**	**0.066**	**0.3**	<5.0
MW5-10.5	10.5	5/8/2006	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MW6-5.5	5.5	5/8/2006	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MW6-13.5	13.5	5/8/2006	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MW1R-7	7	5/9/2006	**450** [c]	**4.8**	**18**	**8.2**	**45**	<10
MW1R-13.5	13.5	5/9/2006	**60** [c, d]	**0.34**	**1.8**	**0.73**	**3.3**	<0.35
MW4-14.5	14.5	5/9/2006	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MW7-14	14	6/2/2006	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MW8-15	15	6/2/2006	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
MW-9-16	16	6/2/2006	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
GP10-7.5	7.5	6/7/2007	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
GP10-11.5	11.5	6/7/2007	**450** [c, d]	**0.82**	**1.3**	**5.1**	**2.2**	<1.0
GP10-15.5	15.5	6/7/2007	**1.7** [d]	<0.005	<0.005	<0.005	<0.005	<0.05
GP11-11.5	11.5	6/7/2007	**37** [c]	**0.24**	**0.079**	**0.81**	**0.48**	<0.10
GP11-15.5 (Up arrow)	15.5	6/7/2007	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
GP11-15.5 (No arrow)	15.75	6/7/2007	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05

Table I, Summary of Soil Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California								
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Commercial / Industrial Non-Drinking Water ESL, Deep Soil [3]			180	2.0	9.3	4.7	11	8.4

Notes:

ft = feet
mg/Kg = Milligrams per kilogram
TPH = Total Petroleum Hydrocarbons
MTBE = Methyl *tert* -Butyl Ether
RWQCB = California Regional Water Quality Control Board, San Francisco Bay Region
ESL = Environmental Screening Level

[1] = From Table A or C; RWQCB Environmental Screening Levels (ESLs); **Shallow or Deep Soils (<3m)**; Commercial/Industrial Land Use; Groundwater IS a Current or Potential Source of Drinking Water; May 2008 revision.

[2] = From Table B; RWQCB Environmental Screening Levels (ESLs); **Shallow Soils (<3m)**; Commercial/Industrial Land Use; Groundwater IS NOT a Current or Potential Source of Drinking Water; May 2008 revision.

[3] = From Table D; RWQCB Environmental Screening Levels (ESLs); **Deep Soils (>3m)**; Commercial/Industrial Land Use; Groundwater IS NOT a Current or Potential Source of Drinking Water; May 2008 revision.

NA = Not analyzed
RBSL = Risk Based Screening Level
<*x* = Analyte not detected at reporting limit *x*
* = Assumed to be bottom samples.
** = Bottom samples (per Tank Protect Engineering Preliminary Site Assessment Report, dated December 15, 1993).
[a] = Laboratory note indicates the result is a hydrocarbon within the diesel range but that it appears to be the less volatile constituents of gasoline.
[b] = Also detected "High Point Hydrocarbons" calculated as oil at 300 mg/kg, and Oil and Grease at 80 mg/kg.
[c] = Laboratory note indicates unmodified or weakly modified gasoline is significant.
[d] = Laboratory note indicates no recognizable pattern..

Bold results indicate detectable analyte concentrations.
Note: Shaded cell indicates that detected concentration exceeds *Non-Drinking Water* ESL.

Table II, Summary of Groundwater Elevation Measurements BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-1	8/6/1993	18.72	8.96	9.76
	1/12/1996		8.55	10.17
	4/16/1996		7.65	11.07
	7/15/1996		8.76	9.96
	10/16/1996		9.04	9.68
	12/15/1998		8.38	10.34
	1/18/2001		8.49	10.23
	4/25/2001		8.24	10.48
	3/17/03*		8.08	10.64
	6/23/2003		8.63	10.09
	9/18/2003		8.90	9.82
	12/15/2003		8.15	10.57
	6/15/2004		8.67	10.05
	12/15/2004		7.99	10.73
	6/29/2005		7.88	10.84
	5/8/2006	21.70	Destroyed	Destroyed
	2/19/2007		Destroyed	Destroyed
	6/21/2007		Destroyed	Destroyed
	11/8/2007		Destroyed	Destroyed
	2/28/2008		Destroyed	Destroyed
	5/29/2008		Destroyed	Destroyed
	8/27/2008		Destroyed	Destroyed
	11/25/2008		Destroyed	Destroyed
MW-1R	6/12/2006	21.73	8.49	13.24
	2/19/2007		7.94	13.79
	6/21/2007		8.71	13.02
	8/9/2007		8.83	12.90
	11/8/2007		9.80	11.93
	2/28/2008		8.74	12.99
	5/29/2008		8.76	12.97
	8/27/2008		9.02	12.71
	11/25/2008		8.73	13.00

Table II, Summary of Groundwater Elevation Measurements BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-2	8/6/1993	18.44	8.68	9.76
	1/12/1996		8.24	10.20
	4/16/1996		7.41	11.03
	7/15/1996		8.45	9.99
	10/16/1996		8.73	9.71
	12/15/1998		8.05	10.39
	1/18/2001		8.24	10.20
	4/25/2001		7.88	10.56
	3/17/03*		7.08	11.36
	6/23/2003		8.90	9.54
	9/18/2003		8.61	9.83
	12/15/2003		7.97	10.47
	6/15/2004		8.42	10.02
	12/15/2004		8.00	10.44
	6/29/2005		9.51	8.93
	6/12/2006	21.45	8.25	13.20
	2/19/2007		8.12	13.33
	6/21/2007		9.00	12.45
	8/9/2007		8.62	12.83
	11/8/2007		8.60	12.85
	2/28/2008		7.20	14.25
	5/29/2008		8.55	12.90
	8/27/2008		8.76	12.69
	11/25/2008		8.63	12.82

Table II, Summary of Groundwater Elevation Measurements BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-3	8/6/1993	19.01	9.07	9.94
	1/12/1996		8.65	10.36
	4/16/1996		7.82	11.19
	7/15/1996		8.88	10.13
	10/16/1996		9.16	9.85
	12/15/1998		8.45	10.56
	1/18/2001		8.57	10.44
	4/25/2001		8.29	10.72
	3/17/03*		8.50	10.51
	6/23/2003		9.05	9.96
	9/18/2003		9.11	9.90
	12/15/2003		8.03	10.98
	6/15/2004		8.85	10.16
	12/15/2004		8.84	10.17
	6/29/2005		9.00	10.01
	6/12/2006	22.02	8.62	13.40
	2/19/2007		8.12	13.90
	6/21/2007		9.86	12.16
	8/9/2007		9.60	12.42
	11/8/2007		8.83	13.19
	2/28/2008		7.99	14.03
	5/29/2008		8.57	13.45
	8/27/2008		9.60	12.42
	11/25/2008		9.02	13.00
MW-4	6/12/2006	21.34	8.37	12.97
	2/19/2007		7.77	13.57
	6/21/2007		8.48	12.86
	11/8/2007		8.61	12.73
	2/28/2008		7.73	13.61
	5/29/2008		8.39	12.95
	8/27/2008		8.76	12.58
	11/25/2008		8.54	12.80

Table II, Summary of Groundwater Elevation Measurements BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-5	6/12/2006	22.53	8.75	13.78
	2/19/2007		8.61	13.92
	6/21/2007		9.05	13.48
	8/9/2007		9.17	13.36
	11/8/2007		9.11	13.42
	2/28/2008		8.18	14.35
	5/29/2008		9.06	13.47
	8/27/2008		9.31	13.22
	11/25/2008		9.03	13.50
MW-6	6/12/2006	21.97	8.59	13.38
	2/19/2007		7.93	14.04
	6/21/2007		9.83	12.14
	11/8/2007		9.58	12.39
	2/28/2008		9.90	12.07
	5/29/2008		8.50	13.47
	8/27/2008		9.52	12.45
	11/25/2008		8.80	13.17
MW-7	6/12/2006	21.21	8.31	12.90
	2/19/2007		7.85	13.36
	6/21/2007		8.51	12.70
	11/8/2007		8.68	12.53
	2/28/2008		7.81	13.40
	5/29/2008		8.60	12.61
	8/27/2008		8.72	12.49
	11/25/2008		8.70	12.51
MW-8	6/12/2006	20.97	8.37	12.60
	2/19/2007		7.99	12.98
	6/21/2007		8.53	12.44
	11/8/2007		8.61	12.36
	2/28/2008		7.79	13.18
	5/29/2008		8.61	12.36
	8/27/2008		8.76	12.21
	11/25/2008		8.56	12.41

Table II, Summary of Groundwater Elevation Measurements BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-9	6/12/2006	20.98	8.50	12.48
	2/19/2007		8.08	12.90
	6/21/2007		8.55	12.43
	11/8/2007		8.67	12.31
	2/28/2008		8.02	12.96
	5/29/2008		8.51	12.47
	8/27/2008		8.81	12.17
	11/25/2008		8.64	12.34

Notes:

TOC = Top of Casing

* = Initial data set collected under direction of Blymyer Engineers, Inc.

NM = Not measured

[1] = Resurveyed on February 7, or June 22, 2006 by CSS Environmental Services, Ir

Elevations in feet above mean sea level

Table III, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California							
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)	EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MCL		N/A	1	150	700	1,750	13
Drinking Water Source [1]		100	1	40	30	20	5
Non-Drinking Water Source [2]		210	46	130	43	100	1,800
MW-1	8/6/1993	**17,000**	**7.1**	**8.4**	**9.2**	**53**	NA
	1/12/1996	**12,000**	**1,900**	**840**	**370**	**1,100**	NA
	4/16/1996	**3,500**	**700**	**55**	**100**	**180**	NA
	7/15/1996	**11,000**	**2,300**	**450**	**350**	**910**	NA
	10/16/1996	**21,000**	**4,200**	**2,200**	**650**	**2,600**	NA
	12/15/1998	**10,000**	**1,800**	**520**	**270**	**1,100**	<350
	1/18/2001	**11,000** [a]	**2,000**	**320**	**320**	**1,100**	<120
	4/25/2001	**2,100** [a, c]	**270**	**46**	**59**	**130**	<5.0
	3/17/2003*	**2,200** [a]	**260**	**19**	**36**	**54**	NA [d]
	6/23/2003	**6,100** [a]	**930**	**53**	**99**	**200**	NA
	9/18/2003	**3,800** [a]	**660**	**13**	**24**	**34**	NA
	12/15/2003	**260** [a]	**19**	**1.1**	<0.5	**1.5**	NA
	6/15/2004	**5,200** [a]	**520**	**13**	**38**	**39**	<50
	12/15/2004	**2,400** [a]	**370**	**8.2**	**13**	**14**	<15
	6/29/2005	**5,500** [a]	**750**	**27**	**94**	**140**	<100
	5/8/2006	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	2/19/2007	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	6/21/2007	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	11/8/2007	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	2/28/2008	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	5/29/2008	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	8/27/2008	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	11/25/2008	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed

Table III, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California							
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)	EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MCL		N/A	1	150	700	1,750	13
Drinking Water Source [1]		100	1	40	30	20	5
Non-Drinking Water Source [2]		210	46	130	43	100	1,800
MW-1R	6/13/2006	**90** [a]	**24**	<0.5	<0.5	**1.9**	**7.0**
	2/19/2007	**200** [a]	**8**	**0.80**	**12**	**8.7**	<5.0
	6/21/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/9/2007	**870** [a]	**140**	**6.3**	**23**	**22**	<10
	11/8/2007	**3,800** [a]	**330**	**22**	**140**	**130**	<30
	2/28/2008	**150** [a]	**5.5**	<0.5	**3.9**	**2.2**	<5.0
	5/29/2008	**690** [a]	**44**	**2**	**35**	**7.8**	<5.0
	8/27/2008	**190** [a]	**14**	<0.5	**8.1**	**1.5**	<5.0
	11/25/2008	**130** [a]	**11**	<0.5	**10**	**1.5**	<5.0

Table III, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California							
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)	EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MCL		N/A	1	150	700	1,750	13
Drinking Water Source [1]		100	1	40	30	20	5
Non-Drinking Water Source [2]		210	46	130	43	100	1,800
MW-2	8/6/1993	**2,700**	**1.3**	**1.7**	**2.0**	**8.1**	NA
	1/12/1996	**2,700**	**600**	**310**	**94**	**220**	NA
	4/16/1996	**190**	**39**	**11**	**10**	**14**	NA
	7/15/1996	**700**	**160**	**33**	**34**	**48**	NA
	10/16/1996	**190**	**48**	**8.2**	**10**	**13**	NA
	12/15/1998	**200**	**62**	**17**	**4.9**	**14**	**4.4** [b]
	1/18/2001	**300** [a]	**74**	**26**	**7.3**	**21**	**7.3**
	4/25/2001	<50 [c]	**4.5**	**2.2**	**0.6**	**1.9**	<5.0
	3/17/2003*	**78** [a]	**26**	**3.3**	**1.5**	**3.5**	NA [d]
	6/23/2003	**160** [a]	**51**	**1.6**	**1.2**	**1.8**	NA
	9/18/2003	<50	**2.1**	**<0.5**	**<0.5**	**<0.5**	NA
	12/15/2003	<50	**12**	<0.5	**<0.5**	**<0.5**	NA
	6/15/2004	**95** [a]	**15**	**1.3**	**1.8**	**1.2**	<30
	12/15/2004	**<50**	**11**	**0.97**	**0.6**	**0.9**	**7.8**
	6/29/2005	**130**	**29**	**2.0**	**3.3**	**3.4**	**6.7**
	6/13/2006	**150** [a]	**59**	**3.0**	**3.4**	**2.7**	**11**
	2/19/2007	**51** [a]	**8**	**1.6**	**1.0**	**2.8**	**7.1**
	6/21/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/9/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/8/2007	**160** [a]	**23**	**5.0**	**5.3**	**14**	<10
	2/28/2008	<50	**1.3**	<0.5	<0.5	<0.5	<5.0
	5/29/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/27/2008	<50	**1.1**	<0.5	<0.5	<0.5	<5.0
	11/25/2008	<50	**1.2**	<0.5	<0.5	<0.5	<5.0

Table III, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California							
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)	EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MCL		N/A	1	150	700	1,750	13
Drinking Water Source [1]		100	1	40	30	20	5
Non-Drinking Water Source [2]		210	46	130	43	100	1,800
MW-3	8/6/1993	**5,200**	**2.1**	**2.9**	**3.6**	**17**	NA
	1/12/1996	**4,500**	**280**	**180**	**120**	**470**	NA
	4/16/1996	**5,400**	**370**	**340**	**160**	**580**	NA
	7/15/1996	**1,800**	**200**	**220**	**66**	**250**	NA
	10/16/1996	**2,000**	**340**	**140**	**100**	**300**	NA
	12/15/1998	**1,400**	**200**	**39**	**72**	**150**	<22
	1/18/2001	**1,800** [a]	**240**	**41**	**86**	**120**	<10
	4/25/2001	**8,300** [a, c]	**300**	**330**	**200**	**1,100**	<20
	3/17/2003*	**2,100** [a]	**240**	**78**	**10**	**280**	NA [d]
	6/23/2003	<50	**2.5**	**0.6**	**0.69**	**1.4**	NA
	9/18/2003	<50	<0.5	<0.5	<0.5	<0.5	NA
	12/15/2003	**2,400**	**300**	**120**	**140**	**260**	NA
	6/15/2004	<50	**1.1**	<0.5	<0.5	<0.5	**6.2**
	12/15/2004	**1,600** [a]	**140**	**83**	**83**	**230**	<15
	6/29/2005	**230** [a]	**27**	**6.1**	**7.2**	**15**	<15
	6/13/2006	**68** [a]	**3.1**	**1.8**	<0.5	<0.5	<5.0
	2/19/2007	**280** [a]	**49**	**11**	**18**	**23**	<5.0
	6/21/2007	**1,500** [a]	**120**	**64**	**62**	**250**	<50
	8/9/2007	**2,400** [a]	**140**	**19**	**100**	**110**	<65
	11/8/2007	**440** [a]	**7.2**	**3.3**	**8.6**	**26**	<15
	2/28/2008	**320** [a]	**10**	**5.8**	**9.6**	**32**	<12
	5/29/2008	<50	**1.0**	<0.5	<0.5	<0.5	<5.0
	8/27/2008	<50	**1.3**	<0.5	<0.5	<0.5	<5.0
	11/25/2008	**61** [a]	**4.8**	**0.56**	**1.1**	**1.5**	<5.0

Table III, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California							
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)	EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MCL		N/A	1	150	700	1,750	13
Drinking Water Source [1]		100	1	40	30	20	5
Non-Drinking Water Source [2]		210	46	130	43	100	1,800
MW-4	6/12/2006	<50	<0.5	<0.5	<0.5	<0.5	**5.7**
	2/19/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/21/2007	<50	<0.5	<0.5	<0.5	<0.5	**5.9**
	11/8/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/28/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/29/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/27/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-5	6/12/2006	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/19/2007	<50	<0.5	<0.5	<0.5	<0.5	**5.6**
	6/21/2007	<50	<0.5	<0.5	<0.5	<0.5	**5.4**
	11/8/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/28/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/29/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/27/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-6	6/13/2006	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/19/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/21/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/8/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/28/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/29/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/27/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0

Table III, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California							
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)	EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MCL		N/A	1	150	700	1,750	13
Drinking Water Source [1]		100	1	40	30	20	5
Non-Drinking Water Source [2]		210	46	130	43	100	1,800
MW-7	6/12/2006	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/19/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/21/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/8/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/28/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/29/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/27/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-8	6/12/2006	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/19/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/21/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/8/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/28/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/29/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/27/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-9	6/12/2006	<50	<0.5	<0.5	<0.5	<0.5	**5.6**
	2/19/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/21/2007	<50	<0.5	<0.5	<0.5	<0.5	**5.6**
	11/8/2007	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/28/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/29/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/27/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/2008	<50	<0.5	<0.5	<0.5	<0.5	<5.0

Table III, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California							
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)	EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MCL		N/A	1	150	700	1,750	13
Drinking Water Source [1]		100	1	40	30	20	5
Non-Drinking Water Source [2]		210	46	130	43	100	1,800

Notes: ug/L = micrograms per liter

TPH = Total Petroleum Hydrocarbons

EPA = Environmental Protection Agency

MTBE = Methyl *tert* -Butyl Ether

[1] = From Table A; RWQCB Environmental Screening Levels (ESLs); Groundwater IS a Current or Potential Source of Drinking Water; May 2008 Update

[2] = From Table B; RWQCB Environmental Screening Levels (ESLs); Groundwater IS NOT a Current or Potential Source of Drinking Water; May 2008 Update

RWQCB = California Regional Water Quality Control Board, San Francisco Bay Region

ESL = Environmental Screening Level

N/A = Not applicable

NA = Not analyzed

RBSL = Risk Based Screening Level

<*x* = Analyte not detected at reporting limit *x*

* = Initial data set collected under direction of Blymyer Engineers, Inc.

[a] = Laboratory note indicates the unmodified or weakly modified gasoline is significant.

[b] = Confirmed with EPA Method 8260.

[c] = Groundwater samples for MW-1 and MW-3 suspected to have been switched (mismarked) in field. First collection of groundwater samples after application of Hydrogen Peroxide on March 7, 2001.

[d] = Analysis conducted by EPA Method 8260. See Table III.

Bold results indicate detectable analyte concentrations.

Note: Shaded cell indicates that detected concentration exceeds *Non-Drinking Water* ESL

Table IV, Summary of Groundwater Sample Fuel Oxygenate Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California										
Well ID	Sample Date	EPA Method 8260B (ug/L)								
		TAME	TBA	EBD	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	MTBE
Drinking Water Source [1]		NV	12	0.05	0.5	NV	NV	NV	NV	5
Non-Drinking Water Source [2]		NV	18,000	150	200	NV	NV	NV	NV	1,800
MW-1	3/17/2003	**8.3**	<5.0	NA	NA	<0.50	NA	<0.50	NA	**10.0**
	6/23/2003	**6.4**	<25	NA	NA	<2.5	NA	<2.5	NA	**8.0**
	9/18/2003	**5.3**	<25	NA	NA	<2.5	NA	<2.5	NA	**8.5**
	12/15/03[3]	**9.0**	<5.0	NA	NA	<0.5	NA	<0.5	NA	**12.0**
MW-2	3/17/2003	**2.1**	**6.0**	NA	NA	<0.50	NA	<0.50	NA	**13.0**
	6/23/2003	**4.5**	<5.0	NA	NA	<0.50	NA	<0.50	NA	**11.0**
	9/18/2003	**0.7**	<25	NA	NA	<2.5	NA	<2.5	NA	**5.0**
	12/15/03[3]	**3.2**	**5.2**	NA	NA	<0.5	NA	<0.5	NA	**13.0**
	6/13/2006	**4.5**	**6.5**	<5.0	<5.0	<5.0	<50	<0.5	<500	**7.6**
MW-3	3/17/2003	**4.3**	**8.6**	NA	NA	<0.50	NA	<0.50	NA	**10.0**
	6/23/2003	**2.6**	<5.0	NA	NA	<0.50	NA	<0.50	NA	**5.6**
	9/18/2003	**3.6**	<25	NA	NA	<2.5	NA	<2.5	NA	**10.0**
	12/15/03[3]	**2.7**	<5.0	NA	NA	<0.5	NA	<0.5	NA	**13.0**

Table IV, Summary of Groundwater Sample Fuel Oxygenate Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California										
Well ID	Sample Date	EPA Method 8260B (ug/L)								
		TAME	TBA	EBD	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	MTBE
Drinking Water Source [1]		NV	12	0.05	0.5	NV	NV	NV	NV	5
Non-Drinking Water Source [2]		NV	18,000	150	200	NV	NV	NV	NV	1,800
MW-4	6/12/2006	NA	NA	NA	NA	NA	NA	NA	NA	**6.1**

Notes:

TAME = Methyl tert-Amyl Ether
TBA = tert-Butyl Alcohol
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
MTBE = Methly tert-butyl ether
(µg/L) = Micrograms per liter
NV = No value
NA = Not analyzed

[1] = From Table A; Environmental Screening Levels (ESLs); Groundwater IS a Current or Potential Source of Drinking Water

[2] = From Table B; RWQCB Environmental Screening Levels (ESLs); Groundwater IS NOT a Current or Potential Source of Drinking Water

[3] = In general after this date, fuel oxygenates were monitored using MTBE detected by EPA Method 8020B, as a proxy for the approximate concentration of the remaining fuel oxygenates.

Bold results indicate detectable analyte concentrations.
Note: Shaded cell indicates that detected concentration exceeds *Non-Drinking Water* ESL

Table V, Summary of Groundwater Intrinsic Bioremediation Field Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California						
Well ID	Sample Date	Field Meter Dissoved Oxygen (mg/L)	Field Meter Oxidation Reduction Potential (mV)	Field Test Kit Ferrous Iron (Fe 2+)	Field Meter Field Temperature (o F / o C)	Field Meter Field pH pH units
MW-1	3/17/2003	NA	NA	NA	60.4 / 60.0 *	7.1 / 7.3
	6/23/2003	0.4	NA	NA	61.0 / 61.0 *	6.9 / 6.9
	9/18/2003	0.4	NA	NA	65.1 / 62.9 *	7.1 / 6.9
	12/15/2003	1.1	NA	NA	13.1 / 13.4	6.8 / 6.7
	6/15/2004	0.1	NA	NA	64.5 / 63.4 *	6.9 / 7.0
	12/15/2004	NA	NA	NA	15.4 / 17.5	7.0 / 6.9
	6/29/2005	0.24 / 0.17	1.0	4.5	19.78 / 21.63	7.15 / 7.08
	5/8/2006	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	2/19/2007	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	6/21/2007	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	11/8/2007	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	2/28/2008	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	5/29/2008	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	8/27/2008	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
	11/25/2008	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
MW-1R	6/13/2006	0.87 / 0.37	172.9 / 172.9	0 / 0	17.31 / 17.36	6.90 / 6.92
	2/19/2007	0.48	8.0	NA	12.2 / 15.8	6.95 / 6.86
	6/21/2007	0.62	22.0	NA	19.6	7.1
	11/8/2007	0.3	-60	NA	64.4	6.9
	2/28/2008	0.28	156	0.0	63.2	6.98
	5/29/2008	0.72	97	0.6	17.3	7.12
	8/27/2008	0.18	65	0.0	66.2	6.8
	11/25/2008	0.17	-38	0.4	18.3	7.05

Table V, Summary of Groundwater Intrinsic Bioremediation Field Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California						
Well ID	Sample Date	Field Meter Dissoved Oxygen (mg/L)	Field Meter Oxidation Reduction Potential (mV)	Field Test Kit Ferrous Iron (Fe 2+)	Field Meter Field Temperature (o F / o C)	Field Meter Field pH pH units
MW-2	3/17/2003	NA	NA	NA	66.0 / 64.2 *	7.4 / 7.9
	6/23/2003	0.6	NA	NA	62.1 / 61.8 *	6.8 / 7.1
	9/18/2003	1.3	NA	NA	66.7 / 63.7 *	6.7 / 6.9
	12/15/2003	1.6	NA	NA	13.2 / 13.4	6.6 / 6.6
	6/15/2004	0.1	NA	NA	64.5 / 65.0 *	6.3 / 7.1
	12/15/2004	NA	NA	NA	16.9 / 17.0	7.1 / 7.1
	6/29/2005	0.19 / 0.24	0.7	0.7	18.58 / 21.18	7.12 / 7.13
	6/13/2006	0.80 / 0.42	168.0 / 168.0	0 / 0	17.49 / 17.70	6.97 / 6.98
	2/19/2007	0.2	80	NA	13.6 / 16.3	7.24 / 7.06
	6/21/2007	0.18	46	NA	18.3	7.1
	11/8/2007	0.4	209	NA	64.0	7.07
	2/28/2008	0.29	191	0.0	63.1	6.98
	5/29/2008	1.53	212	0.0	17.8	7.18
	8/27/2008	0.14	202	0.0	72.1	6.56
	11/25/2008	0.12	96	0.0	18.4	7.03
MW-3	3/17/2003	NA	NA	NA	63.3 / 60.9 *	7.4 / 7.6
	6/23/2003	0.7	NA	NA	66.4 / 66.9 *	7.3 / 7.2
	9/18/2003	0.4	NA	NA	63.7 / 62.6 *	7.1 / 7.1
	12/15/2003	1.6	NA	NA	14.7 / 15.1	6.5 / 6.4
	6/15/2004	0.0	NA	NA	63.1 / 62.3 *	7.5 / 7.1
	12/15/2004	NA	NA	NA	15.4 / 16.7	7.2 / 7.0
	6/29/2005	0.72 / 0.78	141.7 / -67.6	0.9	17.65 / 18.79	6.94 / 7.02
	6/13/2006	1.01 / 0.41	170.0 / 168.5	0 / 0	17.30 / 17.15	7.02 / 6.98
	2/19/2007	0.08	81	NA	13.7 / 15.6	7.10 / 6.95
	6/21/2007	0.10	39	NA	18.1	7.2
	11/8/2007	0.30	-30	NA	62.5	7.04
	2/28/2008	0.32	132	0.0	61.2	5.45
	5/29/2008	0.77	186	0.6	16.3	7.19
	8/27/2008	0.15	128	0.0	65.7	7.08
	11/25/2008	0.11	-40	0.0	17.8	7.05

Table V, Summary of Groundwater Intrinsic Bioremediation Field Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California						
Well ID	Sample Date	Field Meter Dissoved Oxygen (mg/L)	Field Meter Oxidation Reduction Potential (mV)	Field Test Kit Ferrous Iron (Fe 2+)	Field Meter Field Temperature (o F / o C)	Field Meter Field pH pH units
MW-4	6/12/2006	0.67 / 0.33	164.3 / 161.0	0.5 / 0	16.90 / 16.79	6.82 / 6.79
	2/19/2007	0.21	98	NA	13.7 / 15.0	7.14 / 7.03
	6/21/2007	0.31	118	NA	16.4	7.0
	11/8/2007	0.30	222	NA	62.7	6.96
	2/28/2008	0.28	173	0.0	61.6	7.01
	5/29/2008	1.07	228	0.0	16.2	6.81
	8/27/2008	0.20	217	0.0	72.7	6.83
	11/25/2008	0.11	153	0.1	17.6	6.95
MW-5	6/12/2006	0.61 / 0.31	175.2 / 169.0	0 / 0	18.40 / 18.01	7.01 / 6.94
	2/19/2007	1.98	-114	NA	12.7 / 14.1	6.93 / 6.73
	6/21/2007	1.23	99	NA	16.8	7.1
	11/8/2007	0.30	211	NA	63.9	6.85
	2/28/2008	0.26	213	0.0	62.6	7.14
	5/29/2008	0.80	249	0.0	16.5	7.18
	8/27/2008	0.11	265	0.0	64.7	6.46
	11/25/2008	0.07	175	0.0	17.8	6.99
MW-6	6/13/2006	3.10 / 0.81	181.2 / 174.8	0 / 0	17.25 / 17.32	6.94 / 6.83
	2/19/2007	0.21	-30	NA	14.6 / 15.6	6.58 / 6.74
	6/21/2007	0.26	102	NA	16.2	7.1
	11/8/2007	0.60	-8	NA	63.5	6.99
	2/28/2008	0.37	212	0.0	60.8	6.93
	5/29/2008	1.75	194	0.0	16.3	7.22
	8/27/2008	0.14	241	0.0	65.0	6.83
	11/25/2008	0.24	220	0.3	17.9	6.90

Table V, Summary of Groundwater Intrinsic Bioremediation Field Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California						
Well ID	Sample Date	Field Meter Dissoved Oxygen (mg/L)	Field Meter Oxidation Reduction Potential (mV)	Field Test Kit Ferrous Iron (Fe 2+)	Field Meter Field Temperature (o F / o C)	Field Meter Field pH pH units
MW-7	6/12/2006	0.59 / 0.27	172.5 / 171.8	0.5 / 0.2	18.14 / 18.00	6.90 / 6.87
	2/19/2007	0.10	110	NA	16.2 / 17.2	7.69 / 7.21
	6/21/2007	0.14	123	NA	17.3	7.0
	11/8/2007	0.30	227	NA	64.5	6.90
	2/28/2008	0.27	142	0.0	64.2	7.00
	5/29/2008	1.47	83	0.0	17.8	7.17
	8/27/2008	0.21	196	0.0	76.1	6.83
	11/25/2008	0.19	206	0.0	18.4	7.07
MW-8	6/12/2006	0.37 / 0.33	186.1 / 180.4	0 / 0	18.55 / 18.39	6.85 / 6.85
	2/19/2007	0.11	102	NA	15.2 / 16.6	7.23 / 7.07
	6/21/2007	0.12	111	NA	17.2	7.1
	11/8/2007	0.30	232	NA	64.3	7.01
	2/28/2008	0.26	206	0.0	63.1	7.08
	5/29/2008	1.23	72	0.0	17.5	7.22
	8/27/2008	0.26	190	0.0	74.8	6.29
	11/25/2008	0.13	212	0.0	19.0	7.03
MW-9	6/12/2006	2.01 / 1.87	206.0 / 191.0	0 / 0	16.88 / 16.91	6.63 / 6.66
	2/19/2007	0.08	101	NA	15.8 / 16.3	7.56 / 7.23
	6/21/2007	0.12	112	NA	16.5	7.1
	11/8/2007	0.40	230	NA	65.1	6.94
	2/28/2008	0.26	208	0.0	62.1	7.01
	5/29/2008	1.44	94	0.0	17.1	7.33
	8/27/2008	0.28	203	0.0	72.2	7.69
	11/25/2008	0.12	123	0.1	18.7	7.01

Notes: mV = Millivolts
mg/L = Milligrams per liter
^{o} F / ^{o} C = degrees Fahrenheit / degrees Centigrade
* = degrees Fahrenheit
2.6 / 2.2 = Initial reading (pre-purge) / Final reading (post-purge)
NA = Not analyzed

Table VI, Summary of Groundwater Intrinsic Bioremediation Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California					
Well ID	Sample Date	Method SM 5310B	Method E300.1		Method RSK 174
		CO_2	Nitrate (as N)	Sulfate	Methane
		mg/L			µg/L
MW-1	6/29/2005	490	<0.1	5	5,900
	5/8/2006	Destroyed	Destroyed	Destroyed	Destroyed
MW-1R	6/13/2006	290	4.3	46	24
MW-2	6/29/2005	250	4.1	42	68
	6/13/2006	290	3.2	44	45
MW-3	6/29/2005	230	3.5	33	370
	6/13/2006	220	3.5	33	55
MW-4	6/12/2006	260	8.6	44	1.1
MW-5	6/12/2006	240	6.8	45	1.5
MW-6	6/13/2006	290	7.2	50	<0.5
MW-7	6/12/2006	260	6	51	<0.5
MW-8	6/12/2006	330	7.3	46	<0.5
MW-9	6/12/2006	240	8.3	44	1.1

Notes: SM = Standard Method
mg/L = Milligrams per liter
µg/L = Micrograms per liter
CO_2 = Carbon Dioxide

Table VII, Summary of Groundwater Bacteria Enumeration Analytical Results BEI Job No. 203004, Former Fiesta Beverage 966 89th Avenue, Oakland, California					
Well ID	Sample Date	Aerobic Bacteria			
		Method 9215A (HPC) / SM 9215 B Modified			
		Hydrocarbon Degraders	Total Heterotrophs	Ratio	Target Hydrocarbons Tested
		cfu/ml		Percent	
MW-1R	4/27/2007	1,000	1,000	100	Gasoline/Diesel
	8/9/2007	2,000	10,000	20	Gasoline/Diesel
MW-2	4/27/2007	1,000	3,000	33	Gasoline/Diesel
MW-5	8/9/2007	300	3,000	10	Gasoline/Diesel
MW-6	4/27/2007	600	1,000	60	Gasoline/Diesel
MW-9	4/27/2007	200	300	67	Gasoline/Diesel

Notes: SM = Standard Method
cfu/ml = Colony forming units per milliliter

Figure C-1

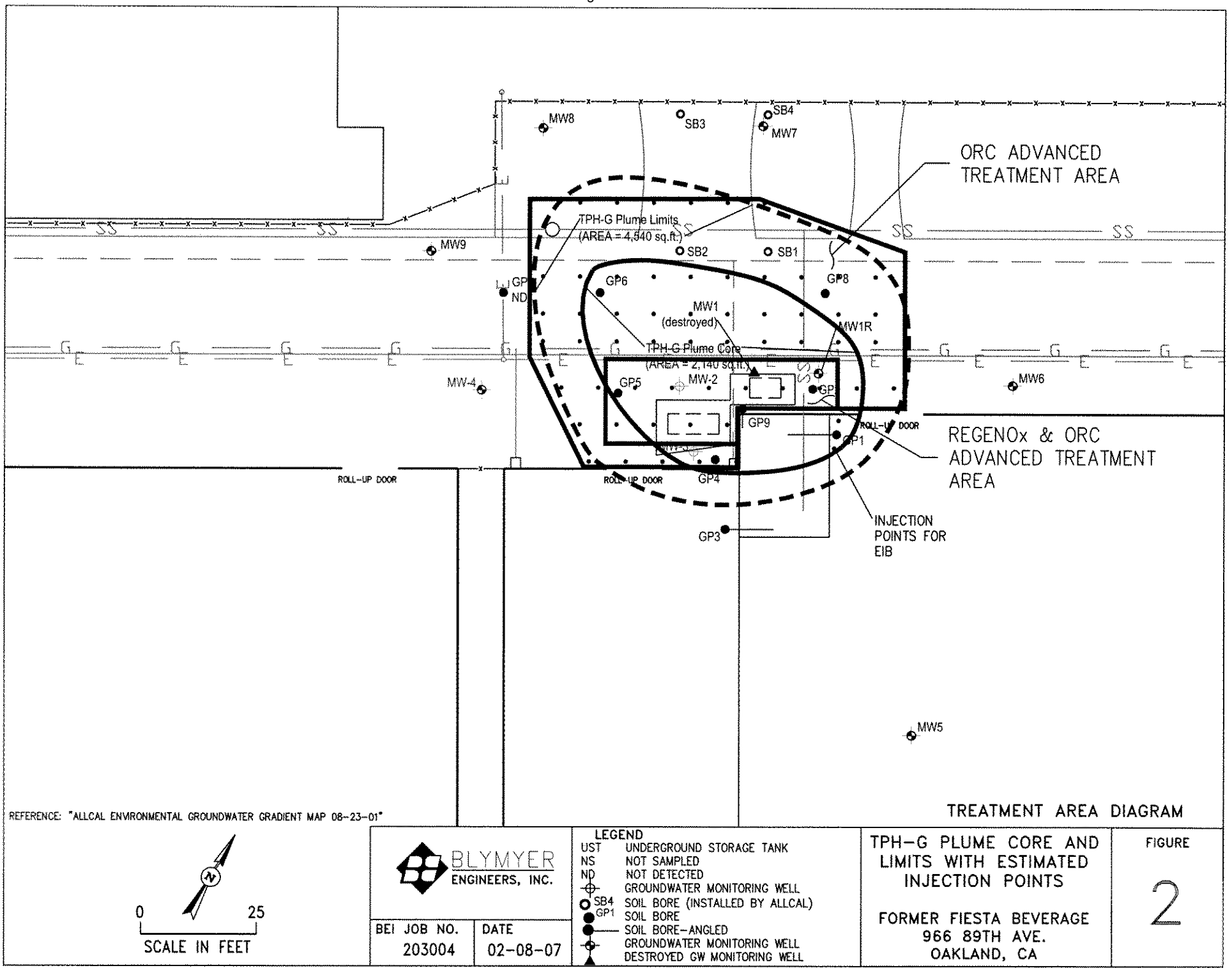
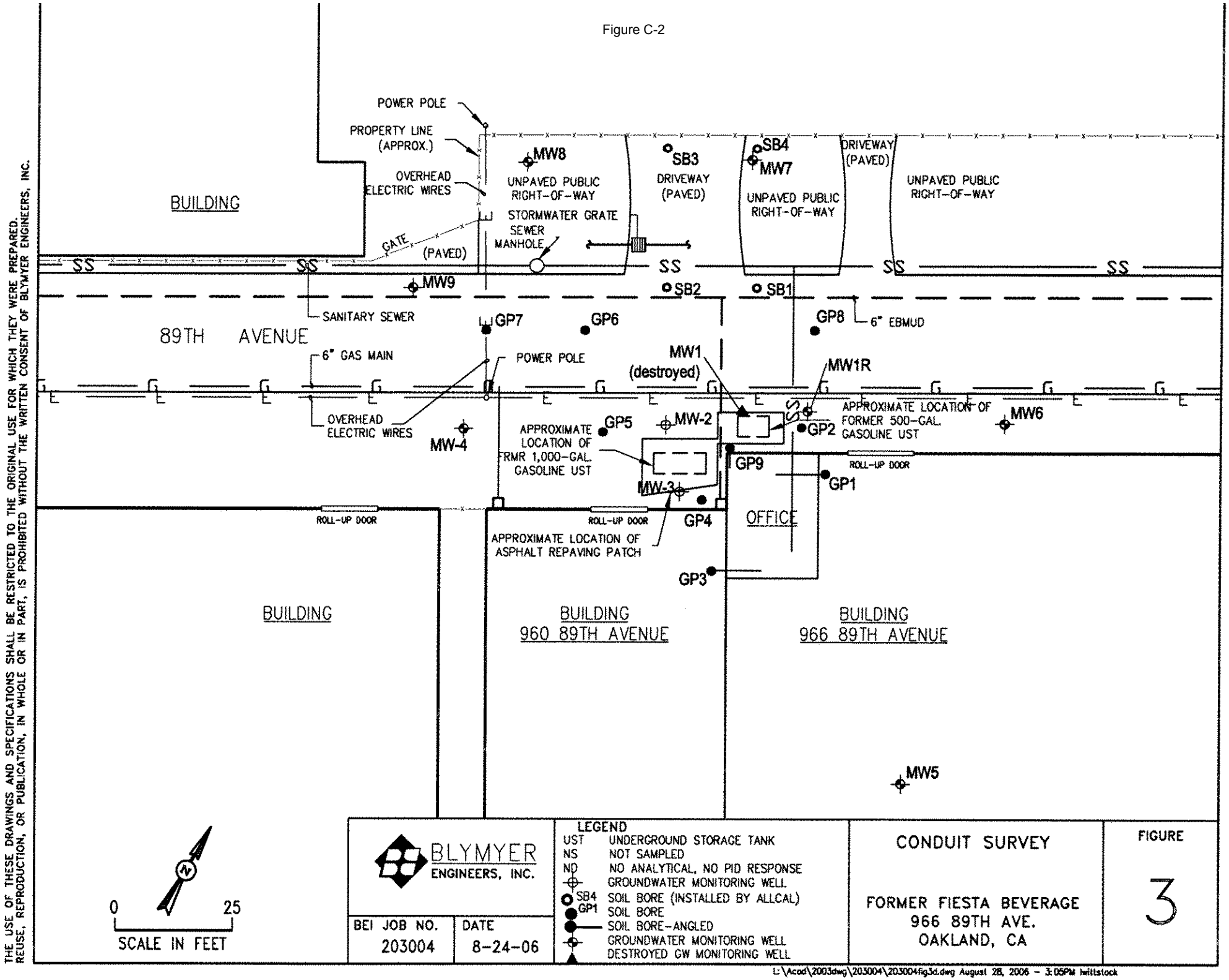


Figure C-2



ATTACHMENT D

FIELD PROCEDURES

FIELD PROCEDURES

Prefield Tasks

Prefield tasks include obtaining all necessary permits, preparing a site-specific health and safety plan, notifying USA Underground, and scheduling subcontractors and inspectors.

SOIL GAS AND SUB-SLAB VAPOR SAMPLING

Semi-Permanent Soil Gas Probe Installation

Soil gas sampling is accomplished by installing "semi-permanent" soil gas probes, with a sample depth of approximately 5 feet bgs. The installation, sampling and analysis procedures follow guidelines contained in the California Department of Toxic Substances Control (DTSC) guidance.[1]

Semi-permanent soil gas probes are constructed in hand-augered or direct-push boreholes. The onsite Trinity geologist confirms the depth of the soil gas probes, based on observations made during the advancement of the boring. The depths are selected to sample soils of higher relative permeability (sandy horizons) and/or elevated PID readings, if such conditions exist.

Once the total depth of the borehole is reached and the soil gas sampling depth is confirmed, the probes are constructed. A diagram of the proposed soil gas probe is included as Figure D-1. The boring is backfilled with hydrated bentonite chips up to the selected depth of the soil gas probe, if needed. Each probe is constructed with a tip consisting of a ceramic air stone (aquarium micro air bubbler) of ½-inch outside diameter and 2-inch length, with a standard NPT barb fitting; an appropriate length of ¼-inch outside diameter tubing; and a surface termination on the tubing with a Swagelok brass cap. Approximately 6 inches of #2/12 sand (or equivalent) is placed in the bottom of the borehole. The tip-tube-plug assembly is placed into the borehole with the tip resting on top of the sand pack. The ceramic tip is then covered with #2/12 sand until the top portion of the tip is covered with approximately 6 inches of sand. Hydrated bentonite chips are added to the hole in 1-foot lifts to the surface grade. The top of the semi-permanent soil gas probe is finished with a traffic-proof vault box set in concrete, flush with the surrounding surface grade.

Sub-Slab Vapor Probe Installation

Sub-slab vapor probes are installed to float in the concrete slab. The installation procedure is consistent with that described by USEPA[2]. Sampling and analysis procedures generally follows the guidelines contained in San Mateo County's "Using a Geoprobe® to Collect Subsurface Vapor Samples for Human Health Risk Evaluation" (GPP Guidelines, Draft GPP Staff Guidance updated 3/9/06), San Mateo County's Draft "Subsurface Vapor Sampling for Human Health Risk

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[1] DTSC, *Advisory for Active Soil Gas Investigations,* January 28, 2003; and *Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air,* December 15, 2004 (Revised February 7, 2005).

[2] United States Environmental Protection Agency (2006), *Assessment of Vapor Intrusion in Homes Near the Raymark Superfund Site Using Basement and Sub-Slab Air Samples*, and

United States Environmental Protection Agency, *Draft Standard Operating Procedure for Installation of Sub-Slab Vapor Probes and Sampling Using EPA Method TO-15 to Support Vapor Intrusion Investigations*.

Evaluation" (Revised 11/14/06) and the California Department of Toxic Substances Control (DTSC) "Advisory for Active Soil Gas Investigations" dated January 28, 2003. The installation procedures are summarized below:

The concrete slab underlying the building is assumed to be up to 6 inches thick. Therefore, to install a sub-slab probe, a one-inch diameter hole in the concrete slab is drilled to a depth of approximately 3 inches using a rotary drill or equivalent equipment. Assuming that the hole does not penetrate the slab, the hole is vacuumed out to remove cuttings. The drill bit is then changed to 5/16-inch, and the hole is advanced approximately an additional 3 inches through the slab and into the underlying sub-slab material. The sub-slab vapor probe is assembled using a 2-inch long by ¼-inch inner-diameter (ID) stainless steel tube attached to an NPT ¼-inch ID brass or stainless steel threaded fitting and Swagelok cap or plug. This assembly is placed into the drilled hole, and grouted into place using Sakrete Bolt and Rail Cement (a non-shrinking, quick-setting cement). The cement installation is recessed so that the plug is accessible. The top of the plug is set flush with the top of the concrete slab. A schematic diagram of the sub-slab probe is presented on Figure D-2.

Soil Gas Sampling

Sampling Set-up

The soil gas probes are allowed to equilibrate for a minimum of one week prior to sample collection. Mobilization for soil gas sampling will not occur if measurable precipitation or site irrigation near the sampling location has occurred in the previous five days.

Prior to sampling, the sampling technician puts on a new pair of clean gloves, and the plug on the soil gas probe is removed and quickly replaced with a closed Swagelok valve. A tee fitting is connected to two six-liter Summa canisters with a pressure gauge installed on each of these fittings.

The two Summa canisters are connected by approximately 1 to 2 feet of tubing and a third tee fitting. The vacuum reading on each canister is confirmed and recorded before proceeding. The vacuum reading is expected to be 30 inches mercury ("Hg). On the downhole side of the third tee fitting, a 100 to 200-milliliter per minute (ml/min) flow regulator followed by a laboratory supplied particulate filter is installed. On the downhole side of the particulate filter, a vapor-tight valve is installed to connect the sampling equipment with the probe tube. A schematic drawing of the soil gas sampling set-up is shown on Figure D-3.

Leak Testing

A vacuum test is conducted on the connections between the Summa canisters and the valve on the downhole side of the regulator for 10 minutes by opening and closing the purge canister valve to place a test vacuum on the assembly. Further work is terminated if gauge vacuum cannot be maintained for 10 minutes.

Additional leak testing is performed during the soil gas sampling by placing a shroud over the sampling assembly, and maintaining a helium-enriched atmosphere under the shroud. The

shroud is emplaced after purging the vapor probe, but before the sample is collected. Using a helium canister and appropriate tubing and fittings, helium is injected under the shroud. A helium detector is used to monitor the atmosphere beneath the shroud to make sure a helium-enriched environment is maintained until the sampling process is complete.

Purging

If the vacuum test is successful, purging is conducted. The purge canister valve and the valve on the downhole side of the particulate filter are opened and the time is recorded. The purge canister valve is closed after three volumes of air have been purged from the sample apparatus and borehole. The purge volume is calculated based on the internal volume of the tubing and probe apparatus. The amount of air purged is measured based on the time that the flow-control orifice is opened, with a flow rate of 100 to 200-ml/min, and based on a discernable vacuum drop on the purge canister pressure gauge. The time at which purging is terminated is recorded.

Sampling

Following purging, the sample Summa canister valve is opened to begin sample collection. The time at which sample collection begins is recorded.

The flow-control orifice is maintained at 100 to 200-ml/min, and is kept open until the sample Summa canister pressure gauge indicates approximately 5”Hg. At that point, the sample canister valve is closed and the time recorded. The tee fitting on the sample canister is replaced with a laboratory-supplied brass plug.

The sample canister is labeled and chain-of-custody maintained by recording: sample name, sample date, sample time, final vacuum, canister and flow controller serial numbers, initials of sample collector, and the compounds to be analyzed by the certified laboratory. The sample canisters are stored in a container that blocks sunlight to the opaque canister and does not subject the air-tight canister to changes in pressure and temperature. The sample canisters are delivered to the analytical laboratory via ground transportation under chain-of-custody documentation.

Abandonment of Probes

The semi-permanent soil gas probes are typically left in place until site data indicates that they are no longer needed. After that time, the probes are abandoned. To abandon the semi-permanent soil gas probes, a roto-hammer is used to remove the cement surface seal. Then, the tubing assembly is pulled from the hole manually. A hand auger is used to remove the bentonite and sand to the depth of the sand pack. The remaining hole is filled with non-shrinking, quick-setting grout to match the surrounding grade.

The sub-slab vapor probe will be left in place until site data indicates that it is no longer needed. After that time, the probe will be abandoned by using a roto-hammer which will be used to core the grout out around the probe assembly. The probe assembly will be removed from the hole, and the hole will be filled with non-shrinking, quick-setting grout to match finish grade.

GROUNDWATER MONITORING AND SAMPLING

Groundwater Level and Total Depth Determination

A water level indicator is lowered down the well and a measurement of the depth to water from an established reference point on the casing is taken. The indicator probe is used to sound the bottom of the well and a measurement of the total depth of the well is taken. Both the water level and total depth measurements are taken to the nearest 0.01-foot.

Visual Analysis of Groundwater

Prior to purging and sampling groundwater-monitoring wells, a water sample is collected from each well for subjective analysis. The visual analysis involves gently lowering a clean, disposable polyethylene bailer to approximately one-half the bailer length past the water table interface. The bailer is then retrieved, and the sample contained within the bailer is examined for floating product or the appearance of a petroleum product sheen. If measurable free product is noted in the bailer, a water/product interface probe is used to determine the thickness of the free product to the nearest 0.01-foot. The thickness of free product is determined by subtracting the depth to product from the depth to water.

Monitoring Well Purging and Sampling

Monitoring wells are purged by removing approximately four casing volumes of water from the well using a clean disposable bailer or electrical submersible purge pump. Purge volumes are calculated prior to purging. During purging, the temperature, pH, and electrical conductivity of the purge water are monitored. The well is considered to be sufficiently purged when the four casing volumes have been removed; the temperature, pH, and conductivity values have stabilized to within 10% of the initial readings; and the groundwater being removed is relatively free of suspended solids. After purging, groundwater levels are allowed to stabilize to within 80% of the initial water level reading. A water sample is then collected from each well with a clean, disposable polyethylene bailer. If the well is bailed or pumped dry prior to removing the minimum amount of water, the groundwater is allowed to recharge. If the well has recharged to within 80% of the initial depth to water reading within two hours, the well will continue to be purged until the minimum volume of water has been removed. If the well has not recharged to at least 80% of the initial depth to water reading within two hours, the well is considered to contain formational water and a groundwater sample is collected. Groundwater removed from the well is stored in 55-gallon drums at the site and labeled pending disposal.

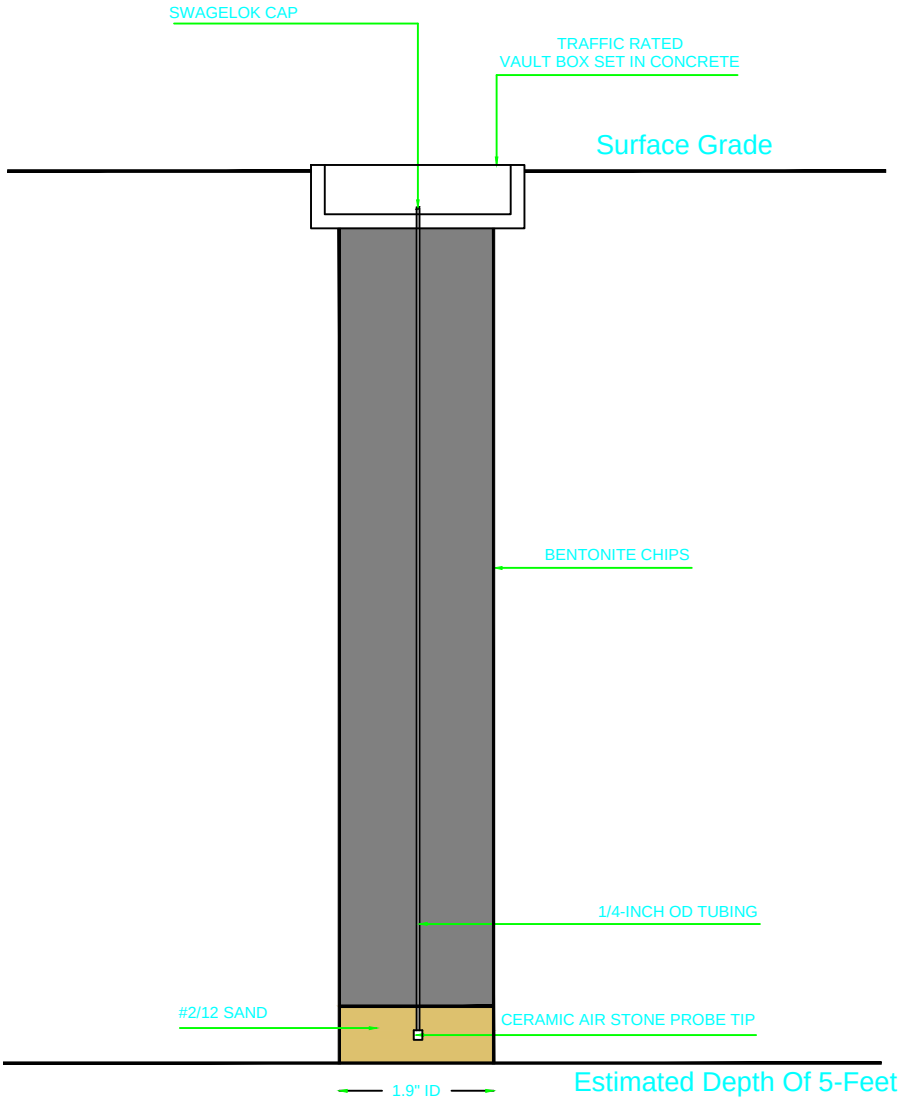
In wells where free product is detected, the wells will be bailed to remove the free product. An estimate of the volume of product and water will be recorded. If the free product thickness is reduced to the point where a measurable thickness is no longer present in the well, a groundwater sample will be collected. If free product persists throughout the purging process, a final free product thickness measurement will be taken and a groundwater sample will not be collected.

Groundwater samples are stored in 40-milliliter vials so that air passage through the sample is

minimized (to prevent volatilization of the sample). The vial is tilted and filled slowly until an upward convex meniscus forms over the mouth of the vial. The Teflon™ side of the septum (in cap) is then placed against the meniscus, and the cap is screwed on tightly. The sample is then inverted and the bottle is tapped lightly to check for air bubbles. If an air bubble is present in the vial, the cap is removed and more sample is transferred from the bailer. The vial is then resealed and rechecked for air bubbles. The sample is then appropriately labeled and stored on ice from the time of collection through the time of delivery to the laboratory. The chain-of-custody form is completed to ensure sample integrity. Groundwater samples are transported to a state-certified laboratory and analyzed within the U.S. Environmental Protection Agency-specified hold times for the specified analytes.

Soil Gas Probe

Construction Schematic



REF. 308_001\308.001.001 fig D-1.dwg

NOT TO SCALE

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SEMI-PERMANENT SOIL GAS PROBE DETAIL

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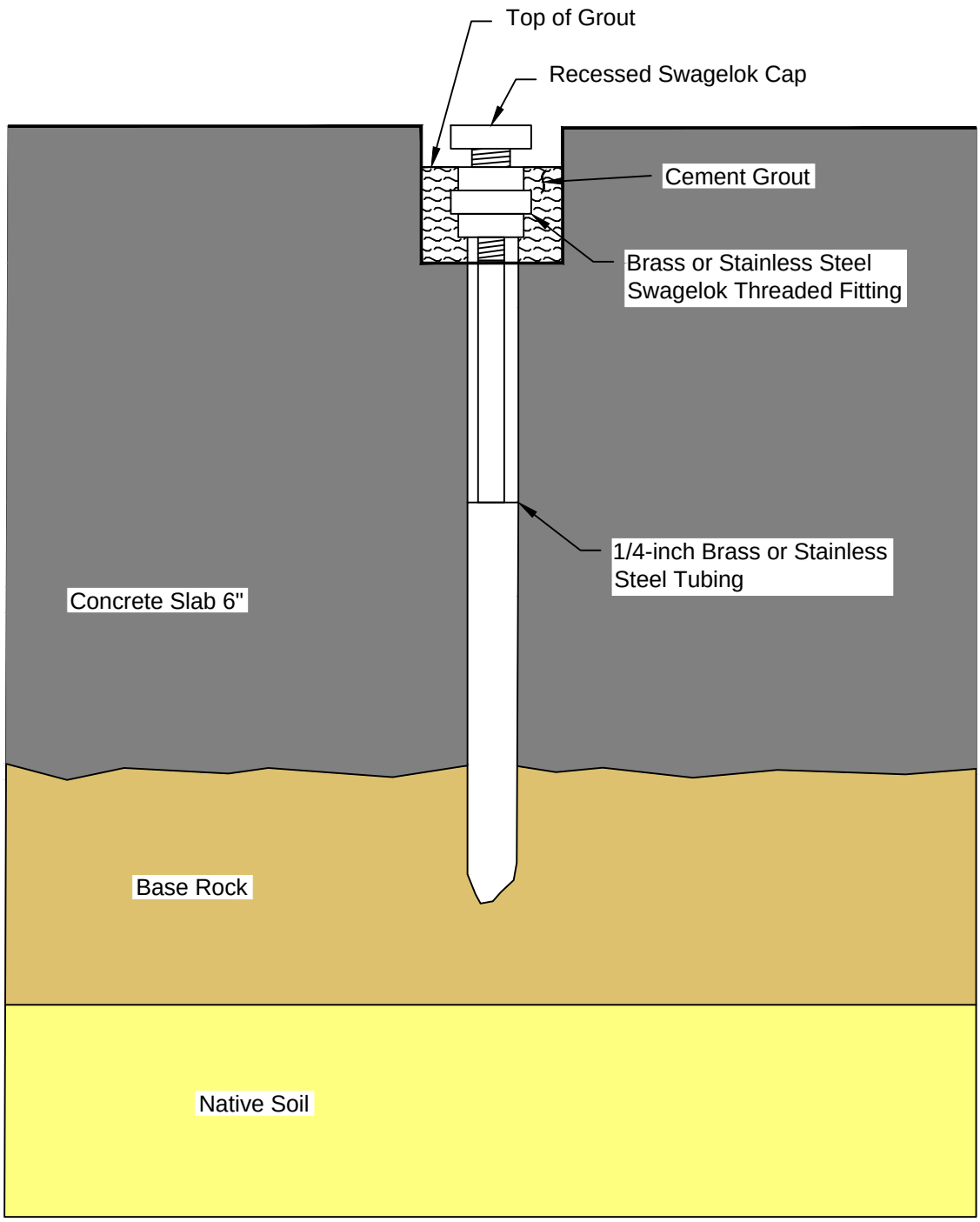
Oakland, California

PROJECT:
308.001.001

FIGURE:
D-1



REF. 308_001\308.001.001 fig D-2.dwg

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SUB-SLAB VAPOR PROBE SCHEMATIC

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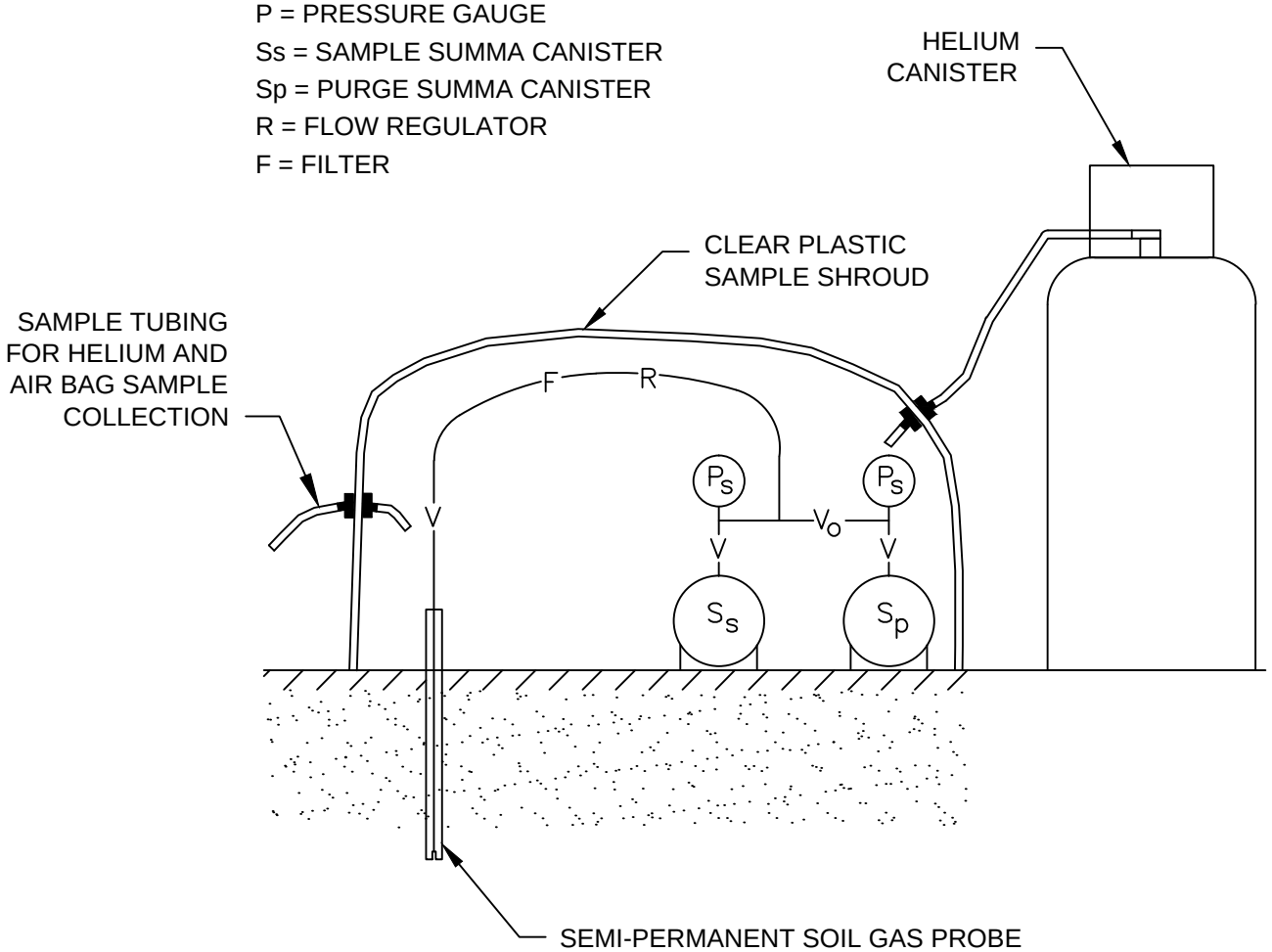
PROJECT:
308.001.001

FIGURE:
D-2

SCHEMATIC OF SUBSURFACE SOIL GAS SAMPLING SET-UP

V = VALVE
Vo = OPTIONAL VALVE
P = PRESSURE GAUGE
Ss = SAMPLE SUMMA CANISTER
Sp = PURGE SUMMA CANISTER
R = FLOW REGULATOR
F = FILTER



* USE SWAGELOK FITTINGS ON ALL CONNECTIONS

** ASSEMBLE SAMPLE APPARATUS AND LEAK TEST PRIOR TO MOBILIZING TO FIELD

NOT TO SCALE

REF. 208_001\308.001.001 fig D-3.dwg

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SUBSURFACE SOIL GAS SAMPLING EQUIPMENT SCHEMATIC
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PROJECT: 308.001.001

FIGURE: D-3