PHASE II SOIL – GAS SAMPLING REPORT

4550 San Pablo Avenue
Emeryville, California

SLIC Case No. RO0002929
Former LOP Case No. RO0000248
Former Facility Name: Berkeley Farms

Prepared For

Mr. Tom McKeithen
Garlock & Co.
1450 El Camino Real
Menlo Park, CA 94025

Prepared By

E_2C, INC.
382 MARTIN AVENUE
SANTA CLARA, CA 95050-3112
(408) 327 - 5700

E2C Project Number 2656SC01-A
Date of Report: February 2007

February 7, 2007
E2C Project No. 2656SC01-A

Mr. Tom McKeithen
Garlock & Co.
1450 El Camino Real
Menlo Park, CA 94025

Subject: ***Phase II Soil-Gas Sampling Report***
4550 San Pablo Avenue
Emeryville, California
SLIC Case No. RO0002929
Document Date: February 2007

Dear Mr. McKeithen:

E_2C, Inc is pleased to attach the February 2007, *Phase II Soil-Gas Sampling Report* in accordance with E2C Proposal No. E6P-5578 dated November 6, 2006, and subsequent telephone and email correspondence. All soil-gas sample results were below detection limits and applicable residential ESLs; therefore, further investigation is not warranted and E2C recommends no further subsurface sampling at this time. In the professional opinion of E2C, the subject property is suitable for unrestricted use. During any future subsurface excavation at depths exceeding +/- five feet in the vicinity of the former gasoline and diesel underground storage tanks (UST) or down gradient (west) of the former gasoline and diesel USTs, resulting excavated soils and/or extracted groundwater should be properly sampled and analyzed prior to disposal of these materials.

If you have any questions or require additional information, please do not hesitate to call us at (408) 327-5700.

Sincerely,

Benjamin Berman, REA
Senior Project Manager

CC: Mr. Jerry Wickham
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

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FIGURES

TABLES

APPENDICES

1.0 SOIL-GAS SAMPLING

1.1 Background and Soil-Gas Sampling Locations

The subject site was part of a former Berkeley Farms dairy product storage and distribution facility. Detailed background information is presented in the *Site Closure Report* (SOMA Environmental Engineering Inc, February 10, 2000). The site was a former Leaking Underground Storage Tank (LUST) site that received case closure in April 2006 from Alameda County Environmental Health Services (ACEHS) (*Case Closure Summary*, April 6, 2006, Alameda County Environmental Health). The site was closed with residual soil and groundwater contamination associated with former underground gasoline, diesel, and fuel oil tanks left in-place. Case closure was given for commercial land use with a requirement for case re-evaluation if land-use changes. Due to a planned change of land use from commercial to residential, the ACEHS required additional investigation; the potential for vapor intrusion into future residential buildings was the primary concern. Therefore, ACEHS re-opened the site as a Spills, Leaks, Investigations, and Cleanup (SLIC) case. After correspondence with the ACEHS, E2C Inc (E2C) submitted a work plan for soil-gas sampling to the ACEHS (*Work Plan for Soil-Gas Sampling*, 4550 San Pablo Avenue, Emeryville, California, E2C Inc, November 7, 2006). The work plan was accepted by the ACEHS in their November 21, 2006, directive letter (Appendix C) and soil-gas sampling in accordance with the work plan was performed on January 17 and 18, 2007; these activities are described and documented below.

The site location is shown on Figure F-1, the soil-gas sampling locations are shown on Figure F-2, and photos of soil-gas sampling activities in January 2007 are presented in Appendix A.

1.2 Soil-Gas Sample Collection Methods

E2C subcontracted TEG of Rancho Cordova, California, for specialized soil-gas sampling and equipment operator services, to facilitate the soil-gas sampling. TEG is also a State of California licensed drilling contractor (C-57 License). A drilling permit was obtained from the Alameda County Public Works Agency prior to sampling (Appendix D). Truck-mounted, direct-push equipment was used to facilitate soil-gas sampling at exterior locations, and hand-held powered equipment (electric roto-hammer) was used to facilitate the soil–gas sample collection inside the building. A total of 14 boreholes (2 inside the building, 12 outside), approximately 1.0 inch in diameter, were advanced to an approximate depth of 5.0 feet below the existing paved or ground surface for all 12 exterior sampling locations; the two sampling locations inside the building were collected at depths of approximately 1.5 feet below the concrete slab floor (see below). Soil–gas samples were collected from each of the 14 boreholes, at least one (1) additional quality control duplicate soil-gas sample and at least one (1) field blank was also collected. The boreholes were backfilled and sealed with neat cement grout after soil-gas samples were collected. A detailed description of soil-gas sampling methodology is presented in Appendix E.

The soil-gas sampling locations and depths were adjusted in the field based on site specific above ground and subsurface conditions. Specifically, sampling location SG-2 was moved approximately +/- five feet to the north to avoid underground utilities and sampling location SG-10 inside the building was moved approximately +/- 10 feet to the south to avoid the reception area of an occupied portion of the building.

Soil-gas samples SG-9 and SG-10 located inside the building were each collected on January 18, 2007 at approximate depths of 1.5 foot below existing surface grade (instead of the planned sampling depth of 5.0 feet); samples were collected below the concrete slab floor.

In anticipation of the possibility of a thick concrete slab floor inside the building, a concrete coring contractor was used to core through the concrete at the two planned sampling locations inside the building. However, the concrete slab floor was only ~+/- 4-inches thick; gravel was encountered just below the concrete slab floor. The concrete coring contractor was asked to check for a second slab below the gravel; the contractor indicated that there was no second slab.

When TEG personnel prepared to collect soil-gas samples SG-9 and SG-10 inside the building, a second concrete slab was encountered by TEG at ~+/- 14-inches below existing surface grade; therefore, ~+/- 10-inches of gravel apparently separated the bottom of the first concrete floor slab and the top of the second concrete slab. Since the concrete coring contractor had already left, TEG used a roto-hammer in an attempt to penetrate the second slab but only had an 18-inch bit, the roto-hammer and bit had great difficulty but very slowly drilled partially into the second slab and managed to advance ~+/- 2 to 4-inches into the second slab (total depth of ~+/- 16 to 18-inches), the limits of the equipment.

The second slab was not completely penetrated and it's thickness was not determined. At location SG-9 a second hole was roto-hammered within approximately several feet lateral distance from the first hole; including location SG-10, a total of 3 holes were roto-hammered with the same conditions encountered, the second slab appeared to be continuous and at the same depth. Several concrete coring contractors were contacted but none were available, they also indicated that they could not core through gravel.

Soil-gas samples were collected in general accordance with the guidance document, *Advisory – Active Soil Gas Investigations* (California Environmental Protection Agency, January 28, 2003) and / or the document, *Guidance For The Evaluation And Mitigation Of Subsurface Vapor Intrusion To Indoor Air – Interim Final* (Department of Toxic Substances Control, California Environmental Protection Agency, December 15, 2004, Revised February 7, 2005).

2.0 SOIL-GAS SAMPLE ANALYTICAL METHODS AND RESULTS

2.1 Soil-Gas Sample Analytical Methods

TEG's specialized mobile laboratory designed for soil-gas sample analysis was used to analyze soil-gas samples in the field immediately upon collection. The mobile laboratory is certified by the California Department of Health Services under the National Environmental Laboratory Accreditation Program (NELAP). Soil-gas samples were collected in syringes. The samples were analyzed for Benzene, Toluene, Ethyl benzene, and total Xylenes (BTEX compounds), and one (1) additional Volatile Organic Compound (VOC) used as a tracer / leak check. The tracer / leak check compound used was Difluoroethane, aka 1,1- Difluoroethane, aka R152A (refrigerant gas) a compound found in the product "Dust-Off XL" produced by Falcon Safety Products, Inc. The following additional target analytes were also included in accordance with ACEHS requirements: Carbon Tetrachloride; Cis-1,2-Dichloroethene; trans-1,2-Dichloroethene; Tetrachloroethene; Trichloroethene; and Vinyl Chloride. All analysis was performed by EPA Method 8260 / 8260B gas chromatography / mass spectrometry (GC/MS) methods or equivalent.

Detection limits were lower than the Environmental Screening Levels (ESL), Shallow Soil Gas Screening Levels for Residential Land use from Table E, Shallow Soil Gas and Indoor Air, from *Screening For Environmental Concerns At Sites With Contaminated Soil And Groundwater, Volume 1: Summary Tier 1 Lookup Tables* (California Regional Water Quality Control Board – San Francisco Bay Region, Interim Final – February 2005).

2.2 Soil-Gas Sample Analytical Results

All sample results were below both the test method / reported detection limits, and the residential ESLs; Table 1 summarizes the detection limits and the ESLs, the certified analytical laboratory report is presented in Appendix B. The Environmental Screening Levels (ESLs) have been compiled by the California Regional Water Quality Control Board (RWQCB) – San Francisco Bay Region (*Screening for Environmental Concerns At Sites With Contaminated Soil and Groundwater*, RWQCB, February 2005). ESL's are conservative screening concentrations for numerous contaminants often found in soil and groundwater; concentrations below the ESL's are generally considered safe for human health and the environment, while concentrations above ESL's may warrant further investigation depending on site specific conditions and land use.

3.0 DISCUSSION, CONCLUSIONS, RECOMMENDATIONS

3.1 Discussion, Conclusions

All soil-gas sample results were below detection limits and applicable residential ESLs; therefore, further investigation is not warranted.

3.2 Recommendations

Based on the sample results summarized above, E2C recommends no further subsurface sampling at this time. In the professional opinion of E2C, the subject property is suitable for unrestricted use. During any future subsurface excavation at depths exceeding +/- five feet in the vicinity of the former gasoline and diesel underground storage tanks (UST) or down gradient (west) of the former gasoline and diesel USTs, resulting excavated soils and/or extracted groundwater should be properly sampled and analyzed prior to disposal of these materials.

4.0 QUALITY ASSURANCE AND PROFESSIONAL CERTIFICATION

4.1 Quality Assurance

Samples were sent promptly to a State-certified analytical laboratory. The laboratory is audited by the State certification program for maintaining quality control procedures and for record keeping. Chain-of-custody records and certified laboratory analytical reports are attached as Appendix B.

4.2 Professional Certification

We declare, under penalty of perjury, that to the best of our knowledge, everything presented in this report is true and correct.

Should you have any questions or require supplemental information, please do not hesitate to contact us at (408) 327-5700.

Sincerely,

Benjamin Berman, REA
Senior Project Manager

REGISTERED ENVIRONMENTAL ASSESSOR - I
BENJAMIN BERMAN
REA I-08222
Expires: 2-13-07
STATE OF CALIFORNIA

Sako K. Noravian, PE
Principal

REGISTERED PROFESSIONAL ENGINEER
S.K. NORAVIAN
C 21294
EXP. 9/30/07
CIVIL
STATE OF CALIFORNIA

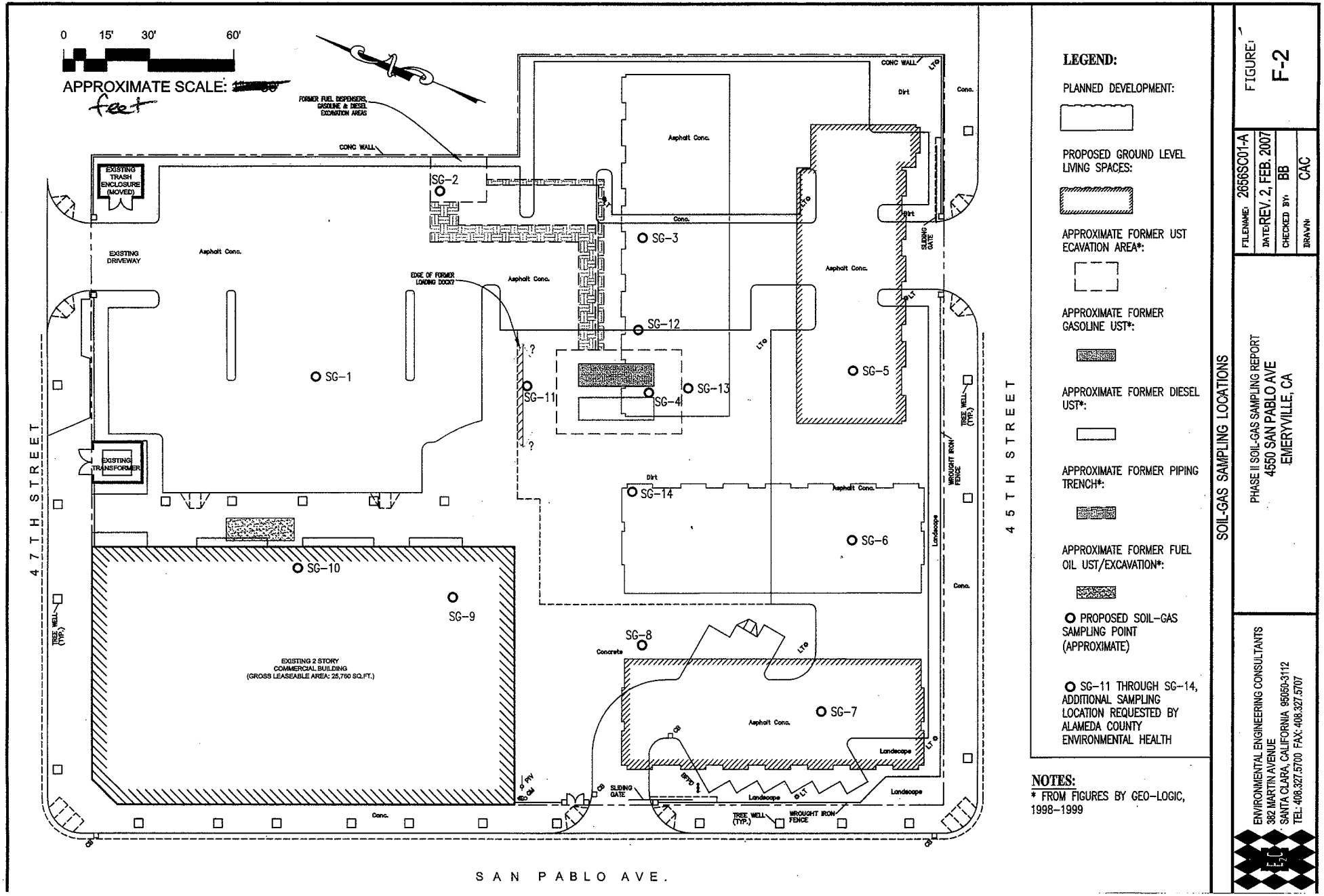
VICINITY MAP (U.S.G.S. BASE)

E2C
ENVIRONMENTAL / ENGINEERING CONSULTANTS
382 MARTIN AVENUE
SANTA CLARA, CALIFORNIA 95050-3112
TEL: 408.327.5700 FAX: 408.327.5707

PHASE II SOIL-GAS SAMPLING REPORT
4550 SAN PABLO AVE
EMERYVILLE, CA

FILENAME:	2656SC01
DATE:	FEBRUARY 2007
CHECK BY:	BB
DRAWN:	CAC

FIGURE:
F-1



LEGEND:

PLANNED DEVELOPMENT:

PROPOSED GROUND LEVEL LIVING SPACES:

APPROXIMATE FORMER UST ECAVATION AREA*:

APPROXIMATE FORMER GASOLINE UST*:

APPROXIMATE FORMER DIESEL UST*:

APPROXIMATE FORMER PIPING TRENCH*:

APPROXIMATE FORMER FUEL OIL UST/EXCAVATION*:

O PROPOSED SOIL-GAS SAMPLING POINT (APPROXIMATE)

O SG-11 THROUGH SG-14, ADDITIONAL SAMPLING LOCATION REQUESTED BY ALAMEDA COUNTY ENVIRONMENTAL HEALTH

NOTES:

* FROM FIGURES BY GEO-LOGIC, 1998-1999

SOIL-GAS SAMPLING LOCATIONS

PHASE II SOIL-GAS SAMPLING REPORT
4550 SAN PABLO AVE
EMERYVILLE, CA

FILENAME: 2656SC01-A
DATE: REV. 2, FEB. 2007
CHECKED BY: BB
DRAWN: CAC

FIGURE: F-2

ENVIRONMENTAL ENGINEERING CONSULTANTS
382 MARTIN AVENUE
SANTA CLARA, CALIFORNIA 95050-3112
TEL: 408.327.5700 FAX: 408.327.5707

Table 1

Summary of Soil-Gas Detection Limits
All Results Below Detection Limits
Samples Collected on January 17 and 18, 2006
4550 San Pablo Avenue, Emeryville, California

Target Analyte	Detection Limits ($\mu g/m^3$)	ESL[1] ($\mu g/m^3$)
Benzene	80	85
Carbon Tetrachloride	55	57
Cis-1,2-Dichloroethene	100	7,300
trans-1,2-Dichloroethene	100	15,000
Ethyl Benzene	100	42,000
Tetrachloroethene	100	410
Toluene	200	63,000
Trichloroethene	100	1,200
Vinyl Chloride	30	32
Xylenes, total	200	15,000
1,1 Diflouroethane[2]	10,000	----

1. ESL, Environmental Screening Level, Table E, for shallow soil gas and indoor air, for Residential Land Use. From *Screening For Environmental Concerns At Sites With Contaminated Soil And Groundwater, Volume 1: Summary Tier 1 Lookup Tables – Interim Final* (California Regional Water Quality Control Board – San Francisco Bay Region, February 2005).

2. Leak Check compound.

APPENDIX A

PHOTOS

Photo 1, Mobile lab on left, Soil-gas sampling rig on right.

Photo 2, Above ground portions of soil-gas sampling assemblies adjacent to traffic cones.

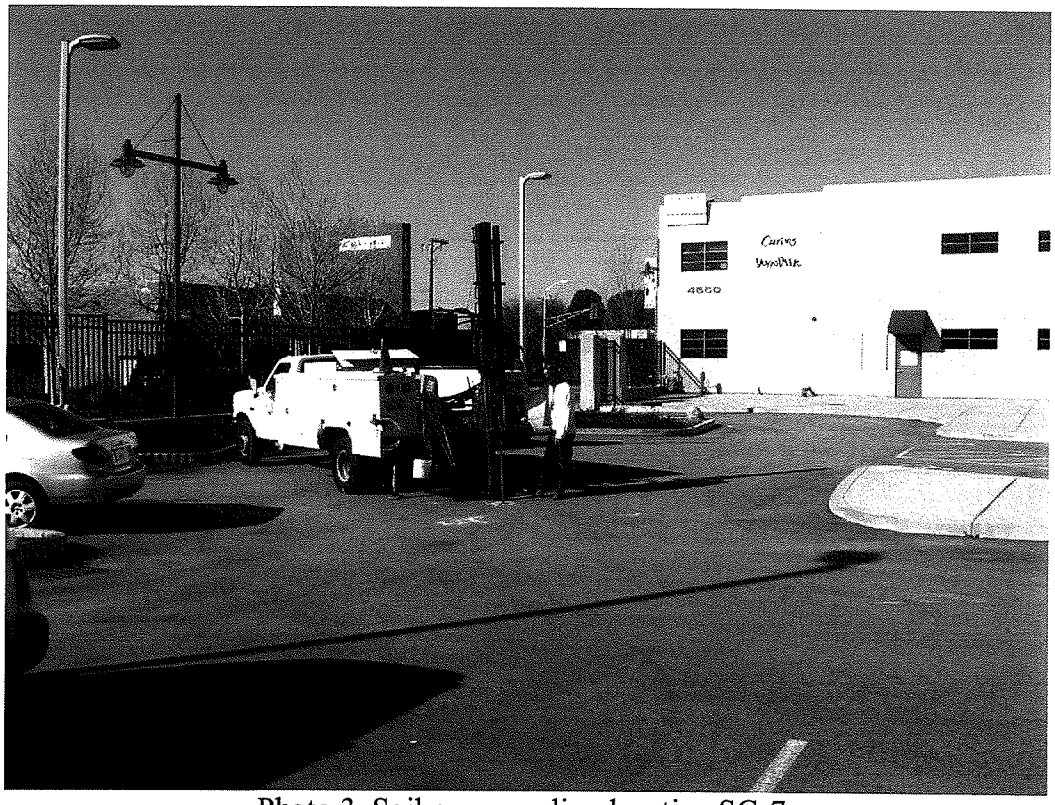


Photo 3, Soil-gas sampling location SG-7.

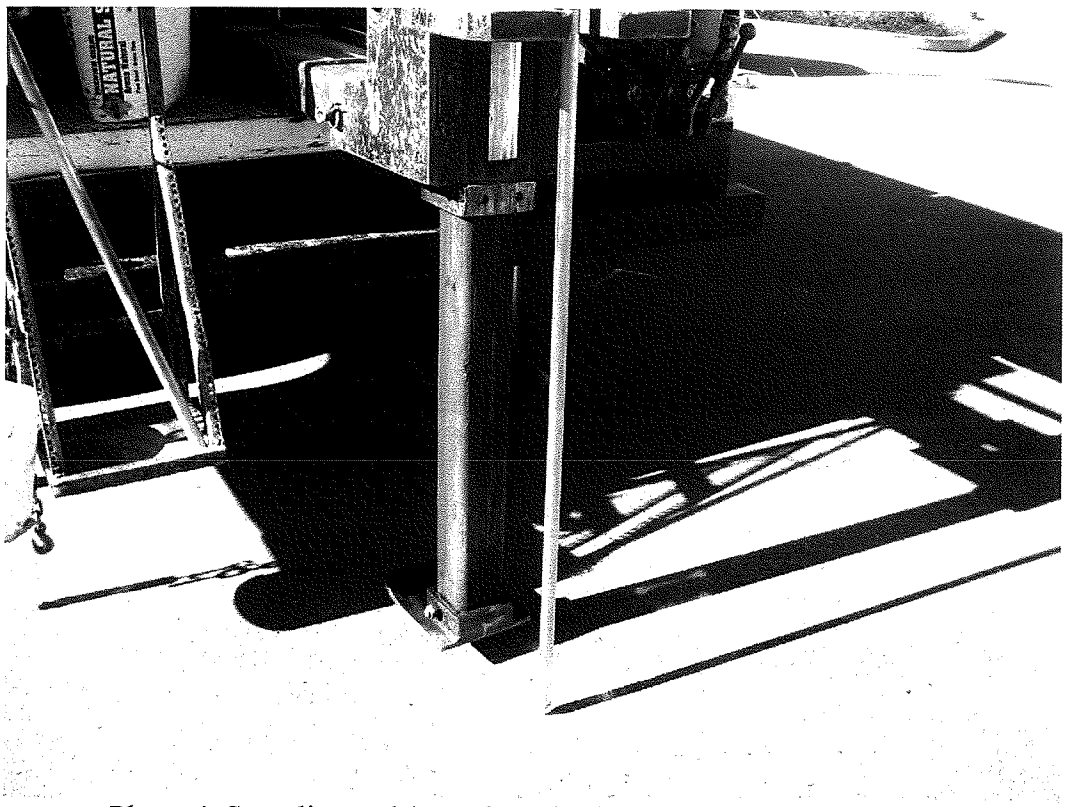


Photo 4, Sampling rod / core barrel prior to subsurface placement.

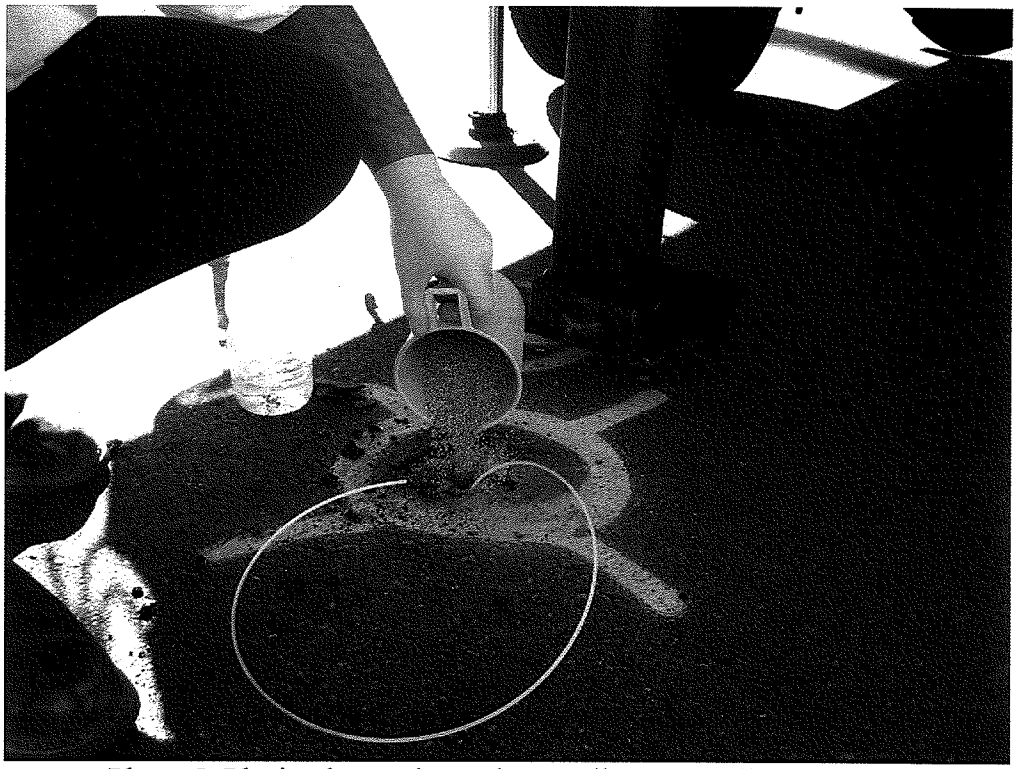


Photo 5, Placing bentonite seal at a soil-gas sampling location.

Photo 6, Bentonite seal placed and hydrated at soil-gas sampling location SG-12.

Photo 7, Chemist / mobile lab operator spraying leak check compound during soil-gas sampling..

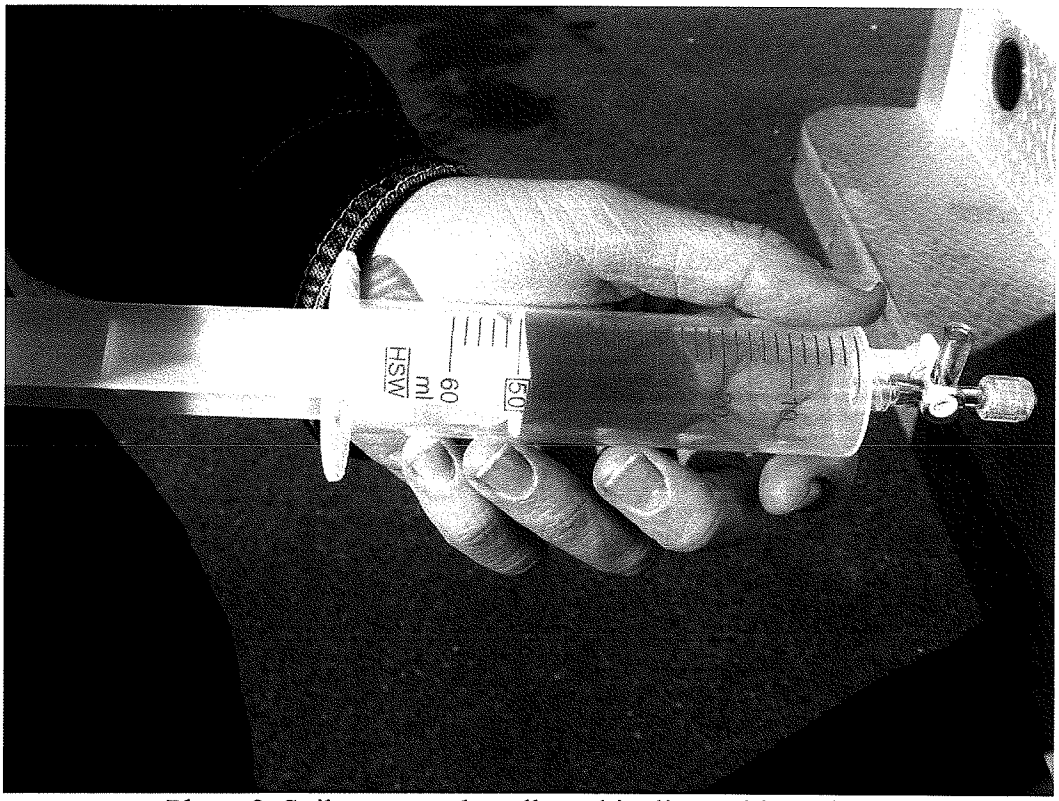


Photo 8, Soil-gas sample collected in disposable syringe.

Photo 9, Chemist shooting soil-gas sample into analytical equipment inside mobile laboratory.

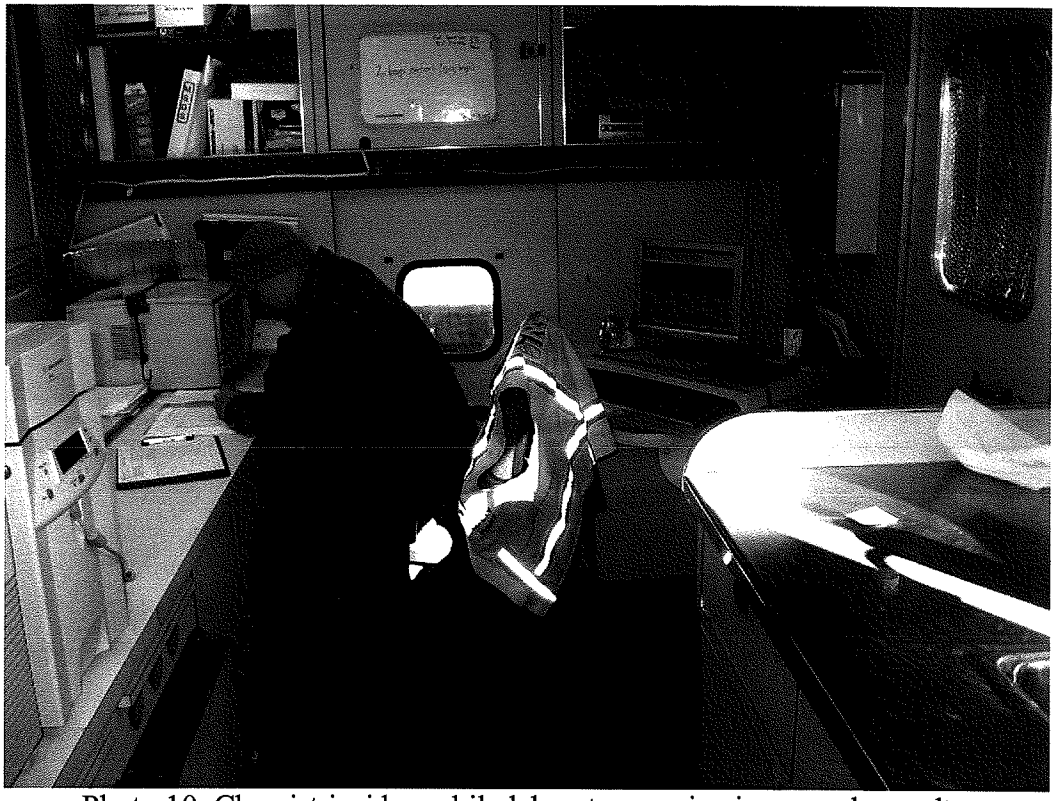


Photo 10, Chemist inside mobile laboratory reviewing sample results.

Photo 11, Coring through concrete floor inside building at soil-gas sampling location SG-9.

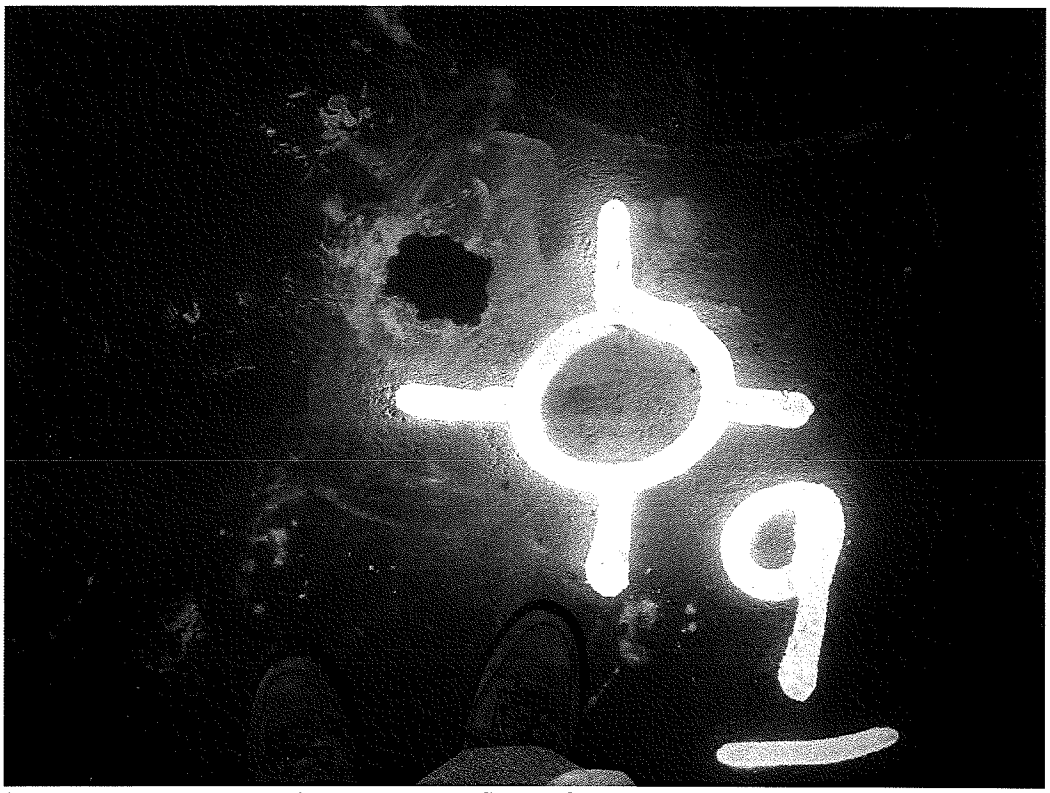


Photo 12, Concrete patch on concrete floor after collection of soil-gas sample SG-9.

APPENDIX B

CERTIFIED LABORATORY ANALYTICAL REPORT

teg

TRANSGLOBAL
ENVIRONMENTAL
GEOCHEMISTRY

2 February 2007

Mr. Benjamin Berman
E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050

SUBJECT: DATA REPORT - E2C, Inc. Project # 2656SC01-A
4550 San Pablo Avenue, Emeryville, California

TEG Project # 70117D

Mr. Berman:

Please find enclosed a data report for the samples analyzed from the above referenced project for E2C, Inc. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 18 analyses on 18 soil vapor samples.

-- 18 analyses on soil vapors for selected volatile organic hydrocarbons by EPA method 8260B.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

1,1 difluoroethane was used as a leak check compound around the probe rods during the soil vapor sampling. No 1,1 difluoroethane was detected in any of the vapor samples reported at or above the DTSC recommended leak check compound reporting limit of 10 µg/L of vapor.

TEG appreciates the opportunity to have provided analytical services to E2C, Inc. on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California

teg

E2C, Inc. Project # 2656SC01-A
4550 San Pablo Avenue, Emeryville, California

TEG Project #70117D

EPA Method 8260B VOC Analyses of SOIL VAPOR in ug/L of Vapor

SAMPLE NUMBER:		Probe Blank	Probe Blank	SG-1	SG-2	SG-3	SG-4	SG-4
SAMPLE DEPTH (feet):				5.0	5.0	5.0	5.0	5.0
PURGE VOLUME:				3	3	3	1	3
COLLECTION DATE:		1/17/07	1/18/07	1/17/07	1/17/07	1/17/07	1/17/07	1/17/07
COLLECTION TIME:		09:30	09:15	14:29	12:05	12:19	10:06	10:26
DILUTION FACTOR (VOCs):	RL	1	1	1	1	1	1	1
Vinyl Chloride	0.030	nd	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.055	nd	nd	nd	nd	nd	nd	nd
Benzene	0.080	nd	nd	nd	nd	nd	nd	nd
Trichloroethene	0.10	nd	nd	nd	nd	nd	nd	nd
Toluene	0.20	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.10	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd	nd	nd	nd
m,p-Xylene	0.20	nd	nd	nd	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd	nd	nd	nd
1,1 Diflouroethane (leak check)	10	nd	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		103%	104%	100%	104%	99%	101%	103%
Surrogate Recovery (1,2-DCA-d4)		105%	112%	104%	106%	104%	105%	104%
Surrogate Recovery (Toluene-d8)		100%	101%	99%	99%	100%	99%	98%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. John Henkelman

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

teg

E2C, Inc. Project # 2656SC01-A
4550 San Pablo Avenue, Emeryville, California

TEG Project #70117D

EPA Method 8260B VOC Analyses of SOIL VAPOR in ug/L of Vapor

SAMPLE NUMBER:		SG-4	SG-5	SG-6	SG-7	SG-8	SG-8 dup	SG-9
SAMPLE DEPTH (feet):		5.0	5.0	5.0	5.0	5.0	5.0	1.5
PURGE VOLUME:		7	3	3	3	3	3	3
COLLECTION DATE:		1/17/07	1/17/07	1/17/07	1/17/07	1/18/07	1/18/07	1/18/07
COLLECTION TIME:		10:47	12:39	13:42	14:01	10:58	11:58	10:20
DILUTION FACTOR (VOCs):		1	1	1	1	1	1	1
	RL							
Vinyl Chloride	0.030	nd	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.055	nd	nd	nd	nd	nd	nd	nd
Benzene	0.080	nd	nd	nd	nd	nd	nd	nd
Trichloroethene	0.10	nd	nd	nd	nd	nd	nd	nd
Toluene	0.20	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.10	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd	nd	nd	nd
m,p-Xylene	0.20	nd	nd	nd	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd	nd	nd	nd
1,1 Diflouroethane (leak check)	10	nd	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		107%	99%	105%	105%	107%	107%	104%
Surrogate Recovery (1,2-DCA-d4)		108%	103%	103%	107%	115%	112%	118%
Surrogate Recovery (Toluene-d8)		102%	96%	100%	99%	100%	101%	100%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. John Henkelman

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

teg

E2C, Inc. Project # 2656SC01-A
4550 San Pablo Avenue, Emeryville, California

TEG Project #70117D

EPA Method 8260B VOC Analyses of SOIL VAPOR in ug/L of Vapor

SAMPLE NUMBER:		SG-10	SG-11	SG-12	SG-13	SG-13 dup	SG-14
SAMPLE DEPTH (feet):		1.5	5.0	5.0	5.0	5.0	5.0
PURGE VOLUME:		3	3	3	3	3	3
COLLECTION DATE:		1/18/07	1/18/07	1/17/07	1/17/07	1/17/07	1/18/07
COLLECTION TIME:		10:40	11:42	11:18	11:04	11:38	11:15
DILUTION FACTOR (VOCs):		1	1	1	1	1	1
	RL						
Vinyl Chloride	0.030	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.055	nd	nd	nd	nd	nd	nd
Benzene	0.080	nd	nd	nd	nd	nd	nd
Trichloroethene	0.10	nd	nd	nd	nd	nd	nd
Toluene	0.20	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.10	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd	nd	nd
m,p-Xylene	0.20	nd	nd	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd	nd	nd
1,1 Diflouroethane (leak check)	10	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		104%	110%	103%	104%	106%	104%
Surrogate Recovery (1,2-DCA-d4)		110%	113%	103%	109%	106%	111%
Surrogate Recovery (Toluene-d8)		97%	100%	97%	97%	99%	98%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. John Henkelman

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

E2C, Inc. Project # 2656SC01-A
4550 San Pablo Avenue, Emeryville, California

TEG Project #70117D

CALIBRATION STANDARDS - Initial Calibration / LCS

Instrument: Agilent 5973N MSD

COMPOUND	INITIAL CALIBRATION RF	INITIAL CALIBRATION %RSD	LCS RF	LCS %DIFF
Vinyl Chloride*	0.481	11.7%	0.497	3.3%
trans-1,2-Dichloroethene	0.425	13.2%	0.458	7.8%
cis-1,2-Dichloroethene	0.326	16.5%	0.322	1.2%
Carbon Tetrachloride	0.385	11.7%	0.413	7.3%
Benzene	1.228	15.1%	1.184	3.6%
Trichloroethene	0.324	11.4%	0.316	2.5%
Toluene	0.942	14.7%	0.899	4.6%
Tetrachloroethene	0.427	12.9%	0.377	11.7%
Ethylbenzene	0.687	19.0%	0.598	13.0%
m,p-Xylene	0.709	17.4%	0.794	12.0%
o-Xylene	0.652	14.4%	0.675	3.5%
ACCEPTABLE LIMITS:		20.0%		15.0%

'*' INDICATES RSD NOT TO EXCEED 30% & LCS NOT TO EXCEED 25%

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

APPENDIX C

NOVEMBER 21, 2006 ALAMEDA COUNTY ENVIRONMENTAL HEALTH SERVICES (ACEHS) DIRECTIVE LETTER

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

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

November 21, 2006

Ms. Natasha Moiseyev
4550 San Pablo LLC/Peter and Leslie Matthew Trust
1450 El Camino Avenue
Menlo Park, CA 94025

Subject: SLIC Case RO0002929, San Pablo LLC, 4505 San Pablo Avenue, Emeryville, CA 94608 – Work Plan Approval

Dear Ms. Moiseyev:

Alameda County Environmental Health (ACEH) staff has reviewed the Spills, Leaks, Investigations, and Cleanups (SLIC) case file for the above-referenced site, including the document entitled, "Work Plan for Soil-Gas Sampling," dated November 7, 2006 and a "Correction Addendum to the Work Plan for Soil-Gas Sampling," dated November 9, 2006. The Work Plan and Correction Addendum, which were prepared by E2C, Inc., propose soil vapor sampling to assess the potential for vapor intrusion into buildings. The proposed scope of work and methods are generally acceptable; however, we have requested additional soil vapor sampling locations and additional analytes as discussed in the technical comments below. The Work Plan is approved for implementation provided that the items identified in the technical comments below are addressed and incorporated during the field investigation. Submittal of a revised Work Plan is not required if the technical comments are fully incorporated during the site investigation.

We request that you address the following technical comments, perform the proposed work, and send us the reports requested below.

TECHNICAL COMMENTS

1. **Soil Vapor Sampling Locations.** We request that soil vapor samples be collected from four additional locations in the area of the former gasoline UST, which are shown on Revised Figure F-2 (attachment). In addition, we request that proposed soil vapor sampling location B-10 be moved to a location more proximal to the former fuel oil tank.

2. **Proposed Soil Vapor Analyses.** The Work Plan currently proposes analysis of soil vapor samples for benzene, toluene, ethylbenzene, and xylenes and one leak detection compound using EPA Method 8260 gas chromatography/mass spectrometry. We request that soil vapor samples also be analyzed for chlorinated solvents. Specifically, soil vapor samples are to be analyzed for tetrachloroethene, trichloroethene, cis- and trans-1,2-dichloroethene, vinyl chloride, and carbon tetrachloride by EPA Method 8260B (from SW-846).

TECHNICAL REPORT REQUEST

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

- **April 6, 2007** – Soil Vapor Sampling Report

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

ELECTRONIC SUBMITTAL OF REPORTS

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

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

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) 567-6791.

Sincerely,

Jerry Wickham

Jerry Wickham, P.G.
Hazardous Materials Specialist

Attachment: Revised Figure F-2

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Tom McKeithen
Garlock & Co.
1450 El Camino Avenue
Menlo Park, CA 94025

Benjamin Berman
E2C, Inc.
382 Martin Avenue
Santa Clara, CA 95050-3112

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

APPENDIX D

DRILLING PERMIT

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 12/01/2006 By jamesy

Permit Numbers: W2006-1007
Permits Valid from 01/03/2007 to 01/04/2007

Application Id:	1164999318556
Site Location:	4550 San Pablo Avenue, Emeryville, CA 94608
Project Start Date:	01/03/2007
Applicant:	E2C Inc. - Benjamin Berman 382 Marin Avenue, Santa Clara, CA 95050
Property Owner:	Garlock & Company 1450 El Camino Real, Menlo Park, CA 94025
Client:	** same as Property Owner **

City of Project Site: Emeryville

Completion Date: 01/04/2007

Phone: 408-327-5700

Phone: 650-543-3000

	Total Due:	$200.00
Receipt Number: WR2006-0529	**Total Amount Paid:**	$200.00
Payer Name : E2C Inc.	Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 14 Boreholes
Driller: TEG - Lic #: 706568 - Method: other

Work Total: $200.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2006-1007	12/01/2006	04/03/2007	14	1.50 in.	5.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

Benjamin Berman

From: wells@acpwa.org

Sent: Tuesday, January 02, 2007 3:47 PM

To: bberman@e2cinc.com

Subject: Alameda County PWA Online Wells Permits Application - Drilling Permit Extension

Application ID: 1164999318556
Permit Number: W2006-1007

Your drilling permit has been extended as requested. Please contact the assigned inspector to re-schedule the inspection date at least five (5) working days prior to starting and confirm the scheduled date(s) at least 24 hours prior to drilling.

Conditions of Permit:
Please follow and comply with conditions of approval and instructions listed in the general conditions document. In addition, you must comply with all specific conditions listed in your permit. Your assigned inspector is also listed in the specific condition of the approved permit.

Original Project Start Date: 01/03/2007
Original Project End Date: 01/04/2007

Extension Count : 1
Extension By : jamesy
Extension Start Date: 01/17/2007
Extension End Date : 01/18/2007

If you need further assistance regarding your permit, please visit our website at: http://www.acgov.org/pwa/wells/ or contact us at wells@acpwa.org, and include your application id number.

Thank you,
Public Works Agency-Water Resources

APPENDIX E

SOIL VAPOR SURVEY METHODOLOGY

SOIL VAPOR SURVEY METHODOLOGY

DTSC Protocols

Active Soil Vapor Sampling System

The low-dead volume soil vapor sampling system has been inspected, endorsed, and is favored by all regulatory agencies who have seen it, including the EPA and CA DTSC. The design eliminates the risk of air leakage down the soil vapor probe, ensures sample collection from the tip, and greatly facilitates decontamination procedures.

Probe Construction

The soil vapor probes are constructed of 1 inch outer diameter chrom-moly steel, equipped with a steel drop off tip. The Strataprobe can use a larger diameter probe if needed. Nominal lengths are 4 feet and additional lengths may be added to one another to achieve the required sampling depth. An inert 1/8 inch tube runs through the center of the probe and is attached to the sampling port with a stainless steel post run fitting.

Probe Insertion

The probe is driven into the ground with an electric rotary hammer, or with the Strataprobe. After inserted to the desired depth, the probe is retracted slightly, which opens the tip and exposes the vapor sampling port. This design prevents clogging of the sampling port and cross-contamination from soils during insertion. Once the probe rod is placed, the sample can be collected after waiting twenty minutes for equilibration.

Soil Gas Sampling

Soil vapor is withdrawn from the inert tubing using a calibrated syringe connected via an on-off valve. A purge volume test is conducted by sampling at the first soil vapor location three times after sequentially collecting and discarding one, three, and seven dead volumes of soil vapor gas to flush the sample tubing and fill it with in-situ soil vapor. The purge volume used prior to the sample yielding the highest analytical value is used for all subsequent sampling. After purging, the next 20cc to 50cc of soil vapor are withdrawn in the syringe, plugged, and immediately transferred to the mobile lab for analysis within the required holding time. During sampling, a leak check gas is used to confirm that the sample train and probe rod is tight and leak free. Additional soil vapor may be collected and stored in gas-tight containers (e.g. Summa canisters) as desired.

Flushing & Decontamination Procedures

To minimize the potential for cross-contamination between sites, all external probe parts are cleaned of excess dirt and moisture prior to insertion. The internal inert tubing and sampling syringes are flushed with large volumes of ambient air between samples or discarded as required. If water, dirt, or any material is observed in the tubing, the tubing is discarded and replaced with fresh tubing.

SOIL VAPOR SURVEY METHODOLOGY
DTSC Protocols

Analytical Methodology

Soil vapor samples collected from each probe will be transferred directly to the on-site mobile laboratory and analyzed immediately. There will be minimal lag time between sample collection and analysis, ensuring that the integrity of the sample is maintained.

Samples will be analyzed on a gas chromatograph equipped with capillary columns and a combination of mass spectrometer (GC/MS), TCD, and FID detectors as needed. This combination of columns and detectors ensures compound separation, recognition, and detection at the required levels.

These detectors enable on-site analysis for petroleum hydrocarbons, volatile aromatics (BTEX), and volatile organic compounds (e.g. DCE, TCE, PCE, vinyl chloride) using EPA approved analytical methodology outlined in methods 8260B and 8015m. Output signals from each detector are processed by computer chromatography software and the results entered into a laboratory computer for on-site processing.

Daily instrument Calibration

Daily continuing calibration is performed at the start of each day by injecting and analyzing a mid-range calibration standard. Acceptable continuing calibration agreement: +/- 15% to 25% to the calibration curve, depending on the compound.

Blanks & Duplicates

Blanks are analyzed at the start of each day and more often as appropriate depending upon the measured concentrations. Typically, when high sample values are encountered, additional blanks may be analyzed. Duplicate samples are analyzed as needed or as requested by the client or regulatory agency.

Compound Confirmation

A MS (mass spectrometer) detector is used for absolute compound identification of VOCs. Also, a surrogate compound is added to each sample during analysis to confirm that the chromatographic retention times have not shifted during the course of the day and that surrogate recovery is adequate showing proper instrument operation and integrity.

SOIL VAPOR SURVEY METHODOLOGY

Health and Safety - Training and Medical Monitoring Programs

In order to reduce potential employee exposure to hazardous materials and reduce the risk of injury incurred during the normal performance of work, the soil-gas sampling and analysis contractor maintains active participation of personnel in a Injury and Illness Prevention Program (IIPP). Each employee that performs work in a laboratory or in the field, is required to have completed a 40-hour training session in accordance with 29 CFR 1910.120. The Health and Safety Officer coordinates all aspects of training and maintaining the Injury and Illness Prevention program, including, but not limited to:

-- annual physical examination of field personnel (including an initial baseline exam upon hiring)
-- health, safety and hazardous material training
-- first aid and Cardio-Pulmonary Resuscitation (CPR) training
-- safety equipment inventory and purchasing
-- review of health and safety procedures, exposure limits, and plans for each project.

Work procedures and required safety conditions are determined on the basis of anticipated work, environmental conditions and levels of toxic chemicals at a given site. Consultation with client safety personnel or representatives is undertaken to determine potential health hazards to workers at that site. Each employee participates in all pre-job safety meetings at each job site.