kerry & associates

September 24, 2010

SUITE 300 • 151 CALLAN AVE. • SAN LEANDRO, CA 94577 • (510) 483-4211 FAX 483-4200

RECEIVED

4:18 pm, Sep 29, 2010

Alameda County Environmental Health

Mr. Mark Detterman

Alameda County Environmental Health 1131 Harbor Bay Parkway Alameda, CA 94502

Re: Kerry & Associates – Palace Garage 14336 Washington Avenue San Leandro, California ACEH Case No. RO0000208

Dear Mr. Detterman,

I declare, under penalty of perjury, that the information and/or recommendations contained in the Soil Vapor Testing and Additional Assessment Report and the Second Quarter 2010 Groundwater Monitoring Report is true and correct to the best of my knowledge.

Sincerely. Kerry



August 30, 2010

Mr. Mark Detterman Alameda County Environmental Health 1131 Harbor Bay Parkway Alameda, CA 94502

Re: Soil Vapor Testing and Additional Assessment Report Kerry & Associates – Former Palace Garage 14336 Washington Avenue San Leandro, California ACEH Case No. RO0000208 SFRWQCB LUFT Case No. 01-1133

Dear Mr. Detterman:

On behalf of Kerry & Associates, Closure Solutions Inc. (Closure Solutions) has prepared this *Soil Vapor Testing and Additional Assessment Report* (Report) for the Former Palace Garage Site located at 14336 Washington Avenue, San Leandro, California (the Site, Figure 1). This Report is being submitted in accordance with Closure Solutions' *Soil Vapor Testing and Additional Assessment Work Plan* dated November 13, 2009. The purpose of this investigation is to address data gaps identified by the Alameda County Environmental Health as impediments to closure at the Site. This Report documents the completion of a soil vapor survey and downgradient soil and groundwater sampling.

1.0 INTRODUCTION

1.1 Site Geology and Hydrology

Based on previous soil investigation activities at the Site, the subsurface lithology consists primarily of low permeable clay, silty clay, and clayey silt to approximately 16 feet below ground surface (bgs). This low permeable layer is underlain by poorly graded sands and gravels from approximately 16 feet bgs to the total depth explored of 21 feet bgs. The groundwater flow direction is to the southwest at a typical gradient of 0.005 feet per foot.

1.2 Site Background

A 550-gallon gasoline underground storage tank (UST) was removed from the site in 1991. Subsequent investigations included the installation of 3 monitoring wells and the drilling of 15 borings. Based on data obtained from the wells and borings, impacted unsaturated-zone soil is confined to the area of the former dispenser pad and UST.

In December 2002, Professional Service Industries, Inc. conducted a soil and groundwater investigation to evaluate the lateral extent of petroleum hydrocarbons in the soil and groundwater at the site. Borings SB-16 and SB-17 were advanced to between 20 and 24 feet below ground surface (bgs). Boring SB-16 was converted into monitoring well MW-4. Concentrations of total petroleum hydrocarbons as gasoline (TPHg) and gasoline related contaminants were detected in soil from boring SB-17 only and groundwater from wells MW-1 and MW-2. The locations of the monitoring wells and soil borings are presented in Figure 2.

Closure Solutions conducted a Sensitive Receptor Survey to identify all water supply wells and sensitive receptors within a 2,000-foot radius of the Site. The closest water supply wells are two industrial wells approximately 450 feet northwest (cross-gradient) of the Site. The closest domestic well is approximately 1,500 feet southeast (cross-gradient) of the Site. The closest down-gradient well is an irrigation well approximately 1,400 feet southwest of the Site. No surface water bodies were identified within a 2,000-foot radius of the Site. Results of the Sensitive Receptor Survey are presented in the *Sensitive Receptor Survey* report dated August 27, 2008.

On September 30, 2008 Closure Solutions prepared and submitted a *Site Conceptual Model* (SCM). The preparation of the SCM was requested by Alameda County Environmental Health (ACEH) in their letter dated September 2, 2008.

In an email dated June 12, 2009, Mr. Steve Plunkett with ACEH approved the reduction of groundwater monitoring to a semi-annual basis conducted in second and fourth quarters. Mr. Plunkett also approved the recommendation to eliminate the fuel oxygenates from the suite of laboratory analytes.

On November 13, 2009, Closure Solutions submitted a *Soil Vapor Testing and Additional Assessment Work Plan* to ACEH. The proposed investigation would identify any data gaps at the Site, assess the potential for soil vapor migration and evaluate any health risks posed by the remaining contaminants at the Site. The work plan was not officially approved by ACEH.

On May 14, 2010, Closure Solutions submitted an *Intent to Initiate Work Plan* letter to ACEH stating that Closure Solutions intended to proceed with the proposed scope of work submitted in the November 13, 2009 work plan pursuant to CCR Title 23, Division 3, Chapter 16, Section 2722(e) which states "Implementation of the work plan may begin sixty (60) calendar days after submittal, unless the responsible party is otherwise directed in writing by the regulatory agency." Based on telephone and email correspondence, ACEH indicated that while it was their intent to approve the work plan they were unable to do so due to the case review workload associated with SWRCB Resolution 2009-42.

2.0 SOIL BORING AND SOIL VAPOR PROBE INSTALLATION AND SAMPLING

On July 26, 2010 a Closure Solutions' representative was on site to oversee the installation and sampling of three temporary soil vapor probes (SV-1 through SV-3) and the advancement of one downgradient soil boring (SB-18). All soil vapor probe locations were located approximately 5 feet from the buildings. Boring locations are presented on Figure 2.

2.1 Preliminary Field Activities

Prior to initiating field activities, Closure Solutions obtained the necessary drilling permits for the proposed work, and cleared the Site for subsurface utilities. Utility clearance included notifying Underground Service Alert (USA) of the pending work a minimum of 48 hours prior to initiating the field investigation, and securing the services of a private utility locating company to confirm the absence of underground utilities at each boring location.

A Site Health and Safety Plan (HASP) was prepared for use by personnel implementing the Work Plan. The HASP addressed hazards associated with the proposed field work. A copy of the HASP was available onsite during field work. The subcontractor(s) performing field activities were provided with a copy of the HASP prior to initiating work. A safety tailgate meeting was conducted to review the Site hazards and work scope.

2.2 Boring Procedures

Borings for soil vapor collection and downgradient delineation were completed using direct push technology. As a further measure of protection for utilities that may not have been located during pre-field utility clearance activities, soil boring SB-18 was hand cleared for the first five feet. In order to maintain a competent seal for collecting soil vapors, the soil vapor borings were driven from ground surface to approximately 5 feet bgs. Following boring advancement and sampling activities, neat cement was placed from the bottom of each boring to ground surface then completed with concrete and dyed black to approximately match the surrounding surface.

2.3 Soil Boring Advancement and Sampling Procedures

Closure Solutions supervised the advancement of soil boring SB-18. Soil samples were collected approximately every 4 feet and retained for possible chemical analysis. One soil sample collected at the capillary fringe zone, approximately 16.5 bgs was retained for laboratory analysis. Soil samples were field screened for the presence of residual petroleum hydrocarbon vapor concentrations using a photo-ionization detector (PID). The borehole was not logged for lithology because lithologic data exists from previous soil borings (SB-16 and SB-17), adjacent to SB-18. No undisturbed soil sample was collected for analysis of physical soil parameters since vapor samples were collected from temporary soil vapor probes.

After soil sampling was completed, a grab groundwater sample (SB-18-W) was collected by placing a screened PVC casing in the boring. A clean disposable bailer was used to retrieve groundwater for filling sample containers.

Soil samples retained for chemical analysis were collected in acrylic sleeves, covered at each end with TeflonTM sheeting, capped with plastic end caps, labeled, and placed in a cooler with ice. Collected grab groundwater samples were placed in 40 milliliter vials with hydrochloric acid preservative and placed in the same ice filled cooler.

All collected samples were submitted under chain-of-custody protocol to SunStar Laboratory (SunStar) of Lake Forest California, a California State-certified analytical laboratory. Soil and groundwater samples were analyzed for TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX constituents) using EPA Method 8260B.

2.4 Soil Vapor Probe Installation

Soil vapor samples were collected by pushing a hollow stainless steel rod connected to a soil vapor probe into the soil with a direct push rig. Once the desired depth was reached, ¹/₄-inch outside diameter TeflonTM tubing was inserted inside the drill rod and attached to the vapor probe. The drill rod was then retracted approximately 6 inches from the borehole to expose the vapor probe. After soil vapor sampling was completed the vapor probe was removed and a soil sampler was driven to approximately 5.5 feet bgs to collect soil samples to confirm subsurface conditions. All three vapor probe locations were located in a tight lean clay.

2.5 Soil Vapor Sampling

Soil vapor sampling was conducted in accordance with Department of Toxic Substance and Control's document *Advisory – Active Soil Gas Investigations* dated January 2003 and updated by California Environmental Protection Agency, March 2010.

- Soil vapor samples were collected at least five days after any measurable precipitation event.
- Prior to sampling, hydrated bentonite was placed around the drill rod where it came in contact with the asphalt surface and the polyethylene tubing where it exited the drill rod, to inhibit surface air migration down the inner and outer portion of the drill rod.
- Prior to sampling, Closure Solutions performed a leak check by placing isopropyl alcohol on the sample line fittings and the top of the vapor probe tubing (where the tubing exited the boring).

- Three volumes of air were purged from the sample tubing before collecting the vapor samples.
- Summa canisters with a vacuum gauge and flow restrictor with a flow rate of 100-200 milliliters/minute were used during collection of soil vapor samples and a background sample
- An air sample was collected inside the building within the worker breathing zone at a height of approximately 5 feet.

The soil vapor samples were transported under chain of custody to SunStar. Samples were analyzed by EPA Method TO-15 for TPHg and BTEX compounds, and isopropyl alcohol as the leak tracer. In addition, carbon dioxide, oxygen, methane and nitrogen were analyzed by ASTM D-1946.

3.0 ANALYTICAL RESULTS

3.1 Soil and Grab Groundwater Results

Chemical analysis of soil samples did not report any petroleum hydrocarbons above laboratory reporting limits. Analysis of the grab groundwater sample reported benzene at a concentration of 0.79 micrograms per liter (μ g/l). All other petroleum hydrocarbons were not reported above laboratory reporting limits. Soil and grab groundwater analytical data is summarized on Tables 1 and 2, respectively and certified analytical reports are included as Attachment A.

3.2 Soil Vapor Results

Chemical analysis of soil vapor samples reported TPHg in two samples with a maximum concentration of 85,000 micrograms per cubic meter ($\mu g/m^3$) in SV-1. Benzene was detected in all three samples with a maximum concentration of 880 $\mu g/m^3$ in SV-1. Toluene was detected in two samples with a maximum concentration of 87 $\mu g/m^3$ in SV-3. Ethylbenzene and total xylenes were reported in all three samples with maximum concentrations of 8,900 $\mu g/m^3$ and 6,200 $\mu g/m^3$ in SV-1, respectively. Isopropyl alcohol was not reported above laboratory reporting limits in any of the samples indicating that there were no leaks in the sample train. Soil vapor analytical results are presented in Figure 3 and summarized in Table 3. Copies of soil vapor analytical laboratory reports are included as Attachment B.

4.0 SOIL VAPOR INTRUSION EVALUATION

Closure Solutions evaluated shallow soil gas environmental screening levels (ESLs) for vapor intrusion concerns in an commercial/industrial land use set by the San Francisco Bay Regional

Water Quality Control Board's *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater – Interim Final*, November 2007, revised May 2008, Table E. Petroleum hydrocarbon compounds exist in vapor phase in soil beneath the Site. TPHg, benzene, and ethylbenzene were detected above ESLs for commercial/industrial land use in vapor probe SV-1 only, which is adjacent to the former dispenser pad in the known source area. Concentrations reported in probes SV-2 and SV-3 are up to 3-orders of magnitude below commercial/industrial land use ESLs. Vapor probe SV-2 is located approximately 18 feet west of SV-1 and concentrations reported in SV-2 show attenuation of 1-3 orders of magnitude within this distance from the source area. In addition to the reduction in concentrations with distance, the building is currently occupied by an auto body painting business which requires ventilation provided by mechanical means. The Site is paved and land use at the Site is expected to continue as an auto body painting facility and remain as such in the foreseeable future. Therefore vapor intrusion is not expected to be a concern at the Site

5.0 WASTE DISPOSAL

No investigation derived waste was generated during the investigation. Soil waste generated from hand auguring was returned to boring SB-18 prior to grouting.

6.0 GEOTRACKER

In accordance Assembly Bill 2886, Closure Solutions has uploaded analytical data, copies of bore logs, well survey data, and the final report related to this investigation to GeoTracker.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The analytical data collected from SB-18 has identified the lateral extent of impacted soil and groundwater in the downgradient direction. Based on the soil vapor sample results, concentrations of constituents of concern exist in vapor phase in soil above established commercial/industrial land use screening levels. However, soil vapor concentrations decline by an order of magnitude within a short distance from the former dispenser location. In addition, current and future operations at the Site require ventilation provided by mechanical means. Because of this, it is not reasonably expected that subsurface vapor concentrations pose an undue risk to onsite workers. Based on the data collected during this additional assessment Closure Solutions recommends the preparation of a No Further Action Request.

8.0 LIMITATIONS

This report is based on Site conditions, data, and other information available as of the date of the report, and the conclusions and recommendations herein are applicable only to the time frame in which the report was prepared. Background information used to prepare this report including, but not limited to, previous field measurements, analytical results, Site plans and other data that has been furnished to Closure Solutions by Kerry & Associates and as available on the GeoTracker website. Closure Solutions has relied on this information as furnished, and is neither responsible for nor has confirmed the accuracy of this information.

We appreciate the opportunity to present this document and trust that it meets with your approval. If you have any questions or concerns, please contact Ms. Kathleen Waldo at (916) 760-7025 or at kwaldo@closuresolutions.com.

Sincerely,

Closure Solutions, Inc.

auten Walds

Kathleen Waldo Project Engineer

Matthew Farris, P.G. Project Geologist



ATTACHMENTS:

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Soil Vapor Probe Analytical Results
Tabla 1	Soil Applytical Data

Table 1Soil Analytical DataTable 2Grab Groundwater Analytical DataTable 3Soil Vapor Analytical Data

Attachment ASoil and Groundwater Analytical Laboratory ReportsAttachment BSoil Vapor Analytical Laboratory Reports







Table 1Soil Analytical Data

Former Palace Garage 14336 Washington Avenue San Leandro, California

Sample ID	Date Sampled	Sample Depth (feet bgs)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)				
SB-18-16.5	7/26/2010	16.5	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.010				
Abbreviations:											
GRO	=	Gasoline range	organics C6-C	12							
bgs	=	Below ground surface									
mg/kg	=	Milligrams per kilogram									
ND	=	Not detected ab	Not detected above noted laboratory reporting limit								

Table 2Grab Groundwater Analytical Data

		14336 San	Washington A Leandro, Calif	ornia		
Sample ID	Date Sampled	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
SB-18W	7/26/2010	ND<50	0.79	ND<0.50	ND<0.50	ND<1.5
Abbreviations: GRO ug/L ND	= = =	Gasoline range Micrograms pe Not detected ab	organics C6-C1 r liter pove noted labor	2 atory reporting	limit	

Table 3Soil Vapor Analytical Data

Former Palace Garage 14336 Washington Avenue San Leandro, California

Sample ID	Date Sampled	Sample Depth (feet bgs)	TPHg (ug/m ³)	Benzene (ug/m ³)	Toluene (ug/m ³)	Ethyl- benzene (ug/m ³)	Total Xylenes (ug/m ³)	2-Propanol (ug/m ³)	Methane (ug/m ³)	Carbon Dioxide (%)	Oxygen (%)	Nitrogen (%)
SV-1	07/26/10	5	85,000	880	<190	8,900	6,200	<130	6,500	< 0.18	20.2	82.7
SV-2	07/26/10	5	<7,200	15	58	9.0	32	<13	<3,300	<0.19	20.1	81.3
SV-2 DUP	07/26/10	5	<7,200	15	55	8.8	30	<13	<3,300	< 0.18	19.7	80.7
SV-3	07/26/10	5	13,000	23	87	7.7	41	<13	<3,300	<0.19	20.5	83.5
Outdoor Air	07/26/10		<7,200	<3.3	6.2	<4.4	<13.2	<13	<3,300	<0.19	19.6	79.9
ESLs for Sh	allow Soil C	Gas (C/I) ¹	29,000	280	180,000	3,300	58,000	NE	NE	NE	NE	NE

Abbreviations:

TPHg	=	Total Petroleum Hydrocarbons as gasoline
ug/m ³	=	micrograms per cubic meter
NE	=	not established
Bold	=	detection above ESLs
1	=	Environmental Screening Levels (ESLs) for soil gas (Vapor Intrusion Concerns) for commercial/industrial land use from the 2007 Screening for
		Environmental Concerns at Sites with Contaminated Soil and Groundwater- Interim Final by the California Regional Water Quality Control Board,

San Francisco Bay Region, November 2007, revised May 2008, Table E

Notes:

Analysis performed by SunStar Laboratories, Inc., Lake Forest, California

All sample containers were 1-Liter Summa Canisters

TPHg, benzene, toluene, ethylbenzene, and total xylenes were analyzed by EPA Method TO-15 $\,$

Carbon dioxide, oxygen, methane and nitrogen were analyzed by EPA Method ASTM D-1946

Attachment A

Soil and Groundwater Analytical Laboratory Reports



PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

26 August 2010

Kate Waldo Closure Solutions 2151 Salvio Street, Suite 301 Concord, CA 94520 RE: Palace Garage

Enclosed are the results of analyses for samples received by the laboratory on 07/27/10 11:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Maro

Kevin Moore Director of Business Development



Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/26/10 15:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-18-16.5	T000741-03	Soil	07/26/10 10:35	07/27/10 11:05
SB-18W	T000741-04	Water	07/26/10 10:40	07/27/10 11:05

SunStar Laboratories, Inc.

1070



Closure Solutions 2151 Salvio Street, Suite 301 Concord CA, 94520) F	Proje Project Numb Project Manag	ect: Palaco per: [none ger: Kate]	e Garage] Waldo				Reported 08/26/10 15	: ::43
		SB T0007	-18-16.5	5 loil)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratoi	ries, Inc.					
Volatile Organic Compounds by E	CPA Method 8260	B							
Benzene	ND	0.0050	mg/kg	1	0072813	07/28/10	07/29/10	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0050	"	"	"	"	"	"	
C6-C12 (GRO)	ND	0.50	"	"	"	"	"	"	
Surrogate: Toluene-d8		99.5 %	85.5	-116	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		74.4 %	75.1	-121	"	"	"	"	S-GC
Surrogate: Dibromofluoromethane		131 %	90-	135	"	"	"	"	

SunStar Laboratories, Inc.

Marc



Closure Solutions 2151 Salvio Street, Suite 301		Proje Project Numb	ect: Palac er: [none	e Garage				Reported	:
Concord CA, 94520	I	Project Manag	er: Kate	Waldo				08/26/10 15	:43
		SI	B-18W						
		T00074	1-04 (W	'ater)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries. Inc.					
Volatile Organic Compounds by E	PA Method 826	0B							
Benzene	0.79	0.50	ug/l	1	0072708	07/27/10	07/28/10	EPA 8260B	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"		"	"	"	"	
m,p-Xylene	ND	1.0	"	"	"	"	"	"	
o-Xylene	ND	0.50	"	"	"	"	"	"	
C6-C12 (GRO)	ND	50			"	"		"	
Surrogate: Toluene-d8		103 %	84.7	7-109	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %	83.5	5-119	"	"	"	"	
Surrogate: Dibromofluoromethane		118 %	81.1	-136	"	"	"	"	

SunStar Laboratories, Inc.

Marc



Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/26/10 15:43

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0072708 - EPA 5030 GCMS										
Blank (0072708-BLK1)				Prepared:	07/27/10	Analyzed	1: 07/28/10			
Benzene	ND	0.50	ug/l	•		2				
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	0.50	"							
C6-C12 (GRO)	ND	50	"							
Surrogate: Toluene-d8	8.06		"	8.00		101	84.7-109			
Surrogate: 4-Bromofluorobenzene	7.23		"	8.00		90.4	83.5-119			
Surrogate: Dibromofluoromethane	8.79		"	8.00		110	81.1-136			
LCS (0072708-BS1)				Prepared:	07/27/10	Analyzed	1: 07/28/10			
Benzene	21.9	0.50	ug/l	20.0		109	75-125			
Toluene	21.2	0.50	"	20.0		106	75-125			
Surrogate: Toluene-d8	7.96		"	8.00		99.5	84.7-109			
Surrogate: 4-Bromofluorobenzene	8.39		"	8.00		105	83.5-119			
Surrogate: Dibromofluoromethane	9.76		"	8.00		122	81.1-136			
Matrix Spike (0072708-MS1)	So	urce: T00074	1-04	Prepared:	07/27/10	Analyzed	1: 07/28/10			
Benzene	22.5	0.50	ug/l	20.0	0.790	108	75-125			
Toluene	21.4	0.50	"	20.0	ND	107	75-125			
Surrogate: Toluene-d8	8.05		"	8.00		101	84.7-109			
Surrogate: 4-Bromofluorobenzene	8.28		"	8.00		104	83.5-119			
Surrogate: Dibromofluoromethane	8.99		"	8.00		112	81.1-136			
Matrix Spike Dup (0072708-MSD1)	So	urce: T00074	1-04	Prepared:	07/27/10	Analyzed	1: 07/28/10			
Benzene	21.2	0.50	ug/l	20.0	0.790	102	75-125	5.67	20	
Toluene	21.1	0.50	"	20.0	ND	105	75-125	1.69	20	
Surrogate: Toluene-d8	8.26		"	8.00		103	84.7-109			
Surrogate: 4-Bromofluorobenzene	8.22		"	8.00		103	83.5-119			
Surrogate: Dibromofluoromethane	8.20		"	8.00		102	81.1-136			

SunStar Laboratories, Inc.

SunStar Laboratories, Inc. PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/26/10 15:43

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analysis		Reporting	TT	Spike	Source	0/ 850	%REC	DDD	RPD	NT /
Апагуте	Result	Limit	Units	Level	Kesult	%REC	Limits	KPD	Limit	INOtes
Batch 0072813 - EPA 5030 GCMS										
Blank (0072813-BLK1)				Prepared:	07/28/10	Analyzed	l: 07/29/10			
Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
m,p-Xylene	ND	0.0050	"							
o-Xylene	ND	0.0050	"							
C6-C12 (GRO)	ND	0.50	"							
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	85.5-116			
Surrogate: 4-Bromofluorobenzene	0.0330		"	0.0400		82.6	75.1-121			
Surrogate: Dibromofluoromethane	0.0517		"	0.0400		129	90-135			
LCS (0072813-BS1)				Prepared:	07/28/10	Analyzed	l: 07/29/10			
Chlorobenzene	0.0778	0.0050	mg/kg	0.100		77.8	75-125			
1,1-Dichloroethene	0.116	0.0050	"	0.100		116	75-125			
Trichloroethene	0.0890	0.0050	"	0.100		89.0	75-125			
Benzene	0.0928	0.0050	"	0.100		92.8	75-125			
Toluene	0.0811	0.0050	"	0.100		81.1	75-125			
Surrogate: Toluene-d8	0.0380		"	0.0400		95.1	85.5-116			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.8	75.1-121			
Surrogate: Dibromofluoromethane	0.0484		"	0.0400		121	90-135			
Matrix Spike (0072813-MS1)	So	urce: T00074	11-03	Prepared:	07/28/10	Analyzed	l: 07/29/10			
Chlorobenzene	0.0902	0.0050	mg/kg	0.100	ND	90.2	75-125			
1,1-Dichloroethene	0.124	0.0050	"	0.100	ND	124	75-125			
Trichloroethene	0.0988	0.0050	"	0.100	ND	98.8	75-125			
Benzene	0.0988	0.0050	"	0.100	ND	98.8	75-125			
Toluene	0.0936	0.0050	"	0.100	ND	93.6	75-125			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.6	85.5-116			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		106	75.1-121			
Surrogate: Dibromofluoromethane	0.0512		"	0.0400		128	90-135			

SunStar Laboratories, Inc.

SunStar Laboratories, Inc. Providing Quality Analytical Services Nationwide

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/26/10 15:43

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

	Reporting			Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 0072813 - EPA 5030 GCMS										
Matrix Spike Dup (0072813-MSD1)	Sou	rce: T00074	1-03	Prepared:	07/28/10	Analyzed	d: 07/29/10			
Chlorobenzene	0.0926	0.0050	mg/kg	0.100	ND	92.6	75-125	2.57	20	
1,1-Dichloroethene	0.119	0.0050		0.100	ND	119	75-125	3.71	20	
Trichloroethene	0.0949	0.0050		0.100	ND	94.9	75-125	4.03	20	
Benzene	0.106	0.0050	"	0.100	ND	106	75-125	6.70	20	
Toluene	0.0952	0.0050		0.100	ND	95.2	75-125	1.75	20	
Surrogate: Toluene-d8	0.0388		"	0.0400		96.9	85.5-116			
Surrogate: 4-Bromofluorobenzene	0.0424		"	0.0400		106	75.1-121			
Surrogate: Dibromofluoromethane	0.0608		"	0.0400		152	90-135			S-GC

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/26/10 15:43

Notes and Definitions

- S-GC Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

SunStar Laboratories, Inc.

Marc

Chain of Custody Record

SunStar Laboratories, Inc. 25712 Commercentre Dr Lake Forest, CA 92630 949-297-5020

•

Client: Closu Address: Z151 Sc Phone: 925-808 Project Manager: C	Client: $Closure Solutions$ Address: 2151 Salvio St. Concord, (A Phone: $925-808-9290$ Fax: Project Manager: C, Waldo			A-	- - -			Dat Pro Coll Bat	e: ject lecto ch #	Nar or:	7, ne:	/2	P Fa	/10 ala 74		2	P Ci Ci Ei	age 2 lient DF #	: Project #: #:	Of	
Sample ID 58-18-11.5 513-18-13.5 58-18-16.5	Date Sampled	Time 10: 10 10: 75 10: 35	Sample Type Soul	Container Type Sleeve Sleeve	X 8260 + BTEX	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals						Commer Hold Hold	nts/Preservative	Total # of containers
SB-18W		10:40	water	VOA	×												0	4		14cL	5
SV-2-5		13.20	Soil	Slewe													0	5	Hold		
																			••••		
				,			_	_										_			
Relinquished by: (signature)	Date / Ti Hzc/iš Date / Ti	me 17-00 me	Received t Received t	by: (signature)	.I	7	Date	∍ / Ti 0 ∋ / Ti	ime IPC ime	12	Cha	ain of	ت ۲۰ f Cus Se	otal # stody eals ir	of co seals ntact?	 ntaine Y/N/N Y/N/N	rs I (IA <i>N</i>	5 A A		Notes	<u> </u>
Relinquished by: (signature)	, Date / Ti	me	Received t	ov (signature)			Date	e / Ti	ime		R	eceiv	ved g	good	condit	ion/co	ld 3	0	•		
Sample disposal Instructions:	o 11:03	each	Return	france to client	7/	27/ Pic		11	:0.	5	Tur	n are	oune	d tim	e:			_ [

COC 92781

Page 1 of 1

SAMPLE RECEIVING REVIEW SHEET

BATCH # 7000 741					
Client Name: Closure Solutions	Project:	Palace	Gara	51	
Received by:Brian	Date/Time Re	ceived:	7/27/10	D (105	
Delivered by : Client SunStar Courier GSO	FedEx	Other_			
Total number of coolers received Temp cr	riteria = 6°C :	> 0°C (no <u>f</u>	rozen con	tainers)	
Temperature: cooler #1 _3,2 °C +/- the CF (- 0.2°C) = _	<u>3.0</u> °C correc	ted temperatu	re		
cooler #2°C +/- the CF (- 0.2° C) =	°C correc	ted temperatu	re		
cooler #3°C +/- the CF (- 0.2° C) =	°C correc	ted temperatu	re		
Samples outside temp. but received on ice, w/in 6 hours of fina	al sampling.	Yes	□No*	□N/A	
Custody Seals Intact on Cooler/Sample		Yes	□No*	N/A	
Sample Containers Intact		Yes	No*		
Sample labels match COC ID's		Yes	□No*		
Total number of containers received match COC		Yes	□No*		
Proper containers received for analyses requested on COC		Yes	No*		
Proper preservative indicated on COC/containers for analyses	requested	Yes	□No*	□N/A	
Complete shipment received in good condition with correct ter preservatives and within method specified holding times. * Complete Non-Conformance Receiving Sheet if checked Co Comments:	nperatures, co Yes No ³ oler/Sample Re	ntainers, la	bels, volur ls and date	nes <u>VM</u>	<u> 7/L7</u> [(0

Attachment B

Soil Vapor Analytical Laboratory Reports



PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

11 August 2010

Kate Waldo Closure Solutions 2151 Salvio Street, Suite 301 Concord, CA 94520 RE: Palace Garage

Enclosed are the results of analyses for samples received by the laboratory on 07/27/10 11:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Maro

Kevin Moore Director of Business Development



Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/11/10 07:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SV-1	T000742-01	Air	07/26/10 12:02	07/27/10 11:05
SV-2	T000742-02	Air	07/26/10 13:00	07/27/10 11:05
SV-2 DUP	T000742-03	Air	07/26/10 13:00	07/27/10 11:05
SV-3	T000742-04	Air	07/26/10 13:45	07/27/10 11:05
OUTDOOR AIR	T000742-05	Air	07/26/10 14:30	07/27/10 11:05

SunStar Laboratories, Inc.



Closure Solutions 2151 Salvio Street, Suite 301 Concord CA, 94520	Project: Palace Garage Project Number: [none] Project Manager: Kate Waldo								
		TAAA	SV-1	•)					
		1000	/42-01 (A	.Ir)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
TO-15									TO-14
Isopropyl alcohol	ND	130	ug/m³ Air	1.83	0072706	07/27/10	08/03/10	TO-15	
Benzene	880	160	"	"	"	"	"	"	
Toluene	ND	190	"	"	"	"	"	"	
Ethylbenzene	8900	220	"			"	"	"	
m,p-Xylene	6200	220	"			"	"	"	
o-Xylene	ND	220	"	"	"	"	"	"	
C6-C12 (GRO)	85000	7200	"			"	"	"	
Surrogate: 4-Bromofluorobenzene		%	40-1	160	"	"	"	"	
Methane by GC									
Methane	6500	3300	ug/m³ Air	1	0072705	07/27/10	08/02/10	8015M	
Fixed Gases ASTM D1946-90									
Carbon Dioxide	ND	0.18	%	1.83	0072704	"	08/03/10	GC	
Oxygen	20.2	0.18	"			"	"	"	
Nitrogen	82.7	0.18	"	"	"		"	"	

SunStar Laboratories, Inc.

Marc



Closure Solutions 2151 Salvio Street, Suite 301 Concord CA, 94520	F	Project Numl roject Manag	ect: Palace ber: [none] ger: Kate V	Garage Valdo				Reported 08/11/10 07	l: 7:30
		T 000	SV-2	•)					
		1000	/42-02 (A	1 r)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
<u>TO-15</u>									
Isopropyl alcohol	ND	13	ug/m³ Air	1.86	0072706	07/27/10	08/03/10	TO-15	
Benzene	15	3.3	"	"	"	"	"	"	
Toluene	58	3.8	"	"	"	"	"	"	
Ethylbenzene	9.0	4.4	"	"	"	"	"	"	
m,p-Xylene	14	8.8	"	"	"	"	"	"	
o-Xylene	18	4.4	"	"	"	"	"		
C6-C12 (GRO)	ND	7200	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.4 %	40-1	160	"	"	"	"	
Methane by GC									
Methane	ND	3300	ug/m³ Air	1	0072705	07/27/10	08/02/10	8015M	
Fixed Gases ASTM D1946-90									
Carbon Dioxide	ND	0.19	%	1.86	0072704	"	08/03/10	GC	
Oxygen	20.1	0.19	"		"	"	"	"	
Nitrogen	81.3	0.19	"	"	"		"	"	

SunStar Laboratories, Inc.

Marco_



Closure Solutions									
2151 Salvio Street, Suite 301	I	Reported:							
Concord CA, 94520	P	roject Manag	ger: Kate V	Valdo				08/11/10 0	/:30
		SV	-2 DUP						
		T000 7	742-03 (A	ir)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aborator	ies, Inc.					
TO-15									
Isopropyl alcohol	ND	13	ug/m³ Air	1.85	0072706	07/27/10	08/03/10	TO-15	
Benzene	15	3.3	"	"	"	"	"	"	
Toluene	55	3.8	"	"	"	"	"	"	
Ethylbenzene	8.8	4.4	"	"	"	"		"	
m,p-Xylene	13	8.8	"	"	"	"	"	"	
o-Xylene	17	4.4	"	"	"	"	"	"	
C6-C12 (GRO)	ND	7200	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.3 %	40-1	160	"	"	"	"	
Methane by GC									
Methane	ND	3300	ug/m³ Air	1	0072705	07/27/10	08/02/10	8015M	
Fixed Gases ASTM D1946-90									
Carbon Dioxide	ND	0.18	%	1.85	0072704	"	08/03/10	GC	
Oxygen	19.7	0.18	"		"	"	"	"	
Nitrogen	80.7	0.18	"	"	"		"	"	

SunStar Laboratories, Inc.

Marco_



Closure Solutions 2151 Salvio Street, Suite 301	Project: Palace Garage uite 301 Project Number: [none]									
Concord CA, 94520	Р	roject Manag	ger: Kate V	Valdo				08/11/10 0	7:30	
			SV-3							
		T000	742-04 (A	ir)						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
		SunStar L	aborator	ies, Inc.						
<u>TO-15</u>										
Isopropyl alcohol	ND	13	ug/m³ Air	1.88	0072706	07/27/10	08/03/10	TO-15		
Benzene	23	3.3	"	"	"	"	"			
Toluene	87	3.8	"		"	"				
Ethylbenzene	7.7	4.4	"	"	"	"				
m,p-Xylene	14	8.8	"	"	"	"	"	"		
o-Xylene	27	4.4	"	"	"	"				
C6-C12 (GRO)	13000	7200	"		"	"	"			
Surrogate: 4-Bromofluorobenzene		86.9 %	40-1	160	"	"	"	"		
Methane by GC										
Methane	ND	3300	ug/m³ Air	1	0072705	07/27/10	08/02/10	8015M		
Fixed Gases ASTM D1946-90										
Carbon Dioxide	ND	0.19	%	1.88	0072704	"	08/03/10	GC		
Oxygen	20.5	0.19	"		"	"	"	"		
Nitrogen	83.5	0.19	"	"	"	"	"	"		

SunStar Laboratories, Inc.

Marco_



Closure Solutions 2151 Salvio Street, Suite 301 Concord CA, 94520	P Pi	Proje Project Numb roject Manag	ct: Palace er: [none] er: Kate V	Garage Valdo				Reported 08/11/10 07	l: 7:30
		OUTI T0007	DOOR A 42-05 (A	.IR ir)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborator	ies, Inc.					
TO-15									
Isopropyl alcohol	ND	13	ug/m³ Air	1.9	0072706	07/27/10	08/03/10	TO-15	
Benzene	ND	3.3	"	"	"	"	"		
Toluene	6.2	3.8		"	"	"	"		
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8		"	"	"	"		
o-Xylene	ND	4.4		"	"	"	"		
C6-C12 (GRO)	ND	7200	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.7 %	40-1	60	"	"	"	"	
Methane by GC									
Methane	ND	3300	ug/m³ Air	1	0072705	07/27/10	08/02/10	8015M	
Fixed Gases ASTM D1946-90									
Carbon Dioxide	ND	0.19	%	1.9	0072704	"	08/03/10	GC	
Oxygen	19.6	0.19		"	"	"	"	"	
Nitrogen	79.9	0.19	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Marc



Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/11/10 07:30

TO-15 - Quality Control

SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 0072706 - General Prep VOC-	MS									
Blank (0072706-BLK1)				Prepared:	07/27/10	Analyzed	: 08/03/10			
Isopropyl alcohol	ND	13	ug/m³ Air							
Benzene	ND	3.3	"							
Toluene	ND	3.8	"							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
o-Xylene	ND	4.4	"							
C6-C12 (GRO)	ND	7200	"							
Surrogate: 4-Bromofluorobenzene	29.3		"	45.3		64.6	40-160			
Duplicate (0072706-DUP1)	So	urce: T0007	42-01	Prepared:	07/27/10	Analyzed	: 08/03/10			ТО-14
Isopropyl alcohol	11.5	130	ug/m³ Air		11.3			2.01	30	
Benzene	804	160	"		877			8.61	30	
Toluene	104	190	"		121			15.1	30	
Ethylbenzene	8320	220	"		8860			6.22	30	
m,p-Xylene	5790	220	"		6240			7.51	30	
o-Xylene	106	220	"		98.5			7.58	30	

..

85100

45.3

81100

0.00

7200

SunStar Laboratories, Inc.

C6-C12 (GRO)

Surrogate: 4-Bromofluorobenzene

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

4.82

40-160

30

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Closure Solutions		Pı	roject: Pal	ace Garage	e						
2151 Salvio Street, Suite 301	Suite 301 Project Number: [none]								Reported:		
Concord CA, 94520		08/11/10 07:30									
	Μ	ethane by	GC - Q	uality C	ontrol						
		SunStar	Labora	tories, l	lnc.						
		Reporting		Spike	Source		%REC		RPD		
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	
Batch 0072705 - General Prep VO	C-GC										
Blank (0072705-BLK1)				Prepared:	07/27/10	Analyzed	: 08/02/10				
Methane	ND	3300	ug/m³ Air								
Duplicate (0072705-DUP1)	Sou	urce: T00074	42-01	Prepared:	07/27/10	Analyzed	: 08/02/10				
Methane	6170	3300	ug/m³ Air		6550			6.01	20		

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100

SunStar Laboratories, Inc. Providing Quality Analytical Services Nationwide

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Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/11/10 07:30

Fixed Gases ASTM D1946-90 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	% %REC Li	REC imits	RPD	RPD Limit	Notes
Batch 0072704 - General Prep VOC-GC	1									
Blank (0072704-BLK1)				Prepared:	07/27/10	Analyzed: 08	/03/10			
Carbon Dioxide	ND	0.10	%							
Oxygen	ND	0.10	"							
Nitrogen	ND	0.10	"							
Duplicate (0072704-DUP1)	Sou	ırce: T00074	2-01	Prepared:	07/27/10	Analyzed: 08	/03/10			
Carbon Dioxide	ND	0.18	%		0.00				20	
Oxygen	20.0	0.18	"		20.2			1.00	20	
Nitrogen	81.8	0.18	"		82.7			1.18	20	

SunStar Laboratories, Inc.

510

SunStar — Laboratories, Inc. Providing Quality Analytical Services Nationwide

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Closure Solutions	Project: Palace Garage	
2151 Salvio Street, Suite 301	Project Number: [none]	Reported:
Concord CA, 94520	Project Manager: Kate Waldo	08/11/10 07:30

Notes and Definitions

TO-14 TO-15 analysis of sample was not performed due to high concentration of analyte(s). Sample was analyzed utilizing method TO-14 and reporting limit has been adjusted accordingly.

DETAnalyte DETECTEDNDAnalyte NOT DETECTED at or above the reporting limitNRNot Reported

- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Kevin Moore, Director of Business Development