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**9:47 am, Mar 27, 2012**

Alameda County  
Environmental Health

March 30, 2011

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 **Fourth Quarter 2011 Groundwater Monitoring Report** are true and correct to the best of my knowledge.

Sincerely,



Mr. Jeffrey Kerry



January 27, 2012

Mr. Mark Detterman  
Alameda County Environmental Health  
1000 San Leandro Boulevard, Suite 300  
San Leandro, CA 94577

**Subject: Fourth Quarter 2011 Groundwater Monitoring Report  
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, Incorporated (Closure Solutions) has prepared this *Fourth Quarter 2011 Groundwater Monitoring Report* (Report) for the Palace Garage facility (the Site), located at 14336 Washington Avenue, in San Leandro, California (Figure 1).

## **1.0 SITE BACKGROUND SUMMARY**

A 550-gallon gasoline underground storage tank (UST) was removed from the Site in 1991. Subsequent investigations included the installation of three monitoring wells (MW-1 through MW-3) and the drilling of 15 borings (B-1 through B-15). 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. The primary groundwater flow direction is toward the southwest.

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

Closure Solutions prepared and submitted a *Site Conceptual Model* (SCM) dated September 30, 2008 for the Site. 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 the 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 October 15, 2009, Closure Solutions discussed the Site status with ACEH. Data gaps presented in the SCM and other information that ACEH would require for site closure were identified. Closure Solutions submitted the *Soil Vapor Probe and Additional Assessment Work Plan* on November 13, 2009 to address the work necessary to move the Site toward closure.

On May 14, 2010, Closure Solutions submitted a letter to the ACEH stating that Closure Solutions intended to proceed with the proposed scope of work pursuant to CCR Title 23, Division 3, Chapter 16, Section 2722 (e) which states “Implementation of the proposed workplan may begin sixty (60) calendar days after submittal, unless the responsible party is otherwise directed in writing by the regulatory agency”. On May 21, 2010, the ACEH responded to Closure Solutions’ letter of intent via email explaining that the ACEH has been largely precluded from generating letters on cases due to the work load imposed by SWRCB Resolution 2009-0042 and they will attempt to raise the review interval for the Site.

On July 26, 2010, a representative from Closure Solutions was on site to oversee the installation and sampling of three temporary soil vapor probes (SV-1 through SV-3) and advancement of one down-gradient soil boring (SB-18). A *Soil Vapor Testing and Additional Assessment Report* describing field activities and discussing analytical soil and soil vapor results was submitted to the ACEH on August 30, 2010.

In response to the additional assessment report, the ACEH issued a letter on May 18, 2011 requesting the preparation of a work plan for the collection of additional soil and groundwater data and completion of work necessary to undertake corrective actions at the Site.

On July 22, 2011, Closure Solutions submitted an *Additional Investigation and Remediation Pilot Test Work Plan*.

On October 5, 2011, the ACEH requested a work plan addendum to provide further information and additional clarification to the proposed work scope. A work plan addendum addressing requests from the ACEH was submitted on November 11, 2011 and was conditionally approved on December 15, 2011.

Closure Solutions continues to conduct groundwater monitoring and sampling on a semi-annual basis during second and fourth quarters.

## **2.0 WORK PERFORMED AND WORK PROPOSED**

Following is a summary of work performed this quarter and work proposed for next quarter:

### **WORK PERFORMED THIS QUARTER:**

1. Prepared and Submitted *Additional Investigation and Remediation Pilot Test Work Plan Addendum* on November 11, 2011.
2. Performed semi-annual groundwater monitoring event on December 15, 2011.

### **WORK PROPOSED FOR NEXT QUARTER:**

1. Conduct well installation and development field activities in January 2012.
2. The next groundwater monitoring event will be performed in second quarter 2012.

## **3.0 DISCUSSION OF RECENT ACTIVITIES**

Closure Solutions performed this quarter's groundwater monitoring and sampling event at the Site on December 15, 2011. Gauging, purging and sampling were conducted in accordance with Closure Solution's Standard Operating Procedures (included in Attachment A). The collected groundwater samples were submitted to SunStar Laboratories for laboratory analysis under Chain-of-Custody protocols. The samples were analyzed for gasoline range organics (GRO) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8260B. Due to a miscommunication, samples MW-1 and MW-3 in addition to MW-2 were analyzed for the following bio-attenuation parameters: ferrous iron by EPA Method 6010, total alkalinity by EPA Method 310.1, and sulfate and nitrate by EPA Method 300.0.

Following is a summary of the current status of the environmental program at the site:

Current Phase of Project:	Monitoring
Groundwater Monitoring & Sampling:	Semi-Annual: MW-1 through MW-4
Is Free Product (FP) Present On-Site:	No
Current Remediation Techniques:	Natural Attenuation

Following is a summary of this quarter's field and analytical data:

Average Depth to Groundwater (in feet bgs):	14.82
Groundwater Elevation (in feet above mean sea level)	22.06 (MW-4) to 22.82 (MW-1)
Groundwater Gradient (direction):	South-southwest
Groundwater Gradient (magnitude):	0.005 feet per foot
GRO detected concentration range:	86 µg/L (MW-4) to 4,300 µg/L (MW-2)
Benzene detected concentration range:	1.5 µg/L (MW-3) to 160 µg/L (MW-2)
Toluene detected concentrations:	0.88 µg/L (MW-1) and 26 µg/L (MW-2)
Ethylbenzene detected concentration range:	3.0 µg/L (MW-3) to 480 µg/L (MW-3)
Xylenes detected concentration range:	1.3 µg/L (MW-4) to 790 µg/L (MW-2)

Laboratory procedures, chain of custody records, and the certified analytical reports are included as Attachment B. Groundwater elevation and analytical data are summarized in Tables 1 and 2. Bio-attenuation parameters are summarized in Table 3.

Purge water generated during the monitoring and sampling event was stored onsite pending characterization and disposal.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

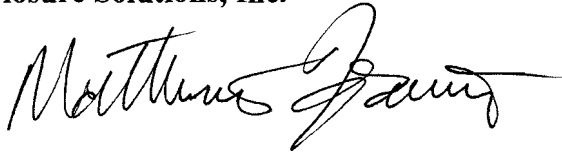
Closure Solutions submitted *Additional Investigation and Remediation Pilot Test Work Plan* (dated July 22, 2011) and a Work Plan addendum (dated November 11, 2011) addressing the request for additional soil and groundwater data collection and completion of work necessary to undertake corrective actions at the Site. The proposed work was conditionally approved by ACEH on December 15, 2011. As part of the Work Plan, Closure Solutions has scheduled installation of two additional groundwater monitoring wells for January 24, 2012. Upon completion, the wells will be incorporated into the existing monitoring program and activities for the proposed dual phase extraction pilot test will be initiated.

In accordance with directive received by the ACEH, Closure Solutions will continue the Site groundwater monitoring and sampling on a semi-annual basis during the second and fourth quarters.

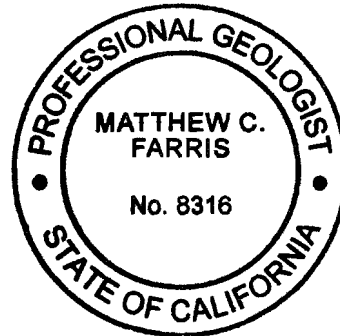
We appreciate the opportunity to present this document and trust that it meets with your approval. If you have any questions or concerns, please contact the undersigned at (916) 760-7579 or at [mfarris@closureolutions.com](mailto:mfarris@closureolutions.com).

Sincerely,

**Closure Solutions, Inc.**



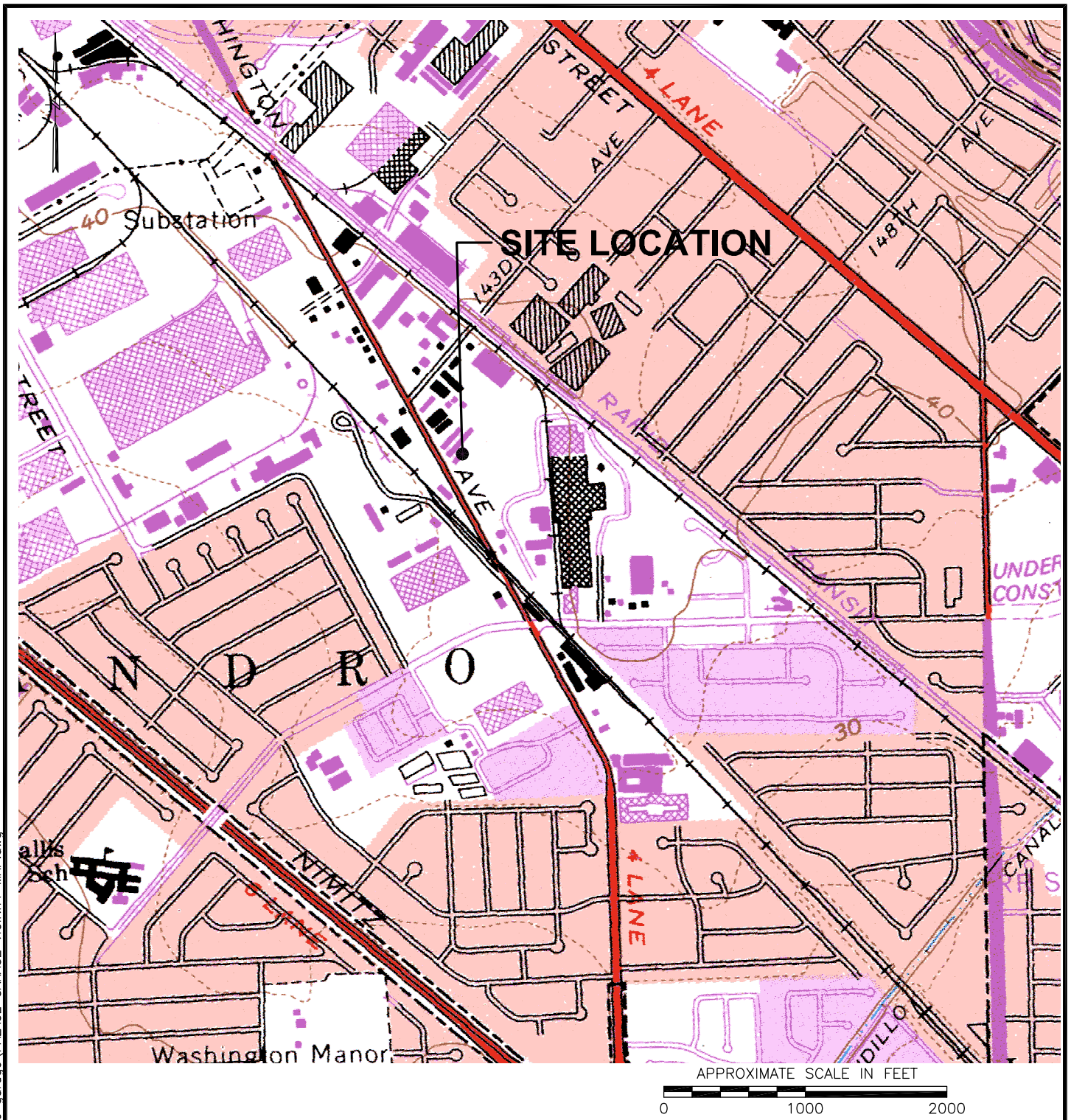
Matthew Farris, P.G.  
Project Geologist



**ATTACHMENTS:**

- |              |                                                                                                                |
|--------------|----------------------------------------------------------------------------------------------------------------|
| Figure 1     | Site Location Map                                                                                              |
| Figure 2     | Fourth Quarter 2011 Groundwater Monitoring & Sampling Results –<br>Groundwater Contour Map – December 15, 2011 |
| Table 1      | Groundwater Elevation and Analytical Data                                                                      |
| Table 2      | Fuel Oxygenate & Lead Scavenger Analytical Data                                                                |
| Table 3      | Bio-Attenuation Parameters                                                                                     |
| Attachment A | Field Procedures and Field Data Sheets                                                                         |
| Attachment B | Laboratory Procedures, Certified Analytical Reports and Chain-of-Custody<br>Records                            |

cc: Mr. Jeff Kerry, Kerry & Associates



20101130.14161396 D:\Client Drawings\Closure\palace garage VICINITY MAP.dwg

REFERENCE:  
 USGS 7.5 MIN QUAD MAP TITLED:SAN LEANDRO, CALIFORNIA DATED: 1959 REV: 1980

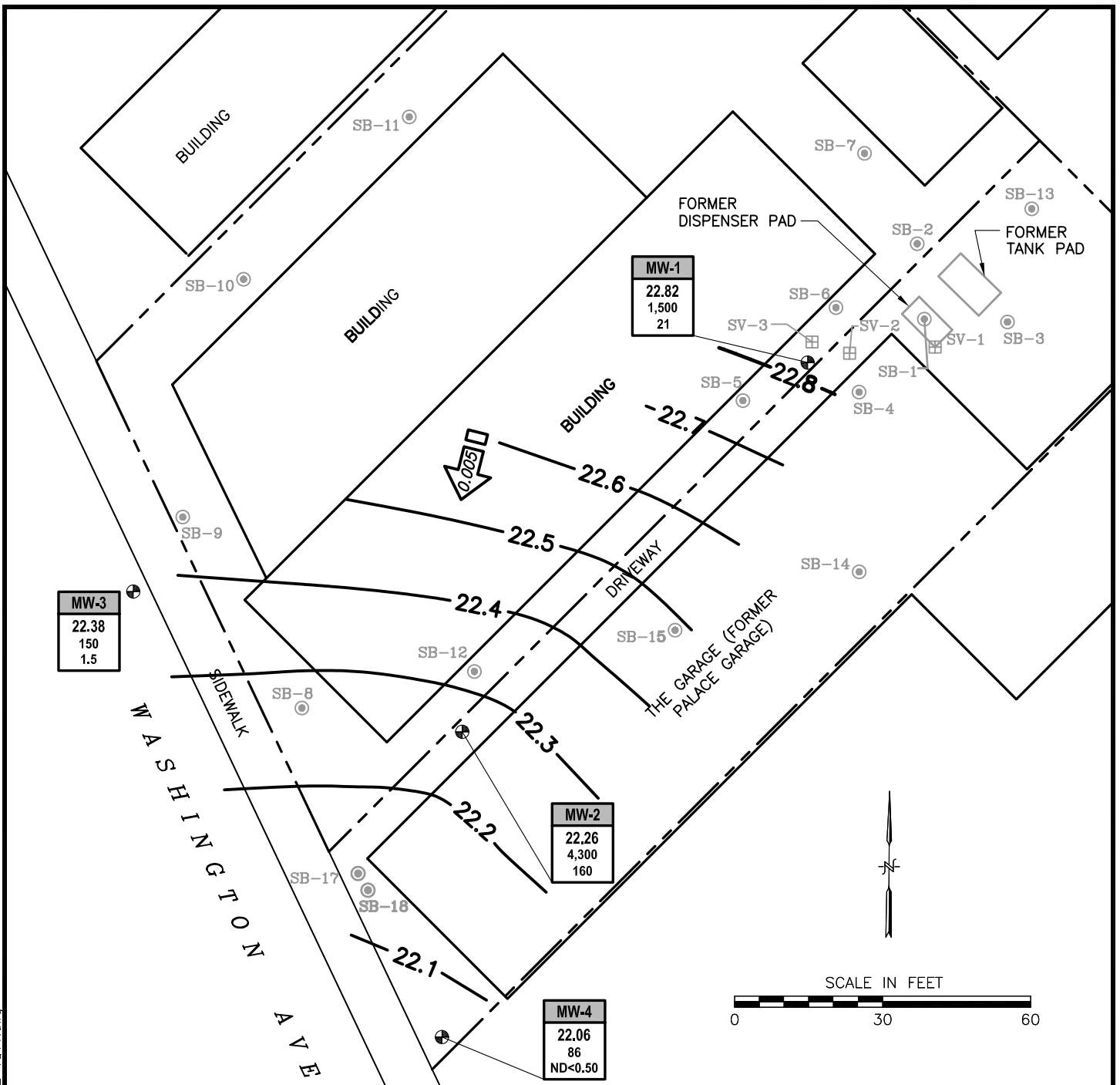
## FIGURE 1 SITE LOCATION MAP

PALACE GARAGE  
 1436 WASHINGTON AVENUE  
 SAN LEANDRO, CALIFORNIA



**CLOSURE SOLUTIONS, INC.**

4600 Northgate Boulevard • Suite 230  
 Sacramento • California • 95834  
 Phone: (800) 988-7880



**LEGEND:**

- GROUNDWATER MONITORING WELL LOCATION
- SOIL VAPOR PROBE
- SOIL BORING LOCATION LOCATION
- PROPERTY LINE
- |         |
|---------|
| WELL    |
| ELEV    |
| GRO     |
| BENZENE |

 WELL DESIGNATION  
GROUNDWATER ELEVATION (FT ABOVE MSL)  
GRO and BENZENE CONCENTRATIONS (µg/L)
- 22.5** GROUNDWATER ELEVATION CONTOURS (FEET ABOVE MEAN SEA LEVEL- NAVD 88)
- GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)

**NOTES:**

1. BASEMAP SOURCE: MORROW SURVEYING, 2/05/03

**FIGURE 2**

FOURTH QUARTER 2011  
GROUNDWATER MONITORING  
& SAMPLING RESULTS

**GROUNDWATER CONTOUR MAP  
DECEMBER 15, 2011**

PALACE GARAGE  
14336 WASHINGTON AVENUE  
SAN LEANDRO, CALIFORNIA



4600 Northgate Boulevard • Suite 230  
Sacramento • California • 95834  
Phone: (800) 988-7880



**Table 1**  
**Groundwater Elevation and Analytical Data**

Palace Garage  
14336 Washington Avenue  
San Leandro, California

Well ID	Date Sampled	Casing Elevation (Feet MSL)	Depth To Water (Feet)	Groundwater Elevation (Feet)	TPHg/ GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-1	12/31/2002	37.59	13.62	23.97	48,000	1,030	2,380	1,690	9,220
	9/22/2006		13.33	24.26	44,000	870	2,200	720	9,700
	12/21/2006		13.94	23.65	17,000	240	980	180	5,000
	3/29/2007		13.71	23.88	2,000	30	85	23	550
	9/27/2007		15.53	22.06	540	14	3.9	44	87
	12/20/2007		15.69	21.90	280	4.3	1.3	15	37
	2/21/2008		13.72	23.87	19,000	300	150	1,100	4,900
	5/15/2008		14.60	22.99	7,200	140	50	370	2,040
	8/7/2008		15.62	21.97	820	13	3.1	44	100
	11/13/2008		16.14	21.45	670	10	2.1	31	110
	6/19/2009		15.15	22.44	1,490	85.8	13.4	164	310
	11/3/2009		15.98	21.61	75	6.0	0.70	12	40.5
	5/4/2010		13.40	24.19	18,000	300	61	880	4,070
	11/8/2010		15.83	21.76	170	4.9	ND<0.50	7.7	24
	4/22/2011		12.34	25.25	3,800	250	48	810	3,260
	<b>12/15/2011</b>		<b>14.77</b>	<b>22.82</b>	<b>1,500</b>	<b>21</b>	<b>0.88</b>	<b>29</b>	<b>4.6</b>

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Well ID	Date Sampled	Casing Elevation (Feet MSL)	Depth To Water (Feet)	Groundwater Elevation (Feet)	TPHg/ GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-2	12/31/2002	37.12	13.38	23.74	1,670	1,030	11.00	23	16.4
	9/22/2006		13.25	23.87	1,800	53	1.40	14	7.5
	12/21/2006		13.89	23.23	--	--	--	--	--
	3/29/2007		13.57	23.55	2,100	51	1.30	--	4.5
	9/27/2007		15-37	21.75	1,600	58	0.99	12	3.7
	12/20/2007		15.40	21.72	1,500	63	1.1	16	4.9
	2/21/2008		13.60	23.52	710	23	ND<0.50	6.2	1.1
	5/15/2008		14.47	22.65	1,600	84	1.4	28	9.8
	8/7/2008		15.48	21.64	2,100	86	1.6	22	9.0
	11/13/2008		15.99	21.13	2,300	46	1.1	15	4.5
	6/19/2009		15.03	22.09	931	60.1	ND<2.0	30	3.1
	11/3/2009		15.87	21.25	220	22	0.55	9.4	5.05
	5/4/2010		12.92	24.20	950	14	0.57	9.1	13.2
	11/8/2010		15.71	21.41	1,900	45	1.6	44	9.28
	4/22/2011		12.27	24.85	1,400	30	1.2	29	5.78
	<b>12/15/2011</b>				<b>14.86</b>	<b>22.26</b>	<b>4,300</b>	<b>160</b>	<b>26</b>

**Table 1**  
**Groundwater Elevation and Analytical Data**

Palace Garage  
14336 Washington Avenue  
San Leandro, California

Well ID	Date Sampled	Casing Elevation (Feet MSL)	Depth To Water (Feet)	Groundwater Elevation (Feet)	TPHg/ GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-3	12/31/2002	37.01	13.29	23.72	<50	<0.5	<0.5	<0.5	<1.0
	9/22/2006		13.14	23.87	<50	<0.5	<0.5	<0.5	<1.5
	12/21/2006		--	--	--	--	--	--	--
	3/29/2007		13.47	23.54	<50	<0.5	<0.5	<0.5	<1.5
	9/27/2007		15.29	21.72	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	12/20/2007		15.30	21.71	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	2/21/2008		---	---	---	---	---	---	---
	5/15/2008		14.35	22.66	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0
	8/7/2008		15.39	21.62	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	11/13/2008		15.90	21.11	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	6/19/2009		14.94	22.07	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<2.0
	11/3/2009		15.76	21.25	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0
	5/4/2010		13.20	23.81	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.5
	11/8/2010		15.62	21.39	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.5
	4/22/2011		12.17	24.84	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.5
		<b>12/15/2011</b>		<b>14.63</b>	<b>22.38</b>	<b>150</b>	<b>1.5</b>	<b>ND&lt;0.50</b>	<b>3.0</b>

**Table 1**  
**Groundwater Elevation and Analytical Data**

Palace Garage  
14336 Washington Avenue  
San Leandro, California

Well ID	Date Sampled	Casing Elevation (Feet MSL)	Depth To Water (Feet)	Groundwater Elevation (Feet)	TPHg/ GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-4	12/31/2002	37.09	13.45	23.64	<50	<0.5	<0.5	<0.5	<1.0
	9/22/2006		13.40	23.69	<50	<0.5	<0.5	<0.5	<1.5
	12/21/2006		13.86	23.23	<50	<0.5	<0.5	<0.5	<1.5
	3/29/2007		13.69	23.40	<50	<0.5	<0.5	<0.5	<1.5
	9/27/2007		15.48	21.61	ND<50	1.5	ND<0.50	0.71	0.74
	12/20/2007		15.28	21.81	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	2/21/2008		13.56	23.53	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0
	5/15/2008		14.58	22.51	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0
	8/7/2008		15.57	21.52	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	11/13/2008		16.09	21.00	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	6/19/2009		15.15	21.94	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<2.0
	11/3/2009		16.03	21.06	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0
	5/4/2010		13.11	23.98	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.5
	11/8/2010		15.89	21.20	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.5
	4/22/2011		12.40	12.40	24.69	ND<50	ND<0.50	ND<0.50	ND<0.50
	<b>12/15/2011</b>		<b>15.03</b>	<b>22.06</b>	<b>86</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>1.3</b>

**Table 1**  
**Groundwater Elevation and Analytical Data**

Palace Garage  
14336 Washington Avenue  
San Leandro, California

Well ID	Date Sampled	Casing Elevation (Feet MSL)	Depth To Water (Feet)	Groundwater Elevation (Feet)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
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ABBREVIATIONS:

- TPHg/ GRO total petroleum hydrocarbons as gasoline. Gasoline range organics
- B Benzene
- T Toluene
- E Ethylbenzene
- X Total xylenes
- µg/L Micrograms per liter (parts per billion [ppb])
- Not analyzed/measured/applicable
- ND< Not detected at or above specified laboratory reporting limit
- Bold** Current sampling event
- MSL mean sea level

LIMITATIONS:

Background information, including but not limited to previous field measurements, analytical results, Site plans, and other data have been obtained from previous consultants, and/or third parties, in the preparation of this report. Closure Solutions has relied on this information as furnished. Closure Solutions is not responsible for, nor has it confirmed the accuracy of data collected or generated by others.

**Table 2**  
**Fuel Oxygenate & Lead Scavenger Analytical Data**  
Palace Garage  
14336 Washington Avenue  
San Leandro, California

Well ID	Date Sampled	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-1	12/31/2002	<0.5	--	--	--	--	--	--
	9/22/2006	<1.0	--	--	--	--	--	--
	12/21/2006	3.9	--	--	--	--	--	--
	3/29/2007	<1.0	--	--	--	--	--	--
	9/27/2007	1.6	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	12/21/2007	1.5	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	2/21/2008	ND<7.0	ND<40	ND<7.0	ND<7.0	ND<7.0	ND<7.0	ND<7.0
	5/15/2008	ND<2.5	ND<15	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
	8/7/2008	1.0	ND<5.0	ND<0.50	ND<0.50	ND<0.50	--	--
	11/13/2008	1.1	ND<5.0	ND<0.50	ND<0.50	ND<0.50	--	--
MW-2	12/31/2002	<0.5	--	--	--	--	--	--
	9/22/2006	<1.0	--	--	--	--	--	--
	12/21/2006	--	--	--	--	--	--	--
	3/29/2007	1.10	--	--	--	--	--	--
	9/27/2007	0.89	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	12/20/2007	0.95	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	2/21/2008	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	5/15/2008	ND<0.90	ND<5.0	ND<0.90	ND<0.90	ND<0.90	ND<0.90	ND<0.90
	8/7/2008	0.59	ND<5.0	ND<0.90	ND<0.90	ND<0.90	--	--
	11/13/2008	0.53	ND<5.0	ND<0.50	ND<0.50	ND<0.50	--	--

**Table 2**  
**Fuel Oxygenate & Lead Scavenger Analytical Data**  
Palace Garage  
14336 Washington Avenue  
San Leandro, California

Well ID	Date Sampled	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-3	12/31/2002	<0.5	--	--	--	--	--	--
	9/22/2006	<1.0	--	--	--	--	--	--
	12/21/2006	--	--	--	--	--	--	--
	3/29/2007	<1.0	--	--	--	--	--	--
	9/27/2007	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	12/20/2007	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	2/21/2008	--	--	--	--	--	--	--
	5/15/2008	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	8/7/2008	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	--	--
	11/13/2008	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	--	--
MW-4	12/31/2002	<0.5	--	--	--	--	--	--
	9/22/2006	<1.0	--	--	--	--	--	--
	12/21/2006	<1.0	--	--	--	--	--	--
	3/29/2007	<1.0	--	--	--	--	--	--
	9/27/2007	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	12/20/2007	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	2/21/2008	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	5/15/2008	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	8/7/2008	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	--	--
	11/13/2008	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	--	--

**Table 2**  
**Fuel Oxygenate & Lead Scavenger Analytical Data**  
Palace Garage  
14336 Washington Avenue  
San Leandro, California

Well ID	Date Sampled	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
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**ABBREVIATIONS:**

MTBE	Methyl Tertiary Butyl Ether
TBA	Tertiary Butyl Alcohol
DIPE	Diisopropyl Ether
ETBE	Ethyl Tertiary Butyl ether
TAME	Tertiary Amyl Methyl Ether
1,2-DCA	1,2-Dichloroethane
EDB	1,2-Dibromoethane
µg/L	Micrograms per liter (parts per billion [ppb])
---	Not analyzed/measured/applicable
ND<	Not detected at or above specified laboratory reporting limit

**LIMITATIONS** Background information, including but not limited to previous field measurements, analytical results, Site plans, and other data have been obtained from previous consultants, and/or third parties, in the preparation of this report. Closure Solutions has relied on this information as furnished. Closure Solutions is not responsible for, nor has it confirmed the accuracy of data collected or generated by others.



**Table 3**  
**Bio-Attenuation Parameters**  
Palace Garage  
14336 Washington Avenue  
San Leandro, California

Well ID	Date Sampled	Dissolved Oxygen (mg/L)	Alkalinity (pH) (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Ferrous Iron (mg/L)
MW-1	12/15/2011	1.23	420	23.4	18.9	0.352
MW-2	12/15/2011	1.86	370	53.8	44.0	ND<0.100
MW-3	12/15/2011	1.23	200	37.2	42.3	ND<0.100
MW-4	12/15/2011	3.93	--	--	--	--

ABBREVIATIONS:

mg/L      Milligrams per liter  
---        Not analyzed/measured/applicable  
ND<       Not detected at or above specified laboratory reporting limit

## **Attachment A**

### **Field Procedures and Field Data Sheets**



## **Standard Operating Procedures: Basic Gauge, Purge, and Sample.**

### **Routine Water Level Measurements**

1. Confirm that water or debris will not enter the well box upon removal of the well box lid.
2. Remove the cover using the appropriate tools.
3. Inspect the wellhead for deficiencies and document accordingly.
4. Confirm that water or debris will not enter the well upon removal of the well cap.
5. Unlock and remove the well cap lock (if applicable). If lock is not functional cut it off.
6. Loosen and remove the well cap. **CAUTION: DO NOT PLACE YOUR FACE OR HEAD DIRECTLY OVER WELLHEAD WHEN REMOVING THE WELL CAP. WELL CAP MAY BE UNDER PRESSURE AND/OR MAY RELEASE ACCUMULATED AND POTENTIALLY HARMFUL VAPORS.**
7. Verify and identify survey point as written on S.O.W.  
TOC: If survey point is listed as Top of Casing (TOC), look for the exact survey point in the form of a notch or mark on the top of the casing. If no mark is present, use the north side of the casing as the measuring point.  
TOB: If survey point is listed as Top of Box (TOB), the measuring point will be established manually. Place the inverted well box lid halfway across the well box opening and directly over the casing. The lower edge of the inverted cover directly over the casing will be the measuring point.
8. Put new Nitrile gloves on your hands.
9. Slowly lower the decontaminated water level meter probe into the well until it signals contact with water with a tone and/or flashing a light.
10. Gently raise the probe tip slightly above the water and hold it there. Wait momentarily to see if the meter emits a tone, signaling rising water in the casing. Gently lower the probe tip slightly below the water. Wait momentarily to see if the meter stops emitting a tone, signaling dropping water in the casing. Continue process until water level stabilizes indicating that the well has equilibrated.
11. While holding the probe at first contact with water and the tape against the measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on well gauging sheet under depth to water column.
12. Recover probe, replace and tighten well cap, replace lock (if applicable), replace well box cover and tighten hardware (if applicable).

### **Purging With a Bailer (Teflon or Disposable)**

1. Attach bailer cord or string to bailer. Leave other end attached to spool.
2. Gently lower empty bailer into well until well bottom is reached.
3. Cut cord from spool. Tie a loop at end cord.
4. Gently raise full bailer out of well and clear of wellhead. Do not let the bailer or cord touch the ground.
5. Pour contents into graduated 5-gallon bucket or other graduated receptacle.
6. Repeat purging process.
7. Upon removal of first casing volume, fill clean parameter cup with purge water, empty the remainder of the purge water into the bucket, lower the bailer back into the well and secure the cord on the Sampling Vehicle.
8. Use the water in the cup to collect and record parameter measurements.
9. Continue purging until second casing volume is removed.

10. Collect parameter measurements.
11. Continue purging until third casing volume is removed.

### **Purging With a Fixed Speed Electric Submersible Pump**

1. Position thoroughly decontaminated pump over the top of the well.
2. Gently unreel and lower the pump to the well bottom.
3. Raise the pump to client specified location within screened interval. If no direction is given the pump inlet will be placed 5 feet above the bottom of the well.
4. Secure the hose reel.
5. Begin purging.
6. Verify pump rate with flow meter or graduated 5-gallon bucket.
7. Upon removal of first casing volume, fill clean parameter cup with water.
8. Use the water in the cup to collect and record parameter measurements.
9. Continue purging until second casing volume is removed.
10. Collect parameter measurements.
11. Continue purging until third casing volume is removed.
12. Upon completion of purging, gently recover the pump and secure the reel.

### **Sampling with a Bailer (Teflon or Disposable)**

1. Put new Latex or Nitrile gloves on your hands.
2. Determine required bottle set.
3. Fill out sample labels completely and attach to bottles.
4. Arrange bottles in filling order and loosen caps (see Determine Collection Order below).
5. Attach bailer cord or string to bailer. Leave other end attached to spool.
6. Gently lower empty bailer into well until water is reached.
7. As bailer fills, cut cord from spool and tie end of cord to hand.
8. Gently raise full bailer out of well and clear of wellhead. Do not let the bailer or cord touch the ground. If a set of parameter measurements is required, go to step 9. If no additional measurements are required, go to step 11.
9. Fill a clean parameter cup, empty the remainder contained in the bailer into the sink, lower the bailer back into the well and secure the cord on the sampling vehicle. Use the water in the cup to collect and record parameter measurements.
10. Fill bailer again and carefully remove it from the well.
11. Slowly fill and cap sample bottles. Fill and cap volatile compounds first, then semivolatile, then inorganic (see following steps). Return to the well as needed for additional sample material.
12. Fill 40-milliliter vials for volatile compounds as follows: Slowly pour water down the inside on the vial. Carefully pour the last drops creating a convex or positive meniscus on the surface. Gently screw the cap on eliminating any air space in the vial. Turn the vial over, tap several times and check for trapped bubbles. If bubbles are present, repeat the process.
13. Fill 1 liter amber bottles for semi-volatile compounds as follows: Slowly pour water into the bottle. Leave approximately 1 inch of headspace in the bottle. Cap bottle.
14. Field filtering of inorganic samples using a disposable bailer is performed as follows: Attach 0.45 micron filter to connector plug. Attach connector plug to bottom of full disposable bailer. Gravity feed water through the filter and into the sample bottle. If high turbidity level of water clogs filter, repeat process with new filter until bottle is filled. Leave headspace in the bottle. Cap bottle.
15. Bag samples and place in ice chest.
16. Note sample collection details on well data sheet and Chain of Custody.



# GROUND WATER MONITORING WELL SAMPLING FIELD DATA SHEET

Project Name: Palace Garage

Date: December 5, 2011 <sup>15</sup>

Sample No.: MW-1

Samplers Name: Kevin Dolan

**Purge Equipment:**

- Bailer: Disposable or Acrylic
- 12 v. Pump -
- Bladder Pump
- SS Monsoon #

**Sample Equipment:**

- Disposable Bailer
- Whaler # \_\_\_\_\_
- Bladder Pump
- Submersible Pump

**Analyses Requested (circle all that apply):**

<u>TPH-G / BTEX (nitrate, sulfate, ferrous iron, and alkalinity in 2" wells)</u>	<u>4 vials w/ HCL</u>
	<u>3 500 mL plastic</u>

**Number and Types of Bottle Used:**

Well Number: MW-1 Well Diameter: 2" with Casing Volume of:

Depth to Water: 14.77 TOC 2" = (0.16 Gallon/Feet)

Well Depth: 23.25 BGS or TOC 4" = (0.65 Gallon/Feet)

Height W-Column: 8.48 feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)

Volume in Well: 1.35 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)

Gallons to purge: 4.07 gallons (volume X 3) 8" = (2.61 Gallon/Feet)

Lab: SunStar

Transportation: \_\_\_\_\_

Time (24 hr.)	Volume Purged (Gallons)	Temperature (°C)	Conductivity (ms/cm)	D.O. (ppm)	pH	TDS (ppm)	Turbidity: Color - Fines	Micropurge Parameters Stabilized
1533	<u>Start</u>							
1535	1.5	18.1	1798	2.10	7.40	—	126; clear, min	
1537	3.0	17.6	1791	1.78	7.36	—	100; ↓ ↓	
1541	4.5	17.3	1786	1.23	7.32	—	93; ↓ ↓	
<u>Start</u>	<u>Purge complete</u>							
<div style="font-size: 48px; font-weight: bold; margin: 0 auto;">2</div>								

**Wait for 80% well volume recovery prior to sampling.**  
Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:

Original Height of Water Column =  $8.48 \times 0.8 = 6.78$  - (Well Depth) 23.25 Depth to water 16.46

Time: 1541 1st measured depth to water, 14.83 feet below TOC. Is well within 80% of original well casing volume: Yes  No

Time: \_\_\_\_\_ 1st measured depth to water, \_\_\_\_\_ feet below TOC. Is well within 80% of original well casing volume: Yes  No

Time: \_\_\_\_\_ 1st measured depth to water, \_\_\_\_\_ feet below TOC. Is well within 80% of original well casing volume: Yes  No

**Sample Well**

Time: 1549 Sample ID: MW-1 Depth: 14.83

Comments: slight Hz odor - no smell

Well Condition: good

# GROUND WATER MONITORING WELL SAMPLING FIELD DATA SHEET

Project Name: Palace Garage

Date: December 15, 2011

Sample No.: MW-2

Samplers Name: Kevin Dolan

**Purge Equipment:**

- Bailer: Disposable or Acrylic
- 12 v. Pump -
- Bladder Pump
- SS Monsoon #

**Sample Equipment:**

- Disposable Bailer
- Whaler # \_\_\_\_\_
- Bladder Pump
- Submersible Pump

**Analyses Requested (circle all that apply):**

**Number and Types of Bottle Used:**

<u>TPH-G / BTEX (nitrate, sulfate, ferrous iron, and alkalinity in 2" wells)</u>	<u>4 Vials w/ HCL</u> <u>3 500 mL Plastic</u>
----------------------------------------------------------------------------------	--------------------------------------------------

Well Number: MW-2

Well Diameter: 2" with Casing Volume of:

Depth to Water: 14.86 TOC

2" = (0.16 Gallon/Feet)

Well Depth: 23.64 BGS or TOC

4" = (0.65 Gallon/Feet)

Height W-Column: 8.78 feet (well depth - depth to water)

5" = (1.02 Gallon/Feet)

Volume in Well: 7.40 gallons (casing volume X height)

6" = (1.47 Gallon/Feet)

Gallons to purge: 4.20 gallons (volume X 3)

8" = (2.61 Gallon/Feet)

Lab: SunStar

**Transportation:**

Time (24 hr.)	Volume Purged (Gallons)	Temperature (°C)	Conductivity (ms/cm)	D.O. (ppm)	pH	TDS (ppm)	Turbidity: Color - Fines	Micro-purge Parameters Stabilized
1609	START							
1611	1.5	20.6	789	2.14	7.39	✓	98; clear, mn	
1613	3	20.3	781	2.01	7.35	✓	90	
1615	4.5	20.1	773	1.86	7.28	✓	83; ↓ ↓	
Stop	Purge Complete							

**Wait for 80% well volume recovery prior to sampling.**  
Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:

Original Height of Water Column =  $8.78 \times 0.8 = 7.02$  (Well Depth)  $23.64 - 7.02 =$  Depth to water  $16.61$

Time: 1626 1st measured depth to water, 14.93 feet below TOC.  
 Time: \_\_\_\_\_ 1st measured depth to water, \_\_\_\_\_ feet below TOC.  
 Time: \_\_\_\_\_ 1st measured depth to water, \_\_\_\_\_ feet below TOC.

Is well within 80% of original well casing volume: Yes  No \_\_\_\_\_  
 Is well within 80% of original well casing volume: Yes \_\_\_\_\_ No \_\_\_\_\_  
 Is well within 80% of original well casing volume: Yes \_\_\_\_\_ No \_\_\_\_\_

**Sample Well**

Time: 1626 Sample ID: MW-2 Depth: 14.93

Comments: Widespread HC odor

Well Condition: good

# GROUND WATER MONITORING WELL SAMPLING FIELD DATA SHEET

Project Name: Palace Garage Date: December 8<sup>15</sup>, 2011  
 Sample No.: MW-3  
 Samplers Name: Kevin Dolan

**Purge Equipment:**

Bailer: Disposable or Acrylic  
 12 v. Pump -  
 Bladder Pump  
 SS Monsoon #

**Sample Equipment:**

Disposable Bailer  
 Whaler # \_\_\_\_\_  
 Bladder Pump  
 Submersible Pump

**Analyses Requested (circle all that apply):**

TPH-G / BTEX (nitrate, sulfate, ferrous iron, and alkalinity in 2" wells)

**Number and Types of Bottle Used:**

Well Number: MW-3 Well Diameter: 2" with Casing Volume of:  
 Depth to Water: 14.63 TOC 2" = (0.16 Gallon/Feet)  
 Well Depth: 23.06 BGS or TOC 4" = (0.65 Gallon/Feet)  
 Height W-Column: 8.43 feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
 Volume in Well: 1.35 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
 Gallons to purge: 4.05 gallons (volume X 3) 8" = (2.61 Gallon/Feet)

Lab: SunStar

Transportation:

Time (24 hr.)	Volume Purged (Gallons)	Temperature (°C)	Conductivity (ms/cm)	D.O. (ppm)	pH	TDS (ppm)	Turbidity: Color - Fines	Micropurge Parameters Stabilized
1504	Start							
1506	1.5	18.4	1733	7.47	6.30	✓	-10; clear, min	
1508	3	18.6	1673	1.36	6.39	✓	↓ ↓ ↓	
1510	4.50	18.6	1668	1.23	6.46	✓	↓ ↓ ↓	
Stop	Purge Complete							
<div style="font-size: 2em; font-family: cursive;">2</div>								

**Wait for 80% well volume recovery prior to sampling.**  
 Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:

Original Height of Water Column =  $8.43 \times 0.8 = 6.74$  - (Well Depth) 23.06 Depth to water 16.32

Time: 1520 1st measured depth to water, 14.65 feet below TOC. Is well within 80% of original well casing volume: Yes  No   
 Time: \_\_\_\_\_ 1st measured depth to water, \_\_\_\_\_ feet below TOC. Is well within 80% of original well casing volume: Yes  No   
 Time: \_\_\_\_\_ 1st measured depth to water, \_\_\_\_\_ feet below TOC. Is well within 80% of original well casing volume: Yes  No

**Sample Well**

Time: 1521 Sample ID: MW-3 Depth: 14.65

Comments: No odor - no smell

Well Condition: good



# GROUND WATER MONITORING WELL SAMPLING FIELD DATA SHEET

Project Name: Palace Garage Date: December 15 2011

Sample No.: MW-4

Samplers Name: Kevin Dolan

Purge Equipment:  
 Bailer: Disposable or Acrylic  
 12 v. Pump - Foot valve w/ 3/8 tube  
 Bladder Pump  
 SS Monsoon #

Sample Equipment:  
 Disposable Bailer  
 Whaler # \_\_\_\_\_  
 Bladder Pump  
 Submersible Pump

Analyses Requested (circle all that apply):  
TPH-G / BTEX (nitrate, sulfate, ferrous iron, and alkalinity in 2" wells) 4 vials w/ HCL

Well Number: MW-4 Well Diameter: 3/4" with Casing Volume of:  
 Depth to Water: 15.03 TOC 2" = (0.16 Gallon/Feet)  
 Well Depth: 21.85 BGS or TOC 3/4" = (0.041) 4" = (0.65 Gallon/Feet)  
 Height W-Column: 6.82 feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
 Volume in Well: 0.27 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
 Gallons to purge: 0.81 gallons (volume X 3) 8" = (2.61 Gallon/Feet)

Lab: SunStar Transportation:

Time (24 hr.)	Volume Purged (Gallons)	Temperature (°C)	Conductivity (ms/cm)	D.O. (ppm)	pH	TDS (ppm)	Turbidity: Color - Fines	Micropurge Parameters Stabilized
1432	START							
1434	0.30						NO READ	
1436	0.60	22.1	723	4.12	7.53		483; brown, murky	
1438	0.90	21.8	1693	3.93	7.46		452; brown, murky	
	Stop. Purge	Complete						

Wait for 80% well volume recovery prior to sampling.  
 Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:  
 Original Height of Water Column =  $6.82 \times 0.8 = 5.45$  (Well Depth) 21.85 Depth to water 16.39

Time: 1448 1st measured depth to water, 15.83 feet below TOC. Is well within 80% of original well casing volume: Yes  No   
 Time: \_\_\_\_\_ 1st measured depth to water, \_\_\_\_\_ feet below TOC. Is well within 80% of original well casing volume: Yes  No   
 Time: \_\_\_\_\_ 1st measured depth to water, \_\_\_\_\_ feet below TOC. Is well within 80% of original well casing volume: Yes  No

### Sample Well

Time: 1450 Sample ID: MW-4 Depth: 15.83

Comments: NO OBS - NO SCREEN

Well Condition: good

**Attachment B**

**Laboratory Procedures, Certified Analytical Reports  
and Chain-of-Custody Records**



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

23 December 2011

Kate Waldo  
Closure Solutions  
2300 Clayton Rd. Suite 1435  
Concord, CA 94520  
RE: Palace Garage

Enclosed are the results of analyses for samples received by the laboratory on 12/16/11 10:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Wendy Hsiao". The signature is written in a cursive style with a circular flourish at the end.

Wendy Hsiao  
Project Manager

Closure Solutions  
2300 Clayton Rd. Suite 1435  
Concord CA, 94520

Project: Palace Garage  
Project Number: [none]  
Project Manager: Kate Waldo

**Reported:**  
12/23/11 15:35

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	T111914-01	Water	12/15/11 15:49	12/16/11 10:15
MW-2	T111914-02	Water	12/15/11 16:26	12/16/11 10:15
MW-3	T111914-03	Water	12/15/11 15:21	12/16/11 10:15
MW-4	T111914-04	Water	12/15/11 14:50	12/16/11 10:15

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.*



Wendy Hsiao, Project Manager

Closure Solutions  
2300 Clayton Rd. Suite 1435  
Concord CA, 94520

Project: Palace Garage  
Project Number: [none]  
Project Manager: Kate Waldo

**Reported:**  
12/23/11 15:35

**MW-1  
T111914-01 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by SM 3500 Series Methods**

<b>Ferrous Iron</b>	<b>0.352</b>	0.100	mg/l	1	1121625	12/16/11	12/23/11	EPA6010/S M3500	
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**Volatile Organic Compounds by EPA Method 8260B**

<b>Benzene</b>	<b>21</b>	0.50	ug/l	1	1121601	12/16/11	12/21/11	EPA 8260B	
<b>Toluene</b>	<b>0.88</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>29</b>	0.50	"	"	"	"	"	"	
<b>m,p-Xylene</b>	<b>4.6</b>	1.0	"	"	"	"	"	"	
<b>o-Xylene</b>	<b>ND</b>	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>ND</b>	1.0	"	"	"	"	"	"	
<b>C6-C12 (GRO)</b>	<b>1500</b>	50	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %	83.5-119		"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		110 %	81-136		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.5 %	88.8-117		"	"	"	"	

**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods**

<b>Total Alkalinity</b>	<b>420</b>	20	mg/l	1	1121323	12/15/11	12/16/11	EPA 310.1	
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**Anions by EPA Method 300.0**

<b>Sulfate as SO4</b>	<b>23.4</b>	0.500	mg/l	1	1121620	12/16/11	12/17/11	EPA 300.0	
<b>Nitrate as NO3</b>	<b>18.9</b>	0.500	"	"	"	"	"	"	

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.*



Wendy Hsiao, Project Manager

Closure Solutions 2300 Clayton Rd. Suite 1435 Concord CA, 94520	Project: Palace Garage Project Number: [none] Project Manager: Kate Waldo	<b>Reported:</b> 12/23/11 15:35
-----------------------------------------------------------------------	---------------------------------------------------------------------------------	------------------------------------

**MW-2  
T111914-02 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by SM 3500 Series Methods**

Ferrous Iron	ND	0.100	mg/l	1	1121625	12/16/11	12/23/11	EPA6010/S M3500	
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**Volatile Organic Compounds by EPA Method 8260B**

<b>Benzene</b>	<b>160</b>	2.5	ug/l	5	1121601	12/16/11	12/21/11	EPA 8260B	
<b>Toluene</b>	<b>26</b>	0.50	"	1	"	"	"	"	
<b>Ethylbenzene</b>	<b>480</b>	2.5	"	5	"	"	"	"	
<b>m,p-Xylene</b>	<b>650</b>	25	"	25	"	"	"	"	
<b>o-Xylene</b>	<b>140</b>	2.5	"	5	"	"	"	"	
Methyl tert-butyl ether	ND	1.0	"	1	"	"	"	"	
<b>C6-C12 (GRO)</b>	<b>4300</b>	50	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	83.5-119		"	"	"	"	
Surrogate: Dibromofluoromethane		108 %	81-136		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	88.8-117		"	"	"	"	

**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods**

<b>Total Alkalinity</b>	<b>370</b>	20	mg/l	1	1121323	12/15/11	12/16/11	EPA 310.1	
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**Anions by EPA Method 300.0**

<b>Sulfate as SO4</b>	<b>53.8</b>	0.500	mg/l	1	1121620	12/16/11	12/17/11	EPA 300.0	
<b>Nitrate as NO3</b>	<b>44.0</b>	0.500	"	"	"	"	"	"	

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.



Wendy Hsiao, Project Manager

Closure Solutions 2300 Clayton Rd. Suite 1435 Concord CA, 94520	Project: Palace Garage Project Number: [none] Project Manager: Kate Waldo	<b>Reported:</b> 12/23/11 15:35
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**MW-3  
T111914-03 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by SM 3500 Series Methods**

Ferrous Iron	ND	0.100	mg/l	1	1121625	12/16/11	12/23/11	EPA6010/S M3500	
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**Volatile Organic Compounds by EPA Method 8260B**

<b>Benzene</b>	<b>1.5</b>	0.50	ug/l	1	1121601	12/16/11	12/21/11	EPA 8260B	
Toluene	ND	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>3.0</b>	0.50	"	"	"	"	"	"	
<b>m,p-Xylene</b>	<b>11</b>	1.0	"	"	"	"	"	"	
<b>o-Xylene</b>	<b>1.2</b>	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
<b>C6-C12 (GRO)</b>	<b>150</b>	50	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	83.5-119		"	"	"	"	
Surrogate: Dibromofluoromethane		108 %	81-136		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	88.8-117		"	"	"	"	

**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods**

<b>Total Alkalinity</b>	<b>200</b>	20	mg/l	1	1121323	12/15/11	12/16/11	EPA 310.1	
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**Anions by EPA Method 300.0**

<b>Sulfate as SO4</b>	<b>37.2</b>	0.500	mg/l	1	1121620	12/16/11	12/17/11	EPA 300.0	
<b>Nitrate as NO3</b>	<b>42.3</b>	0.500	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Wendy Hsiao, Project Manager



25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
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Closure Solutions 2300 Clayton Rd. Suite 1435 Concord CA, 94520	Project: Palace Garage Project Number: [none] Project Manager: Kate Waldo	<b>Reported:</b> 12/23/11 15:35
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**MW-4**  
**T111914-04 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Volatile Organic Compounds by EPA Method 8260B**

Benzene	ND	0.50	ug/l	1	1121601	12/16/11	12/21/11	EPA 8260B	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
<b>m,p-Xylene</b>	<b>1.3</b>	1.0	"	"	"	"	"	"	
o-Xylene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
<b>C6-C12 (GRO)</b>	<b>86</b>	50	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	83.5-119		"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		112 %	81-136		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		94.5 %	88.8-117		"	"	"	"	

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Wendy Hsiao, Project Manager



Closure Solutions  
2300 Clayton Rd. Suite 1435  
Concord CA, 94520

Project: Palace Garage  
Project Number: [none]  
Project Manager: Kate Waldo

**Reported:**  
12/23/11 15:35

**Metals by SM 3500 Series Methods - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1121625 - EPA 3010A</b>										
<b>Blank (1121625-BLK1)</b>										
				Prepared: 12/16/11 Analyzed: 12/23/11						
Ferrous Iron	ND	0.100	mg/l							
<b>LCS (1121625-BS1)</b>										
				Prepared: 12/16/11 Analyzed: 12/23/11						
Ferrous Iron	0.508	0.100	mg/l	0.526		96.6	80-120			
<b>Matrix Spike (1121625-MS1)</b>										
				Source: T111914-01		Prepared: 12/16/11 Analyzed: 12/23/11				
Ferrous Iron	0.0926	0.100	mg/l	0.526	0.352	NR	75-125			QM-07
<b>Matrix Spike Dup (1121625-MSD1)</b>										
				Source: T111914-01		Prepared: 12/16/11 Analyzed: 12/23/11				
Ferrous Iron	0.135	0.100	mg/l	0.526	0.352	NR	75-125	37.0	20	QM-07

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Closure Solutions 2300 Clayton Rd. Suite 1435 Concord CA, 94520	Project: Palace Garage Project Number: [none] Project Manager: Kate Waldo	<b>Reported:</b> 12/23/11 15:35
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**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
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**Batch 1121601 - EPA 5030 GCMS**

**Blank (1121601-BLK1)**

Prepared: 12/16/11 Analyzed: 12/20/11

Benzene	ND	0.50	ug/l							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	0.50	"							
Methyl tert-butyl ether	ND	1.0	"							
C6-C12 (GRO)	ND	50	"							

Surrogate: 4-Bromofluorobenzene 7.88 " 8.00 98.5 83.5-119

Surrogate: Dibromofluoromethane 8.94 " 8.00 112 81-136

Surrogate: Toluene-d8 7.46 " 8.00 93.2 88.8-117

**LCS (1121601-BS1)**

Prepared: 12/16/11 Analyzed: 12/21/11

Benzene	18.9	0.50	ug/l	20.0		94.6	75-125			
Toluene	19.0	0.50	"	20.0		95.2	75-125			
Surrogate: 4-Bromofluorobenzene	8.40		"	8.00		105	83.5-119			
Surrogate: Dibromofluoromethane	8.96		"	8.00		112	81-136			
Surrogate: Toluene-d8	7.86		"	8.00		98.2	88.8-117			

**Matrix Spike (1121601-MS1)**

Source: T111900-02

Prepared: 12/16/11 Analyzed: 12/21/11

Benzene	18.6	0.50	ug/l	20.0	ND	92.8	75-125			
Toluene	18.4	0.50	"	20.0	ND	92.2	75-125			
Surrogate: 4-Bromofluorobenzene	8.05		"	8.00		101	83.5-119			
Surrogate: Dibromofluoromethane	9.02		"	8.00		113	81-136			
Surrogate: Toluene-d8	7.68		"	8.00		96.0	88.8-117			

**Matrix Spike Dup (1121601-MSD1)**

Source: T111900-02

Prepared: 12/16/11 Analyzed: 12/21/11

Benzene	18.3	0.50	ug/l	20.0	ND	91.4	75-125	1.52	20	
Toluene	18.2	0.50	"	20.0	ND	91.0	75-125	1.37	20	
Surrogate: 4-Bromofluorobenzene	8.23		"	8.00		103	83.5-119			
Surrogate: Dibromofluoromethane	8.88		"	8.00		111	81-136			
Surrogate: Toluene-d8	8.09		"	8.00		101	88.8-117			

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Wendy Hsiao, Project Manager

Closure Solutions 2300 Clayton Rd. Suite 1435 Concord CA, 94520	Project: Palace Garage Project Number: [none] Project Manager: Kate Waldo	<b>Reported:</b> 12/23/11 15:35
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**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1121323 - General Preparation**

**Blank (1121323-BLK1)**

Prepared: 12/14/11 Analyzed: 12/16/11

Total Alkalinity	ND	20	mg/l							
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**Duplicate (1121323-DUP1)**

Source: T111881-01

Prepared: 12/14/11 Analyzed: 12/16/11

Total Alkalinity	140	20	mg/l		150			6.90	20	
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Wendy Hsiao, Project Manager

Closure Solutions  
2300 Clayton Rd. Suite 1435  
Concord CA, 94520

Project: Palace Garage  
Project Number: [none]  
Project Manager: Kate Waldo

**Reported:**  
12/23/11 15:35

**Anions by EPA Method 300.0 - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1121620 - General Preparation**

**Blank (1121620-BLK1)**

Prepared: 12/16/11 Analyzed: 12/19/11

Sulfate as SO4	ND	0.500	mg/l							
Nitrate as NO3	ND	0.500	"							

**LCS (1121620-BS1)**

Prepared: 12/16/11 Analyzed: 12/19/11

Sulfate as SO4	9.15	0.500	mg/l	10.0		91.5	80-120			
Nitrate as NO3	10.3	0.500	"	11.1		92.4	80-120			

**Matrix Spike (1121620-MS1)**

Source: T111914-01

Prepared: 12/16/11 Analyzed: 12/19/11

Sulfate as SO4	33.3	0.500	mg/l	10.0	23.4	99.4	80-120			
Nitrate as NO3	30.7	0.500	"	11.1	18.9	106	80-120			

**Matrix Spike Dup (1121620-MSD1)**

Source: T111914-01

Prepared: 12/16/11 Analyzed: 12/19/11

Sulfate as SO4	33.3	0.500	mg/l	10.0	23.4	98.9	80-120	0.147	20	
Nitrate as NO3	30.6	0.500	"	11.1	18.9	105	80-120	0.114	20	

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Wendy Hsiao, Project Manager

Closure Solutions

Project: Palace Garage

2300 Clayton Rd. Suite 1435

Project Number: [none]

Concord CA, 94520

Project Manager: Kate Waldo

**Reported:**

12/23/11 15:35

### Notes and Definitions

- QM-07 The spike recovery and or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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

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Wendy Hsiao, Project Manager

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

### Chain of Custody Record

T111914

Client: CLOSURE SOLUTIONS INC.  
 Address: 2300 Clayton Rd., St-1435, Concord, CA  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Project Manager: KATE WALDO

Date: 12/15/11 Page: 1 Of 1  
 Project Name: PALACE GARAGE  
 Collector: K. Polun Client Project #: \_\_\_\_\_  
 Batch #: 402011 EDF #: T0600101043

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260 (BTEX/MRE/TAP)	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Nitrate, Sulfate, Phos, Fluoride	Alkalinity	Laboratory ID #	Comments/Preservative	Total # of containers
MW-1	12/15/11	1549	GW	4VIMS	X									X	X	01		
MW-2		1626		3Pdy's										X	X	02		
MW-3		1521												X	X	03		
MW-4		1450		4VIMS										X	X	04		

Relinquished by: (signature) <u>[Signature]</u> Date / Time _____	Received by: (signature) <u>[Signature]</u> Date / Time _____	Total # of containers <u>25</u>	Notes <u>Results to:</u> <u>KWaldo@Closuresolutions.com</u> <u>KPolun</u> <u>MFarriso</u>
Relinquished by: (signature) _____ Date / Time _____	Received by: (signature) _____ Date / Time _____	Chain of Custody seals Y/N/NA <u>NA</u>	
Relinquished by: (signature) <u>FED EX</u> Date / Time <u>12-16-11 10:15</u>	Received by: (signature) <u>[Signature]</u> Date / Time <u>12-16-11 10:15</u>	Seals intact? Y/N/NA <u>NA</u>	
		Received good condition/cold <u>1.2</u>	Turn around time: <u>STD</u>

Sample disposal Instructions: Disposal @ \$2.00 each \_\_\_\_\_ Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

## SAMPLE RECEIVING REVIEW SHEET

BATCH # T111914

Client Name: CLOSURE SOLUTIONS

Project: PALACE GARAGE

Received by: BRIAN

Date/Time Received: 12-16-11 10:15

Delivered by :  Client  SunStar Courier  GSO  FedEx  Other

Total number of coolers received ( Temp criteria = 6°C > 0°C (no frozen containers)

Temperature: cooler #1 1.4 °C +/- the CF (-0.2°C) = 1.2 °C corrected temperature

cooler #2 \_\_\_\_\_ °C +/- the CF (-0.2°C) = \_\_\_\_\_ °C corrected temperature

cooler #3 \_\_\_\_\_ °C +/- the CF (-0.2°C) = \_\_\_\_\_ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final 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 temperatures, containers, labels, volumes preservatives and within method specified holding times.  Yes  No\*

\* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date BC 12-16-11

Comments:

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