SES
STRATEGIC ENGINEERING & SCIENCE

"Effective Business Solutions Through Sound Engineering and Science"

RECEIVED

9:07 am, Nov 08, 2012

Alameda County
Environmental Health

November 5, 2012

Mr. Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

SITE: ALAMEDA ISLANDER MOTEL
2428 CENTRAL AVENUE
ALAMEDA, CALIFORNIA

RE: ADDITIONAL GROUNDWATER ASSESSMENT REPORT

Dear Mr. Wickham:

On behalf of The Alameda Islander, L.P., Strategic Engineering & Science is submitting this Additional Groundwater Assessment Report for the Alameda Islander Motel located at 2428 Central Ave in Alameda, California (Site). This document was prepared in accordance with the workplan dated May 4, 2012 and the conditional approval letter from Alameda County Environmental Health dated May 17, 2012.

In addition, I, Lisa Motoyama, the Site representative, declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

If you have any questions regarding this document, please contact Mark Trevor at (510) 451-1761 or Brian Saliman at (415) 297-2258.

Sincerely,

PROFESSIONAL GEOLOGIST
MARK SEAN TREVOR
No. 8146
3/31/14
STATE OF CALIFORNIA

Mark Trevor, P.G.
Senior Project Geologist
Strategic Engineering & Science, Inc.

Lisa Motoyama
Director
Housing Development

ATTACHMENT:

Additional Groundwater Assessment Report

110 ELEVENTH STREET
2ND FLOOR
OAKLAND
CALIFORNIA 94607
Main 510.451.1761
Fax 510.451.1193
[illegible]

ADDITIONAL GROUNDWATER ASSESSMENT REPORT

ALAMEDA ISLANDER MOTEL
2428 CENTRAL AVENUE
ALAMEDA, CA

October 26, 2012

Prepared for:
CITY OF ALAMEDA HOUSING DEVELOPMENT

Prepared by:
STRATEGIC ENGINEERING & SCIENCE, INC.
110 11th Street - 2nd Floor
Oakland, CA 94607

ADDITIONAL GROUNDWATER ASSESSMENT REPORT

ALAMEDA ISLANDER MOTEL
2428 CENTRAL AVENUE
ALAMEDA, CA

PREPARED FOR:

City of Alameda Housing Development

PREPARED BY:

Strategic Engineering & Science, Inc.
110 11th Street, 2nd Floor
Oakland, California

October 26, 2012

Mark Trevor, P.G.
Senior Project Geologist

Mohammad Bazargani, P.E.
Principal Engineer

TABLE OF CONTENTS

1.0 INTRODUCTION

On behalf of City of Alameda Housing Development, Strategic Engineering & Science, Inc. (SES) has prepared this report of additional groundwater assessment activities conducted at the Alameda Islander Motel, located at 2428 Central Avenue, Alameda, California (Site) (Figure 1).

During construction activities at the Site, a hydraulic elevator "plunger" was removed from the cavity of the former elevator. The plunger measured approximately 40 feet in length when fully removed. Several machined holes were noted along the length of the plunger. Upon removal, heavy oil or hydraulic oil was observed leaking out of the holes of the plunger. The purpose of this investigation was to determine if hydraulic oil or heavy oil is present in groundwater downgradient of the Site.

On May 15, 2012, an Additional Groundwater Assessment Workplan was submitted to the Alameda County Health Care Services Agency (ACHCSA) for approval. SES received conditional approval to proceed with the workplan in a ACHCSA letter dated May 17, 2012. The conditions imposed by ACHCSA were: 1) that one of the two borings was continuously logged for soil type, screened for staining, odor, PID and that suspect soil intervals be sampled for laboratory analysis; and 2) that the sample results be uploaded to the Geotracker database.

The workplan was executed on September 13, 2012 in accordance with the ACHCSA approval conditions. No visual, olfactory or PID indications of hydrocarbon impact to soil or groundwater were discovered and all groundwater samples analyzed resulted in non-detectable levels for the analytes tested.

2.0 SITE DESCRIPTION AND BACKGROUND

The Site is located on the southern corner of the intersection of Central and Park Avenues in the City of Alameda, California. A multistory building under renovations occupies the Site. Properties to the north and east are developed for commercial uses. A residential neighborhood is situated to the west and south.

According to previous reports, a Chevron service station operated at the Site from 1947 until 1970. The station facilities were abandoned on January 27, 1970. One 7,500 gallon and three 3,000 gallon underground storage tanks (USTs) were removed from the Site along with the associated product piping. Confirmation soil samples were not collected at the time of the removal of the Site USTs and station abandonment. The Site was then leased to the post office from early 1970 until Chevron sold the Site to Stahl Wooldridge Construction Company in February 1971.

In 1973, a multi-story motel was constructed at the Site. The main motel structure consists of a three-story building constructed above an at-grade parking garage. The rear auxiliary building is a single-story structure constructed at grade. A concrete-

paved parking lot is present between the two structures. An aged hydroelectric elevator is present at the northwestern corner of the main motel building.

3.0 PREVIOUS INVESTIGATIONS

In June 1993, two soil borings (EB-1 and EB-2) were advanced near the former dispenser island and former UST pit, respectively. Groundwater was encountered at approximately 10 feet below grade (fbg). Soil samples collected from borings EB-1 and EB-2 at 5 fbg did not contain detectable concentrations of Total Petroleum Hydrocarbons as gasoline (TPH-G), Total Petroleum Hydrocarbons as diesel (TPH-D), or benzene, toluene, ethylbenzene, and xylenes (BTEX) at the following detection limits:

- TPH-G/TPH-D: 0.05 mg/kg
- BTEX: 0.0005 mg/kg

The soil sample collected from boring EB-1 at 10 fbg contained 211 milligrams per kilogram (mg/kg) of TPH-D and 7.94 mg/kg of benzene. The grab groundwater sample collected from boring EB-1 contained 27,870 micrograms per liter (µg/l) of TPH-D and 1,782 µg/l of benzene. The grab groundwater sample collected from EB-2 did not contain detectable concentrations of TPH-G, TPH-D, or BTEX at the following detection limits:

- TPH-G/TPH-D: 50 µg/L
- BTEX: 0.5 µg/L

Groundwater monitoring wells MW-1 through MW-3 were installed in April 1994. Groundwater was encountered at approximately 7 fbg. Soil samples collected from borings MW-1 through MW-3 at 5 fbg and MW-3 at 10 fbg did not contain detectable concentrations of TPH-G, TPH-D, or BTEX. The soil sample collected from MW-1 at 10 fbg contained TPH-G (1,300 mg/kg) and TPH-D (3,000 mg/kg). The soil sample collected from boring MW-2 at 10 fbg contained detectable concentrations of TPH-G (3,000 mg/kg), TPH-D (340 mg/kg) and benzene (8 mg/kg). However, these soil samples were collected from below the static groundwater elevation at the time of installation. The groundwater sample collected from well MW-1 contained detectable concentrations of TPH-G (7,400 µg/l), TPH-D (840 µg/l), and benzene (120 µg/l). The groundwater sample collected from well MW-2 contained detectable concentrations of TPH-G (6,400 µg/l) and TPH-D (920 µg/l). The laboratory concluded that the TPH-D chromatogram pattern was indicative of weathered gasoline, not diesel. According to Gettler Ryan, as stated in their April 18, 1997 *Risk Based Corrective Action Report*, based on available records Chevron never distributed diesel at this Site. TPH-G, TPH-D, or BTEX were not detected in groundwater sample collected from MW-3.

Three offsite groundwater wells (MW-4, MW-5, and MW-6) were installed in August 1996. Groundwater was encountered at 7.5 fbg. Soil samples collected from borings MW-4 through MW-6 did not contain detectable concentrations of TPH-G, TPH-D, BTEX, or methyl tert butyl ether (MTBE). Groundwater samples collected from the newly installed wells did not contain TPH-G, TPH-D, BTEX, or MTBE compounds.

Quarterly groundwater monitoring and sampling was initiated at the Site in March 1994 and continued through September 1998. ORC was introduced into monitoring wells MW-1 and MW-2 on May 21, 1998. The introduction of ORC was to enhance natural attenuation processes in and around these wells. The effects of the remediation were not evaluated beyond the final monitoring and sampling event in September of that year. No further information was available.

During the last monitoring and sampling event (September 26, 1998), the groundwater sample collected from MW-1 contained TPH-G (1,400 µg/l), benzene (75 µg/l), ethylbenzene (1.1 µg/l), and total xylenes (2.2 µg/l). Groundwater samples collected from MW-2 contained detectable concentrations of TPH-G (610 µg/l), benzene (18 µg/l), toluene (0.58 µg/l), total xylenes (1.1 µg/l), and MTBE (10 µg/l). Hydrocarbons were not detected in monitoring wells MW-3 through MW-6 during the monitoring and sampling program.

A summary of groundwater concentrations over time is included as Table 1, and the concentration vs. time plots are included as Appendix A. A review of the primary COC concentrations over time suggests that in both wells (MW-1 and MW-2) TPH-G and MTBE decreased between 1996 and 1998, while benzene concentrations showed no clear trend.

In 1999, Gettler Ryan Inc. prepared a Risk Management Plan (RMP). The RMP included several risk management measures for the Site.

In 2001, the six monitoring wells associated with the Site were abandoned by pressure grouting. A “Fuel Leak Site Case Closure“ letter for the Site was issued by the Alameda County Health Care Services Agency on December 27, 2001, which accepted the risk management measures proposed by Gettler Ryan, Inc.

In 2011, fourteen (14) direct-push soil borings were advanced at various locations around the Site. Eight (8) soil borings (SB-1 through SB-8) were advanced to depths ranging between 15 and 20 fbg for the collection of grab groundwater samples. Concentrations of TPH-G above ESLs, were confined to areas near the former USTs (SB-3 and SB-5), former dispenser islands (SB-8), and at one downgradient location (SB-6). Concentrations of TPH-D, above ESLs were confined to an area near the former USTs (SB-3 and SB-5). Concentrations of the VOC naphthalene were confined to areas near the former USTs (SB-3) and the former dispenser islands (SB-8). However, groundwater at the Site is not a domestic or industrial source; domestic water needs are supplied by a municipal system unaffected by the Site. Additionally, current

and historical sampling data suggest that the contamination plume is contained onsite to the area near and north of the former USTs and dispenser islands.

Additionally, six (6) borings (SG-1 through SG-6) were advanced to approximately 5 fbg for the collection of soil gas samples. TPH-G, BTEX, MTBE, and chlorinated solvents concentrations were not detected above California Human Health Screening Levels (CHHSLs) in any of the soil vapor samples collected.

4.0 SCOPE OF WORK

The following summarizes the planned scope of work for the additional groundwater assessment activities:

- Complete two (2) direct-push soil borings to approximately 40 feet below grade for the collection of depth-discreet "hydropunch" groundwater samples. Groundwater samples will be collected at 10 foot intervals in each boring beginning at first-encountered groundwater.

- Logging of soil in one boring to include soil type, color, moisture content, odor, and other observed features and screened with a photoionization (PID) detector in accordance with ACHCSA request.

- Collect soil samples for laboratory analysis if any potentially impacted soil is encountered in accordance with ACHCSA request.

- Laboratory analysis of collected groundwater samples.

- Submittal of results to Geotracker.

5.0 FIELD ACTIVITIES

5.1 Pre-Field Activities

Prior to the commencement of field activities, permits were obtained from the City of Alameda for encroachment and Alameda County Public Works Agency for soil borings. The permits are included in Appendix A. Underground Service Alert (USA) was notified at least two business days prior to the commencement of drilling so that public utility companies could locate their lines.

A health and safety plan that promotes personnel safety and preparedness during the planned activities has previously been developed for investigation activities and was maintained on Site during field activities. A "tailgate" safety meeting was conducted with applicable field workers to discuss the health and safety issues and concerns related to the specific work.

5.2 Hydropunch Borings

The field activities for this investigation were conducted on September 13, 2012. Two direct-push soil borings were advanced to approximately 41 and 38 feet below grade at the locations depicted in Figure 2. The borings were numbered following previous investigations, and thus, the two borings were numbered SB-9 and SB-10. SB-10 was completed to 41 fbg and SB-9 to 38 fbg. Approximately every ten feet, a Hydropunch sampling device was used to collect groundwater samples from the water column. Four groundwater samples were collected from SB-10 and three were collected from SB-9. The drilling at SB-9 met refusal (heaving sands) at 38 fbg and the last groundwater sample was not collected.

SB-10 was logged continuously for soil type, color, moisture content, odor, and other signs of potential hydrocarbon impact and screened by PID. Groundwater was first encountered at 8 fbg and the formation was saturated from that depth to the total depth of 41 fbg. The soil type encountered was exclusively sand. The boring log for SB-10 is included as Appendix B. During the drilling, no signs of staining or sheen were observed to indicate hydrocarbon impact and the PID detected no volatiles.

After sampling was completed, the borings were sealed in accordance with ACPWA regulations under the supervision of Ms. Vicky Hamlin. The surface was completed with concrete, flush with the existing grade, as requested by a representative from the City of Alameda.

5.3 Groundwater Samples

Seven groundwater samples from the soil borings were submitted to a State-certified laboratory for analysis. The samples were properly preserved and transported to the laboratory under appropriate chain-of-custody protocol.

6.0 RESULTS

The laboratory analyzed all seven groundwater samples for the following constituents:

- TPH as diesel (EPA 8015)
- TPH as hydraulic oil (EPA 8015)

The results are included in Table 1 and the laboratory report is included as Appendix C. The results indicated that all samples were non-detectable for all compounds analyzed.

7.0 CONCLUSION

Groundwater samples were collected throughout the upper 30 to 40 feet of shallow groundwater downgradient form the elevator. The results that groundwater has not been impacted by any potential releases of hydraulic oil that may have occurred during the

lifetime of the previous elevator shaft. Any hydraulic oil that may have been released from the elevator appears to be stable and is not migrating off site.

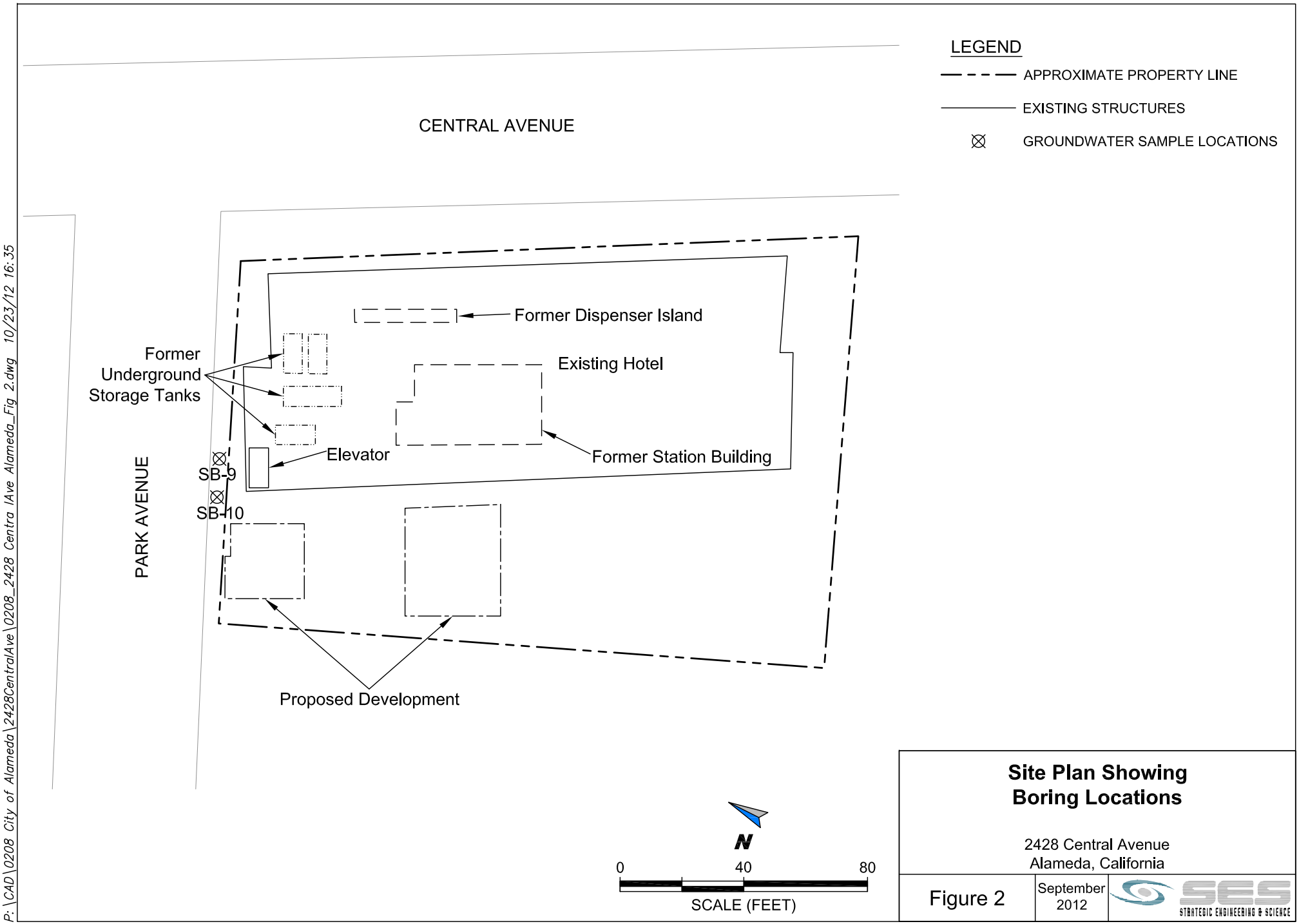
FIGURES

NOT TO SCALE

Vicinity Map
2428 Central Avenue
Alameda, California

Figure 1	05/24/11	SES

P:\CAD\0208 City of Alameda\2428CentralAve\Fig1_Vicinity_Map.dwg



P:\CAD\0208 City of Alameda\2428CentralAve\0208_2428 Centra lAve Alameda_Fig 2.dwg 10/23/12 16:35

Site Plan Showing Boring Locations

2428 Central Avenue
Alameda, California

Figure 2 | September 2012

SES STRATEGIC ENGINEERING & SCIENCE

TABLE

Table 1

Summary of Groundwater Analytical Results

2428 Central Avenue

Alameda, California

Sample Designation	Date	TPH-D (mg/L)	TPH-HO (mg/L)
SB-09 @ 8-13'	09/18/12	ND<0.0476	ND<0.153
SB-09 @ 20-25'	09/18/12	ND<0.0359	ND<0.115
SB-09 @ 30-35'	09/18/12	ND<0.0408	ND<0.131
SB-10 @ 8-13'	09/18/12	ND<0.0574	ND<0.184
SB-10 @ 20-25'	09/18/12	ND<0.0476	ND<0.153
SB-10 @ 30-35'	09/18/12	ND<0.0476	ND<0.153
SB-10 @ 36-41'	09/18/12	ND<0.0359	ND<0.115

Notes:

mg/L = milligrams per liter

ND = not detected at or above laboratory detection limits

TPH-D = Total petroleum hydrocarbons as diesel

TPH-HO = Total petroleum hydrocarbons as hydraulic oil

APPENDIX A

PERMITS

Alameda County Public Works Agency - Water Resources Well Permit

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

Application Approved on: 08/27/2012 By jamesy

Permit Numbers: W2012-0614
Permits Valid from 09/13/2012 to 09/13/2012

Application Id: 1345737191719
City of Project Site: Alameda
Site Location: Alameda Islander Motel
2428 Central Avenue
Alameda, CA
Project Start Date: 09/06/2012
Completion Date: 09/06/2012
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org
Extension Start Date: 09/13/2012
Extension End Date: 09/13/2012
Extension Count: 2
Extended By: vickyh1

Applicant: Strategic Engineering and Science - Steve Kemnitz
110 11th Street, 2nd Floor, Oakland, CA 94607
Phone: 510-451-1761 x208

Property Owner: Brian Salliman Alameda Islander LP
2220 Oxford Street, Berkeley, CA 94704
Phone: --

Client: ** same as Property Owner **

Contact: Steve Kemnitz
Phone: 510-451-1761 x208
Cell: 408-656-5109

Total Due: $265.00
Receipt Number: WR2012-0275 **Total Amount Paid:** $265.00
Payer Name : Mohammad Bazargani Paid By: VISA **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 2 Boreholes
Driller: Penecore - Lic #: 906899 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2012-0614	08/27/2012	12/05/2012	2	2.00 in.	30.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

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

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

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required

for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

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

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

CITY OF ALAMEDA
2263 SANTA CLARA AVENUE, ROOM 190
ALAMEDA, CA 94501

(510) 747-6800
FAX (510) 865-4053

Right-of-Way Permit: EX12-0035

Applicant Information
MARK TREVOR - STRATEGIC
ENGINEERING & SCIENCE
105 2ND ST
OAKLAND CA 94607-4513

Contractor Information

Owner Information
ALAMEDA ISLANDER, LP
2220 OXFORD STREET
BERKELEY CA 94704-1389

Project Information
Status: **Plan Review**
Type: **Right-of-Way Permit**
Category: **NA**
Sub-Type: **NA**
Parcel Number: **070-0186-001-00**
Job Address: **2428 CENTRAL AVE**
Work Description: **EXCAVATION - DRILL (2) SOIL BORINGS INTO SIDEWALK**

Applied: **07/26/2012**
Finaled:

Issued:
Expired: **07/26/2013**

Valuation: **$1,200.00**

INSPECTIONS

Building:	**(510) 747-6830 (7:30 - 8:30 AM)**	**Electrical:**	**(510) 747-6830 (7:30 - 8:30 AM)**
Plumbing & Mechanical:	**(510) 747-6830 (7:30 - 8:30 AM)**	**Fire:**	**(510) 337-2120**
		Design Review:	**(510) 747-6850**

FEE DESCRIPTION	ACCOUNT CODE	UNITS	FEE AMOUNT	PAID
Filing Fee	481003-37450 (1050)	1	$46.00	$46.00
Technology Fee	481003-33063 (1051)	1	$6.00	$6.00
Records Management Fee	482001-37900 (6210)	3	$12.12	$12.12
Engineering - Encroachment Temp <1 week	4210-33410 (1584)	1	$74.00	$74.00
Deposit - Public Works	001-22531 (6209)	1000	$1,000.00	$1,000.00
Community Planning Fee	481005-33064 (8765)	1	$3.60	$3.60
		TOTALS:	$1,141.72	$1,141.72

RECEIPT #	PAYMENT METHOD	CHECK #	PAYOR:	RECEIPT DATE	RECEIPT AMOUNT
479051	Check	3964	STRATEGIC ENGINEERING & SCIENCE, INC.	07/26/2012	$1,141.72
Cashier: HHINSON					
				Total Payments:	$1,141.72
				Balance Due:	$0.00

Version Date: 01/18/2012

Print Date: 8/15/2012

APPENDIX B

BORING LOG

Boring Log

Boring Number SB-10

STRATEGIC ENGINEERING & SCIENCE

Project Number 208
Project Name LINCOLN AVE.
Location ALAMEDA, CA
Drilling Company PENECORE
Sampled By MT Logged By MT Reviewed By MT
Depth To Water 8.5' Time _____ Date _____

Date Drilled 9/13/2012
Sheet 1 Of 2
Drilling Method 2" DP

Time	PID/FID HNu/OVA (ppm)	Blows/6 in. or Pressure (psi)	Recovery (ft/ft)	Sample No.	Depth (feet)	Sample Interval	Well Detail	Soil/Rock Symbol	Graphic Log	Field Soil Description / Interpretation
08:30					0					CONCRETE AND BASE ROCK
			HAND AUGER		5			SP		SAND (SP) : BROWN (2.5YR 4/4); >90% MEDFINE SAND; < 10% FINES; MEDIUM DENSE; NON PLASTIC; DAMP; NO ODOR.
09:00			4/5							
	0				10			SP		WET @ 8.5 FBG NO SIGN OF HYDRO OIL OR VOC'S
09:10			4.5/5				HYDROPUNCH			HYDROPUNCH INTERVAL 8-13 FBG ATTEMPT H2O GRAB GROUND WATER SAMPLE: SB-10@ 8 - 13' 09:30 HRS
	0				15			SP		COLOR CHANGE TO GRAYISH BROWN (10YR 5/2)
09:40			4.5/5							
	0				20			SP		

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Boring Log

Boring Number SB-10

Project Number 208 — Date Drilled 9/13/2012
Project Name LINCOLN AVE.
Location ALAMEDA, CA — Sheet 2 Of 2
Drilling Company PENECORE — Drilling Method 2" DP
Sampled By MT — Logged By MT — Reviewed By MT
Depth To Water _____ Time _____ Date _____

Time	PID/FID HNu/OVA (ppm)	Blows/6 in. or Pressure (psi)	Recovery (ft/ft)	Sample No.	Depth (feet)	Sample Interval	Well Detail	Soil/Rock Symbol	Graphic Log	Field Soil Description / Interpretation
09:50			4/		20					GROUND WATER SAMPLE: SB-10@ 20 - 25' 09:50 HRS
			5							
										HYDROPUNCH INTERVAL 20-25 FBG
										ATTEMPT H2O GRAB
	0						HYDROPUNCH	SP		
					25					
10:00	7.1		5/							
			5							
					30			SP		
10:15	0		5/							GROUND WATER SAMPLE: SB-10@ 30 - 35' 10:30 HRS
			5							
										HYDROPUNCH INTERVAL 20 - 25 FBG
							HYDROPUNCH			
					35					
10:40	0		3/							
			3					SP		
										HYDROPUNCH INTERVAL 36 - 41 FBG
										GROUND WATER SAMPLE: SB-10@ 36 - 41' 11:00 HRS
10:50	0						HYDROPUNCH			
			3/		40					
			3							

APPENDIX C

LABORATORY ANALYTICAL REPORT

SES, Inc
110 11th Street, 2nd Floor
Oakland, California 94607
Tel: (510) 451-2917
Fax: 5104511150

RE: Alameda Islander

Work Order No.: 1209106

Dear Mark Trevor:

Torrent Laboratory, Inc. received 7 sample(s) on September 14, 2012 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

Janice Winn-Shilling
Sr. Project Manager

September 21, 2012
Date

Date: 9/21/2012

Client: SES, Inc

Project: Alameda Islander

Work Order: 1209106

CASE NARRATIVE

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Unless otherwise indicated in the following narrative, no results have been method and/or field blank corrected.

Reported results relate only to the items/samples tested by the laboratory.

Torrent LABORATORY, INC.

Sample Result Summary

Report prepared for: Mark Trevor
SES, Inc

Date Received: 09/14/12
Date Reported: 09/21/12

SB-10 @ 8-13 1209106-001

Parameters:	Analysis Method	DF	MDL	PQL	Results	Unit

All compounds were non-detectable for this sample.

SB-10 @ 20-25 1209106-002

Parameters:	Analysis Method	DF	MDL	PQL	Results	Unit

All compounds were non-detectable for this sample.

SB-10 @ 30-35 1209106-003

Parameters:	Analysis Method	DF	MDL	PQL	Results	Unit

All compounds were non-detectable for this sample.

SB-10 @ 36-41 1209106-004

Parameters:	Analysis Method	DF	MDL	PQL	Results	Unit

All compounds were non-detectable for this sample.

SB-9 @ 8-13 1209106-005

Parameters:	Analysis Method	DF	MDL	PQL	Results	Unit

All compounds were non-detectable for this sample.

SB-9 @ 20 - 25 1209106-006

Parameters:	Analysis Method	DF	MDL	PQL	Results	Unit

All compounds were non-detectable for this sample.

SB-9 @ 30 - 35 1209106-007

Parameters:	Analysis Method	DF	MDL	PQL	Results	Unit

All compounds were non-detectable for this sample.

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Mark Trevor
SES, Inc

Date Received: 09/14/12
Date Reported: 09/21/12

Client Sample ID:	SB-10 @ 8-13	**Lab Sample ID:**	1209106-001A
Project Name/Location:	Alameda Islander	**Sample Matrix:**	Water
Project Number:	239		
Date/Time Sampled:	09/13/12 / 9:30		
Tag Number:	Alameda Islander		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B	9/18/12	09/20/12	1	0.0574	0.20	ND		mg/L	411604	6563
TPH as Hydraulic Oil	SW8015B	9/18/12	09/20/12	1	0.184	0.40	ND		mg/L	411604	6563
Pentacosane (S)	SW8015B	9/18/12	09/20/12	1	53.3	124	88.8		%	411604	6563

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Mark Trevor
SES, Inc

Date Received: 09/14/12
Date Reported: 09/21/12

Client Sample ID:	SB-10 @ 20-25	**Lab Sample ID:**	1209106-002A
Project Name/Location:	Alameda Islander	**Sample Matrix:**	Water
Project Number:	239		
Date/Time Sampled:	09/13/12 / 9:50		
Tag Number:	Alameda Islander		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B	9/18/12	09/20/12	1	0.0476	0.17	ND		mg/L	411604	6563
TPH as Hydraulic Oil	SW8015B	9/18/12	09/20/12	1	0.153	0.33	ND		mg/L	411604	6563
Pentacosane (S)	SW8015B	9/18/12	09/20/12	1	53.3	124	90.0		%	411604	6563

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Mark Trevor
SES, Inc

Date Received: 09/14/12
Date Reported: 09/21/12

Client Sample ID:	SB-10 @ 30-35	**Lab Sample ID:**	1209106-003A
Project Name/Location:	Alameda Islander	**Sample Matrix:**	Water
Project Number:	239		
Date/Time Sampled:	09/13/12 / 10:30		
Tag Number:	Alameda Islander		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B	9/18/12	09/20/12	1	0.0476	0.17	ND		mg/L	411604	6563
TPH as Hydraulic Oil	SW8015B	9/18/12	09/20/12	1	0.153	0.33	ND		mg/L	411604	6563
Pentacosane (S)	SW8015B	9/18/12	09/20/12	1	53.3	124	91.2		%	411604	6563

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Mark Trevor
SES, Inc

Date Received: 09/14/12
Date Reported: 09/21/12

Client Sample ID:	SB-10 @ 36-41	**Lab Sample ID:**	1209106-004A
Project Name/Location:	Alameda Islander	**Sample Matrix:**	Water
Project Number:	239		
Date/Time Sampled:	09/13/12 / 11:00		
Tag Number:	Alameda Islander		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B	9/18/12	09/20/12	1	0.0359	0.13	ND		mg/L	411604	6563
TPH as Hydraulic Oil	SW8015B	9/18/12	09/20/12	1	0.115	0.25	ND		mg/L	411604	6563
Pentacosane (S)	SW8015B	9/18/12	09/20/12	1	53.3	124	91.2		%	411604	6563

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Mark Trevor
SES, Inc

Date Received: 09/14/12
Date Reported: 09/21/12

Client Sample ID:	SB-9 @ 8-13	**Lab Sample ID:**	1209106-005A
Project Name/Location:	Alameda Islander	**Sample Matrix:**	Water
Project Number:	239		
Date/Time Sampled:	09/13/12 / 12:30		
Tag Number:	Alameda Islander		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B	9/18/12	09/20/12	1	0.0476	0.17	ND		mg/L	411604	6563
TPH as Hydraulic Oil	SW8015B	9/18/12	09/20/12	1	0.153	0.33	ND		mg/L	411604	6563
Pentacosane (S)	SW8015B	9/18/12	09/20/12	1	53.3	124	96.3		%	411604	6563

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Mark Trevor
SES, Inc

Date Received: 09/14/12
Date Reported: 09/21/12

Client Sample ID:	SB-9 @ 20 - 25	**Lab Sample ID:**	1209106-006A
Project Name/Location:	Alameda Islander	**Sample Matrix:**	Water
Project Number:	239		
Date/Time Sampled:	09/13/12 / 13:00		
Tag Number:	Alameda Islander		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B	9/18/12	09/20/12	1	0.0359	0.13	ND		mg/L	411604	6563
TPH as Hydraulic Oil	SW8015B	9/18/12	09/20/12	1	0.115	0.25	ND		mg/L	411604	6563
Pentacosane (S)	SW8015B	9/18/12	09/20/12	1	53.3	124	78.7		%	411604	6563

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Mark Trevor
SES, Inc

Date Received: 09/14/12
Date Reported: 09/21/12

Client Sample ID:	SB-9 @ 30 - 35	**Lab Sample ID:**	1209106-007A
Project Name/Location:	Alameda Islander	**Sample Matrix:**	Water
Project Number:	239		
Date/Time Sampled:	09/13/12 / 13:30		
Tag Number:	Alameda Islander		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B	9/18/12	09/20/12	1	0.0408	0.14	ND		mg/L	411604	6563
TPH as Hydraulic Oil	SW8015B	9/18/12	09/20/12	1	0.131	0.28	ND		mg/L	411604	6563
Pentacosane (S)	SW8015B	9/18/12	09/20/12	1	53.3	124	88.6		%	411604	6563

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1209106	**Prep Method:**	3510_TPHSG	**Prep Date:**	09/18/12	**Prep Batch:**	6563
Matrix:	Water	**Analytical Method:**	SW8015B(M)	**Analyzed Date:**	09/19/12	**Analytical Batch:**	411567
Units:	mg/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
TPH as Diesel (SG)	0.0440	0.10	ND		
TPH as Motor Oil (SG)	0.0920	0.40	ND		
Pentacosane (S)			87.4		

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	1209106	**Prep Method:**	3510_TPHSG	**Prep Date:**	09/18/12	**Prep Batch:**	6563
Matrix:	Water	**Analytical Method:**	SW8015B(M)	**Analyzed Date:**	09/19/12	**Analytical Batch:**	411567
Units:	mg/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH as Diesel (SG)	0.0440	0.10	ND	1	42.9	53.0	21.1	34.5 - 95.6	30	
Pentacosane (S)			ND	100	84.6	95.5		57.9 - 125		

Laboratory Qualifiers and Definitions

DEFINITIONS:

Accuracy/Bias (% Recovery) - The closeness of agreement between an observed value and an accepted reference value.
Blank (Method/Preparation Blank) -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
Duplicate - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
Laboratory Control Sample (LCS ad LCSD) - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
Matrix - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
Matrix Spike (MS/MSD) - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
Method Detection Limit (MDL) - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
Practical Quantitation Limit (PQL) - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
Precision (%RPD) - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
Surrogate (S) or (Surr) - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
Tentatively Identified Compound (TIC) - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
Units: the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** (equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** (concentration found on the surface of a single Wipe usually taken over a 100cm2 surface)

LABORATORY QUALIFIERS:

B - Indicates when the anlayte is found in the associated method or preparation blank
D - Surrogate is not recoverable due to the necessary dilution of the sample
E - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.
H- Indicates that the recommended holding time for the analyte or compound has been exceeded
J- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative
NA - Not Analyzed
N/A - Not Applicable
NR - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added
R- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts
S- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative
X -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

Sample Receipt Checklist

Client Name: SES, Inc

Project Name: Alameda Islander

Work Order No.: 1209106

Date and Time Received: 9/14/2012 15:15

Received By: lorna

Physically Logged By: lorna

Checklist Completed By: lorna

Carrier Name: First Courier

Chain of Custody (COC) Information

Chain of custody present?	Yes
Chain of custody signed when relinquished and received?	Yes
Chain of custody agrees with sample labels?	Yes
Custody seals intact on sample bottles?	Not Present

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Not Present
Shipping Container/Cooler In Good Condition?	Yes
Samples in proper container/bottle?	Yes
Samples containers intact?	Yes
Sufficient sample volume for indicated test?	Yes

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes			
Container/Temp Blank temperature in compliance?	Yes	Temperature:	5	°C
Water-VOA vials have zero headspace?	No VOA vials submitted			
Water-pH acceptable upon receipt?	N/A			

pH Checked by: n/a

pH Adjusted by: n/a

Login Summary Report

Client ID: TL5156 SES, Inc
Project Name: Alameda Islander
Project # : 239
Report Due Date: 9/21/2012
QC Level:
TAT Requested: 5+ day:0
Date Received: 9/14/2012
Time Received: 15:15

Comments: 5 day TAT!!! Recv'd 7 waters for TPH as diesel and TPH as Hydraulic Oil. Report to mtrevor@sesonline.net. yb-9/17/12

Work Order # : ***1209106***

WO Sample ID	Client Sample ID	Collection Date/Time	Matrix	Scheduled Disposal	Sample On Hold	Test On Hold	Requested Tests	Subbed
1209106-001A	SB-10 @ 8-13	09/13/12 9:30	Water	10/29/12			W_TEPHMaster	
Sample Note:	For TEPH Master: diesel and hydraulic oil only.							
1209106-002A	SB-10 @ 20-25	09/13/12 9:50	Water	10/29/12			W_TEPHMaster	
1209106-003A	SB-10 @ 30-35	09/13/12 10:30	Water	10/29/12			W_TEPHMaster	
1209106-004A	SB-10 @ 36-41	09/13/12 11:00	Water	10/29/12			W_TEPHMaster	
1209106-005A	SB-9 @ 8-13	09/13/12 12:30	Water	10/29/12			W_TEPHMaster	
1209106-006A	SB-9 @ 20 - 25	09/13/12 13:00	Water	10/29/12			W_TEPHMaster	
1209106-007A	SB-9 @ 30 - 35	09/13/12 13:30	Water	10/29/12			W_TEPHMaster	

Torrent LABORATORY, INC.

SES STRATEGIC ENGINEERING & SCIENCE

CHAIN OF CUSTODY RECORD

1209106

110 11th Street, 2nd Floor
Oakland, California 94607
Phone 510.451.1761
Fax: 510.451.1150

Project Name: Alameda Islander

Job No.: 239

Report To: mtrevor@sesinconline.net

Sampler (print): M. Trevor

Sampler (signature):

Electronic Deliverable Format Required: ☐ YES ☐ NO

EDF LOGCODE: ☐ LAMV ☐ LAO ☐ LAF

Global ID # :

Turnaround Requirements
- ☐ 5 Working Days
- ☐ 48 Hours
- ☐ 24 Hours
- ☐ 2-3 Hours RUSH
- ☒ STD

QC Requirement: ☒ Level A (standard)

ANALYSES REQUESTED

Sample I.D. (Field Point Name)	Date	Time	Lab I.D.	Sample Matrix	No. of Cont.	TPH as diesel	TPH as hydraulic Oil	Remarks
SB-10 @ 8-13	9/13/12	0930	-001A	Water	2	X	X	
SB-10 @ 20-25		0950	-002A					
SB-10 @ 30-35		1030	-003A					
SB-10 @ 36-41		1100	-004A					
SB-9 @ 8-13		1230	-005A					
SB-9 @ 20-25		1300	-006A					
SB-9 @ 30-35		1330	-007A					

Relinquished By: ST	Date: 9/14/12	Time: 1000	Received By: Date: 9/14/ Time: 10.00
Relinquished By:	Date: 9/14/12	Time: 3:15	Received By: Date: 9/14/12 Time: 15:15
Relinquished By:	Date:	Time:	Lab of Record:
			Received by Lab: Date: Time:

PM Initial:

Temp: 5°C

9/14/12 F.C.