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By dehloptoxic at 9:08 am, Aug 04, 2006

July 24, 2006

Environmental Support & Services

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San Francisco, CA 94120

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Mr. Jerry Wickham, P.G.  
Alameda County Environmental Health Services  
Environmental Protection  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

RE: Groundwater Investigation Report  
PG&E Livermore Training Center  
7205 National Drive, Livermore, California  
Fuel Leak Case No. RO0002504  
SECOR PN: 05OT.50212.01

Dear Mr. Wickham:

Enclosed please find the *Groundwater Investigation Report* prepared by SECOR International Incorporated (SECOR) on behalf of Pacific Gas & Electric Company. This document describes recent groundwater sampling performed by SECOR at PG&E's Livermore Training Center located at 7205 National Drive in Livermore, California (the Site). The work described herein was performed in response to your letter to PG&E dated February 17, 2006, requesting additional delineation of groundwater conditions in the vicinity of two former fuel underground storage tanks (USTs).

In order to further assess groundwater conditions, SECOR advanced two soil borings near the former USTs for collection of grab groundwater samples. No fuel constituents were detected in the grab groundwater samples. Based on work performed at the Site to date, SECOR recommends, and PG&E requests, that the case receive 'no further action' status from your agency.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document are true and correct to the best of my knowledge.

Should you have any questions or comments, please contact me at (805) 546-3854.

Sincerely,

  
Drew Squyres  
Sr. Project Manager

Enclosure

cc: Mr. Neil H. Doran, SECOR  
Mr. Juan Jayo, PG&E



SECOR  
INTERNATIONAL  
INCORPORATED

[www.secor.com](http://www.secor.com)

**GROUNDWATER INVESTIGATION REPORT**

**Pacific Gas & Electric Company  
Livermore Training Center  
7205 National Drive  
Livermore, California**

**July 24, 2006**

**SECOR PN: 05OT.50212.01**

**Prepared for:**

**Mr. Drew Squyres  
Pacific Gas & Electric Company  
4325 South Higuera Street  
San Luis Obispo, California 93401**

**Submitted by:**

**SECOR International Incorporated  
57 Lafayette Circle, 2<sup>nd</sup> Floor  
Lafayette, California 94549**

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# SECOR

This material and data in this report were prepared under the supervision and direction of the undersigned. This report was prepared consistent with current and generally accepted geologic and environmental consulting principles and practices that are within the limitations provided herein.

Submitted by:

SECOR International Incorporated  
57 Lafayette Circle, 2<sup>nd</sup> Floor  
Lafayette, California 94549

Prepared for:

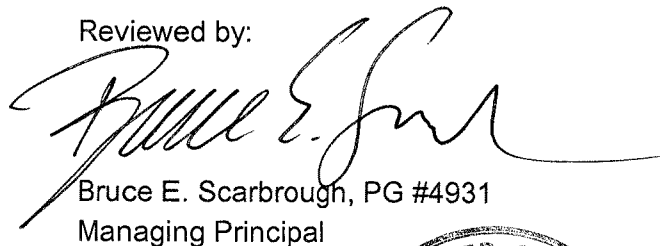
Mr. Drew Squyres  
Pacific Gas & Electric Company  
4325 South Higuera Street  
San Luis Obispo, California 93401

Prepared by:

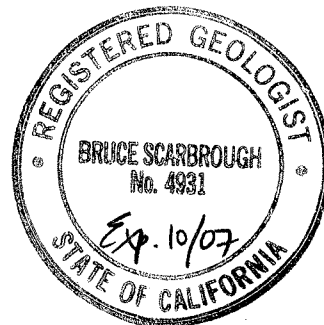


Neil H. Doran  
Associate Geologist

Reviewed by:



Bruce E. Scarbrough, PG #4931  
Managing Principal



## 1.0 INTRODUCTION

SECOR International Incorporated (SECOR), on behalf of Pacific Gas & Electric Company (PG&E), completed a groundwater investigation in June of 2006 at the PG&E training center located at 7205 National Drive in Livermore, California (Figure 1). The objective of the investigation was to assess whether groundwater in the vicinity of two former fuel underground storage tanks (USTs) has been impacted by petroleum hydrocarbons and related constituents.

This investigation was performed as follow up to an underground tank removal project in 2003 and subsequent subsurface investigation in 2005. This phase of the work was performed in response to a request from Mr. Jerry Wickham of the Alameda County Health Care Services Agency (ACHCSA) in a letter to PG&E dated February 17, 2006. In the letter, the ACHCSA requested additional delineation of groundwater conditions in the vicinity of the former USTs. SECOR prepared a *Groundwater Investigation Work Plan* (Work Plan) dated April 19, 2006, describing the proposed scope of work, and the Work Plan was approved by the ACHCSA in a letter dated April 25, 2006.

## 2.0 BACKGROUND

The Site is located in the Las Positas Valley area of eastern Livermore, California (see Figure 1, Site Location Map) approximately one mile southeast of Interstate 580 and approximately one-half mile north of the Lawrence Livermore National Laboratory. The Site is approximately 580 feet above sea level. Topography slopes gently to the northwest and rises to approximately 1,800 feet in the hills east of the Site.

### 2.1 Underground Storage Tank Removal

According to documentation provided by PG&E, one 3,000-gallon unleaded gasoline UST and one 3,000-gallon diesel UST were removed from the Site in December 2003 by Geo-Logic. Analytical results from confirmation soil samples obtained during UST removal reported no detectable concentrations of petroleum hydrocarbons or related constituents. Analytical results from a grab water sample obtained from the open UST pit reported methyl tert-butyl ether (MTBE) at 7,500 micrograms per liter ( $\mu\text{g/L}$ ) and tert-butyl alcohol (TBA) at 2,200  $\mu\text{g/L}$ . According to the UST removal report, the water may have originated from a broken underground pipe located several feet below ground surface (bgs). The approximate locations of the former USTs are illustrated on Figure 2.

### 2.2 June 2005 Subsurface Investigation

In June 2005, SECOR advanced three direct-push soil borings near the USTs to assess whether elevated concentrations of fuel oxygenates observed during UST removal were representative of groundwater conditions. SECOR's hydrogeologic assessment of the Site indicated a westerly to northwesterly groundwater flow direction. Soil boring B-1 was advanced east of the former USTs and soil borings B-2 and B-3 were advanced west of the former USTs. The locations of B-2 and B-3 had to be moved approximately 5 feet to the west due to a subsurface electrical line adjacent to the former tank pit. The June 2005 soil boring locations are illustrated on Figure 2. Grab groundwater samples were obtained from approximately 30 feet bgs in soil borings B-1 and B-3; soil boring B-2 was abandoned at approximately 24 feet due to refusal. Diesel-range organics (DRO) were detected in both grab groundwater samples at a maximum concentration of 130  $\mu\text{g/L}$  and MTBE was detected at 0.60  $\mu\text{g/L}$  in the groundwater sample from soil boring B-3.

The December 12, 2003, UST removal report prepared by Geo-Logic has discrepancies involving sample IDs and their locations relative to the two USTs. Geo-Logic collected confirmation soil samples and pit water samples from locations adjacent to each of the two USTs. Geo-Logic's Figure 1 included in their report indicates that the diesel UST was located in the northern half of the tank pit and the gasoline UST was located in the southern half of the tank pit. This orientation is consistent with a design drawing provided by PG&E. However, the

sample IDs for Geo-Logic's confirmation soil samples and pit water samples are transposed; sample IDs with the 'UNL' prefix (suggesting unleaded gasoline) are shown to have been collected near the diesel UST and sample IDs with the 'DIESEL' prefix are shown to have been collected near the unleaded gasoline UST. These discrepancies were noted by PG&E after the June 2005 investigation.

It is unknown whether the samples were appropriately located in the field and mislabeled either in the field or on the drawing, or if the samples meant to characterize soil and groundwater conditions near the gasoline UST were inadvertently collected near the diesel UST, and vice versa. Mr. Drew Squyres of PG&E spoke with a representative of Geo-Logic regarding the discrepancies and this representative could not provide resolution.

In evaluating how these discrepancies affect soil and groundwater characterization performed to date, SECOR believes that soil conditions have been adequately characterized. Soil samples labeled 'DIESEL', possibly collected from near the gasoline UST, were analyzed for total petroleum hydrocarbons as diesel (TPHd) and gasoline (TPHg), as well as benzene, toluene, ethylbenzene and xylenes (BTEX), fuel oxygenates, and total lead. No constituents were detected above reporting limits except for total lead, which was detected at concentrations less than 10 milligrams per kilogram (mg/kg). Soil samples labeled 'UNL', possibly collected from near the diesel UST, were not analyzed for TPHd. However, because of the absence of detectable concentrations of petroleum hydrocarbons in all soil samples (including two stockpile samples), SECOR believes that soils beneath the USTs have been adequately characterized and warrant no further attention.

### **2.3 June 2006 Groundwater Investigation**

PG&E received technical comments regarding the June 2005 investigation from the ACHCSA in a letter dated February 17, 2006. In the letter, ACHCSA staff stated that groundwater flow beneath the Site was towards the northwest and requested that PG&E present a Work Plan to collect a groundwater sample directly downgradient of the former gasoline UST.

SECOR submitted the *Groundwater Investigation Work Plan* (Work Plan) dated April 19, 2006. Because of the uncertainty regarding the locations of the pit water samples collected during UST removal, PG&E and SECOR proposed advancing two soil borings to characterize groundwater. The Work Plan was approved by the ACHCSA in a letter dated April 25, 2006. In the letter, the ACHCSA requested that if staining, odor, or elevated photoionization detector (PID) readings were observed during drilling, that soil samples be collected to adequately characterize such chemical impacts.



### 3.0 FIELD INVESTIGATION

On June 9, 2006, soil borings B-4 and B-5 were advanced using a direct-push drill rig at locations shown on Figure 2. Boreholes were advanced to a maximum depth of 32 feet bgs by Gregg Drilling and Testing, Inc. SECOR logged the boreholes continuously from the surface to the total depth of investigation and collected grab groundwater samples from each of the soil borings. Grab groundwater samples were analyzed for petroleum hydrocarbons and fuel oxygenates.

#### 3.1 Preliminary Activities

Prior to performing subsurface investigation activities on June 6, 2006, SECOR submitted a Work Plan to the ACHCSA, and obtained a soil boring permit from the Alameda County Flood Control and Water Conservation District – Zone 7 (attached as Appendix A). SECOR staff marked the work area in white paint, and notified Underground Service Alert (USA) five working days before beginning drilling. SECOR updated the Site-specific health and safety plan (HASP) describing potential chemical and physical hazards associated with the scope of work and steps to be taken to protect human health and the environment.

SECOR contracted with Cruz Brothers Locators to confirm the absence of subsurface utilities in the proposed soil boring locations. Due to the location of an electrical conduit servicing an adjacent natural gas compressor station, the proposed soil boring locations were moved closer to the former UST excavation. SECOR submitted an updated site plan with the new proposed locations to the ACHCSA via electronic mail on April 21, 2006, and the new locations were acknowledged in the April 25, 2006, letter approving the proposed scope of work.

#### 3.2 Soil Boring Advancement

SECOR advanced two direct-push soil borings at locations immediately northwest (downgradient) of the former UST excavation. In order to confirm the absence of subsurface utilities or other obstructions, each soil boring location was excavated to 6 feet bgs using an air knife/vacuum extraction rig operated by Cruz Brothers Locators.

Soil boring B-4 was advanced to 28 feet bgs and soil boring B-5 was advanced to 32 feet bgs using a direct-push drilling rig (Geoprobe™) operated by Gregg Drilling and Testing, Inc. A SECOR geologist logged the soil borings from the ground surface to the total depth of investigation in accordance with the Unified Soil Classification System (USCS). Recovered soil cores were screened at regular intervals for volatile vapors by placing a quantity of soil in a resealable plastic bag, allowing the soil to volatilize for a period of time, and screening the headspace in the bag using a PID. Soil classifications and PID measurements and related observations were recorded on soil boring logs included as Appendix B.

No elevated PID readings were measured during drilling and no visible evidence of chemical impact was observed. Therefore, in accordance with the Work Plan and technical comment letter from the ACHCSA, no soil samples were retained for chemical analysis.

### 3.3 Grab Groundwater Sample Collection and Analysis

Groundwater was encountered in each of the soil borings at 26 feet bgs. Grab groundwater samples were collected by inserting a temporary polyvinyl chloride (PVC) well casing into the borehole and retrieving the groundwater using a metal bailer. Grab groundwater samples were transported to Torrent Laboratory, Inc., and analyzed for the following constituents:

- TPHg and TPHd by U.S. Environmental Protection Agency (USEPA) Method 8015B;
- BTEX by USEPA Method 8260B; and
- Fuel oxygenates as MTBE, TAME, ethyl tert-butyl ether (ETBE), isopropyl ether (DIPE), and TBA by USEPA Method 8260B.

Following sample collection at each location, the drilling, and sampling equipment was removed and the soil boring was backfilled to existing grade with neat cement grout.

#### 4.0 ANALYTICAL TESTING RESULTS

Petroleum hydrocarbon and fuel oxygenates were not detected above laboratory reporting limits in grab groundwater samples from soil borings B-4 and B-5. Grab groundwater sample analytical results are summarized in Table 1. For comparison purposes, SECOR has included previous grab groundwater chemical data, as well as Environmental Screening Levels (ESLs) published by the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region. Laboratory reports are attached as Appendix C.

## 5.0 DISCUSSION AND CONCLUSIONS

Previous grab groundwater chemical data reported minor concentrations of diesel-range petroleum hydrocarbons in groundwater (up to 130  $\mu\text{g/L}$ ), and one low concentration of MTBE (0.60  $\mu\text{g/L}$ ). Because no chemical constituents were detected in grab groundwater samples from soil borings B-4 and B-5 in June 2006, SECOR believes that the chemical impacts detected in June 2005 are limited in magnitude and extent, and that no significant releases to groundwater have occurred.

Although the diesel concentration reported in June 2005 slightly exceeds the ESL protective of groundwater as a drinking water resource (130  $\mu\text{g/L}$  versus an ESL of 100  $\mu\text{g/L}$ ), the fact that this constituent was not detected in June 2006 suggests that if present, groundwater impacts are minor and are very localized. Additionally, the elevated concentrations of fuel oxygenates reported in the pit water sample obtained during UST removal in 2003, do not appear to be representative of groundwater conditions.

Based on these findings, no additional investigation or remediation is warranted.

## 6.0 LIMITATIONS

The conclusions and recommendations contained in this report/assessment are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location and are subject to the following inherent limitations:

1. The data and findings presented in this report are valid as of the dates when the investigations were performed. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.
2. The data reported and the findings, observations, and conclusions expressed in the report are limited by the Scope of Work. The Scope of Work was defined by the request of the client, the time and budgetary constraints imposed by the client, and availability of access to the site.
3. Because of the limitations stated above, the findings, observations, and conclusions expressed by SECOR in this report are not, and should not be, considered an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation.
4. No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon site conditions in existence at the time of investigation.
5. SECOR reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, state, or local governmental agencies. Any use of the report constitutes acceptance of the limits of SECOR's liability. SECOR's liability extends only to its client and not to any other parties who may obtain the report. Appropriate legal counsel should review issues raised by the report.

**TABLES**

Groundwater Investigation Report  
Pacific Gas & Electric Company  
7205 National Drive  
Livermore, California  
SECOR PN: 05OT.50212.01  
July 24, 2006

**Table 1**  
**Grab Groundwater Sample Analytical Results**  
**Pacific Gas & Electric Company**  
**Livermore Training Center**  
**7205 National Drive, Livermore, CA**

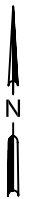
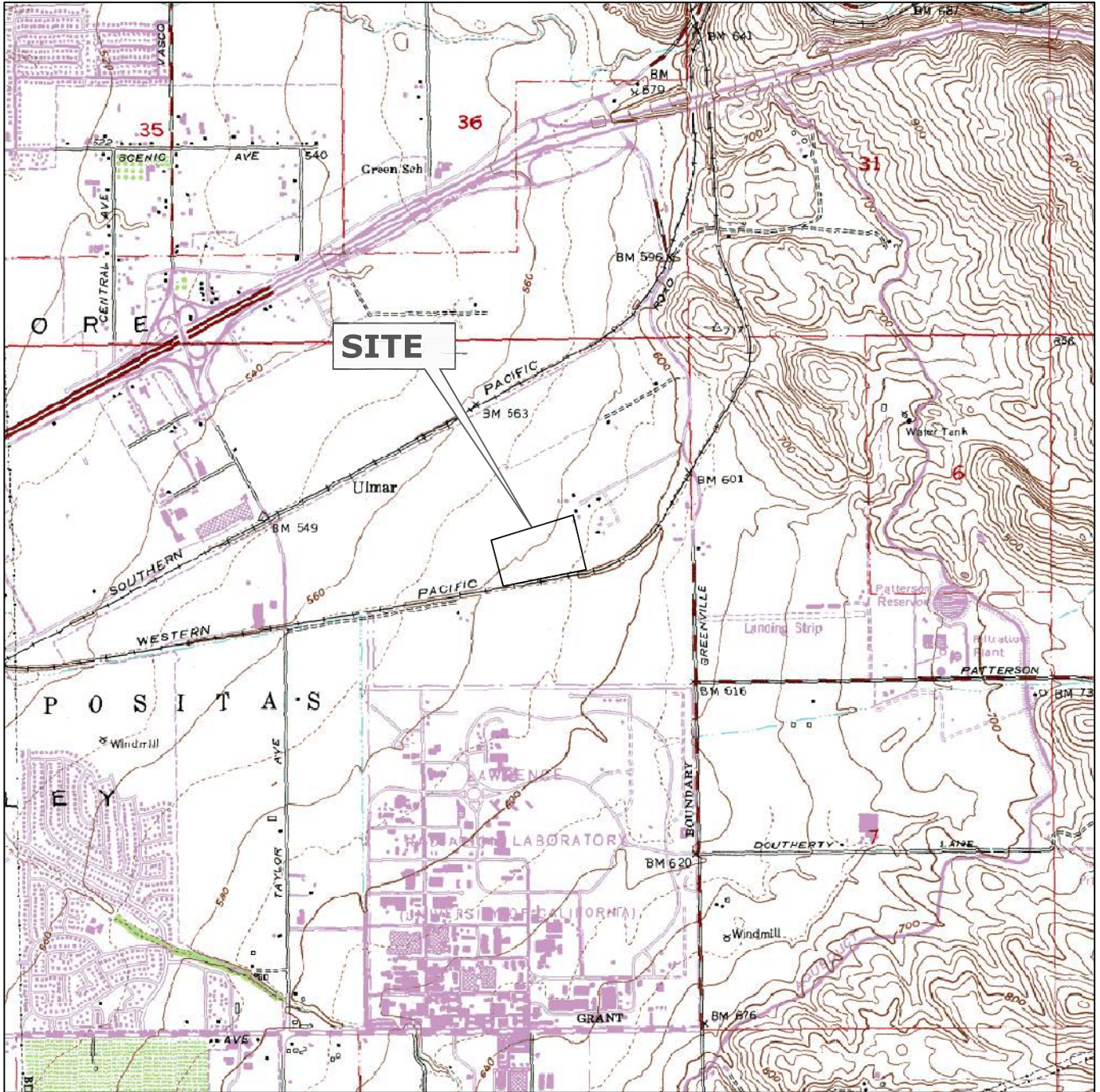
Sample ID	Sample Date	EPA Method 8015M		EPA Method 8260B								
		TPHg	DRO	Benzene	Toluene	Ethylbenzene	Xylenes	TBA	MTBE	DIPE	ETBE	TAME
B1-W	6/3/2005	<50	<b>52</b>	<0.5	<0.5	<0.5	<1.0	<5.0	<0.5	<1.0	<0.5	<0.5
B3-W	6/3/2005	<50	<b>130</b>	<0.5	<0.5	<0.5	<1.0	<5.0	<b>0.60</b>	<1.0	<0.5	<0.5
B4-GW	6/9/2006	<50	<100	<0.5	<0.5	<0.5	<1.5	<10	<0.5	<0.5	<5.0	<5.0
B5-GW	6/9/2006	<50	<100	<0.5	<0.5	<0.5	<1.5	<10	<0.5	<0.5	<5.0	<5.0
ESL	Groundwater - DW <sup>1</sup>	<b>100</b>	<b>100</b>	<b>1.0</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>12</b>	<b>5.0</b>	NE	NE	NE
	Groundwater - NDW <sup>2</sup>	<b>500</b>	<b>640</b>	<b>46</b>	<b>130</b>	<b>290</b>	<b>100</b>	<b>18,000</b>	<b>1,800</b>	NE	NE	NE
		(gasoline's)	(middle distillates)									

Notes:  
All analytical results reported in micrograms per liter (µg/L)  
< Indicates analyte was not detected at or above specified reporting limit  
TPHg = Total petroleum hydrocarbons as gasoline  
DRO = Diesel range organics (carbon chain length C10 to C28)  
TBA = Tert-butyl alcohol  
MTBE = Methyl tert-butyl ether  
DIPE = Di-isopropyl ether  
ETBE = Ethyl tert-butyl ether  
TAME = Tert-amyl methyl ether  
ESL = Environmental screening levels for groundwater (San Francisco Bay Area Regional Water Quality Control Board - Interim Final, February 2005).  
    DW<sup>1</sup> - Screening level for groundwater which is an existing or potential source of drinking water (ESL Summary Table F-1a)  
    NDW<sup>2</sup> - Screening level for groundwater which is not an existing or potential source of drinking water  
NE = Not established

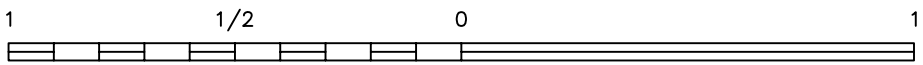
**FIGURES**

Groundwater Investigation Report  
Pacific Gas & Electric Company  
7205 National Drive  
Livermore, California  
SECOR PN: 05OT.50212.01  
July 24, 2006

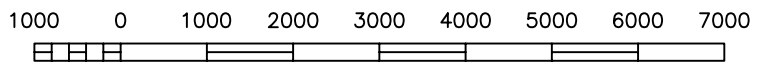




CALIFORNIA




SCALE (MILES)



SCALE (FEET)

REFERENCE: USGS 7.5 MINUTE QUADRANGLE; ALTAMONT, CALIFORNIA; 1978

 57 Lafayette Circle, 2nd Floor Lafayette, CA PHONE: (925) 299-9300 FAX: (925) 299-9302	FOR: P G & E - LIVERMORE TRAINING CENTER 7205 NATIONAL DRIVE LIVERMORE, CALIFORNIA		FIGURE <h1 style="text-align: center;">1</h1>	
	JOB NUMBER: 05OT.50212.00	DRAWN BY: S. SIMMONS	CHECKED BY:	APPROVED BY:

TRAINING AREA

CURB

ASPHALT PAVEMENT

APPROXIMATE LIMIT OF FORMER UST EXCAVATION

B5

ASPHALT PATCH

B2

UNL-W-WATER\*

(FORMER 3,000-GALLON DIESEL UNDERGROUND STORAGE TANK)

B4

(FORMER DISPENSERS & PUMP ISLAND)

B1

DIESEL-W-WATER\*

(FORMER 3,000-GALLON UNLEADED GASOLINE UNDERGROUND STORAGE TANK)

B3

CONCRETE SIDEWALK

LEGEND

B3 ● SOIL BORING LOCATIONS (JUNE 2005)

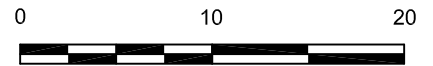
B4 ⊕ SOIL BORING LOCATION (JUNE 2006)

—E— SUBSURFACE ELECTRICAL LINE (APPROXIMATE LOCATION)

DIESEL-W-WATER

○

PIT WATER GRAB SAMPLE COLLECTED BY GEO-LOGIC, DURING DECEMBER 2003 TANK REMOVAL. \* PIT WATER SAMPLES MAY HAVE BEEN ERRONEOUSLY LOCATED AND/OR LABELED. SEE TEXT FOR DISCUSSION



APPROXIMATE SCALE IN FEET

REFERENCE: BASE MAP FROM GEO-LOGIC, TITLED; SITE PLAN, FIGURE 1, DATE DECEMBER 4, 2003.



FOR: P G & E - LIVERMORE TRAINING CENTER 7205 NATIONAL DRIVE LIVERMORE, CA

SITE PLAN AND SOIL BORING LOCATIONS

FIGURE:

2

PHONE:(925) 299-9300 FAX:(925) 299-9302

JOB NUMBER: 05OT.50212.01.0003

DRAWN BY: RRR

CHECKED BY: ND

APPROVED BY: ND

DATE: 07/18/06

K:\PG&E\PG&E - Livermore\2705 National Drive\Phase II - July 2006\05OT50212010003 - Figure 2.dwg modified by roggasch at Jul 18, 2006 - 9:22

**APPENDIX A**

**Soil Boring Permit**

Groundwater Investigation Report

Pacific Gas & Electric Company

7205 National Drive

Livermore, California

SECOR PN: 05OT.50212.01

July 24, 2006



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

---

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551

PHONE (925) 454-5000

April 26, 2006

Mr. Neil Doran  
SECOR International, Inc.  
57 Lafayette Circle, 2<sup>nd</sup> floor  
Lafayette, CA 94549

Dear Mr. Doran:

Enclosed is drilling permit 26071 for a contamination investigation at 7205 National Drive in Livermore for Pacific Gas & Electric Company. Also enclosed is a current drilling permit application for your files. Drilling permit applications for future projects can also be downloaded from our web site at [www.zone7water.com](http://www.zone7water.com).

Please note that permit conditions A-2 and G requires that a report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, permit number and any analysis of the soil and water samples. Please submit the original of your completion report. We will forward your submittal to the California Department of Water Resources.

If you have any questions, please contact me at extension 5056 or Matt Katen at extension 5071.

Sincerely,

Wyman Hong  
Water Resources Specialist

Enc.



# ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 454-5728

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT PG&E Livermore  
Training Center - 7205 National  
Drive, Livermore, CA 94550

PERMIT NUMBER 26071  
WELL NUMBER \_\_\_\_\_  
APN 099B-5752-002-00

California Coordinates Source \_\_\_\_\_ ft. Accuracy \_\_\_\_\_ ft.  
CCN \_\_\_\_\_ ft. CCE \_\_\_\_\_ ft.  
APN \_\_\_\_\_

### PERMIT CONDITIONS

(Circled Permit Requirements Apply)

CLIENT  
Name Pacific Gas & Electric Company  
Address 4325 S. Highway St. Phone 805-546-5854  
City San Luis Obispo Zip 93401

**A. GENERAL**

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

APPLICANT  
Name SECOR International Inc.  
Address 57 Lafayette Circuit Phone 925-299-9300  
City La Brea Zip 94549

**B. WATER SUPPLY WELLS**

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
4. A sample port is required on the discharge pipe near the wellhead.

### TYPE OF PROJECT

Well Construction	Geotechnical Investigation
Cathodic Protection ..	General ..
Water Supply ..	<u>Contamination</u> ..
Monitoring ..	Well Destruction ..

**C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

### PROPOSED WELL USE

New Domestic ..	Irrigation ..
Municipal ..	Remediation ..
Industrial ..	Groundwater Monitoring ..
Dewatering ..	Other <u>NA</u> ..

**D. GEOTECHNICAL.** Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

### DRILLING METHOD:

Mud Rotary ..	Air Rotary ..	Hollow Stem Auger ..
Cable Tool ..	<u>Direct Push</u> ..	Other ..

**E. CATHODIC.** Fill hole above anode zone with concrete placed by tremie.

DRILLING COMPANY Geog Drilling & Testing  
DRILLER'S LICENSE NO. C-57 425165

**F. WELL DESTRUCTION.** See attached.

### WELL PROJECTS

Drill Hole Diameter _____ in.	Maximum _____
Casing Diameter _____ in.	Depth _____ ft.
Surface Seal Depth _____ ft.	Number _____

**G. SPECIAL CONDITIONS.** Submit to Zone 7 within 60 days after the completion of permitted work the well installation report including all soil and water laboratory analysis results.

### SOIL BORINGS

Number of Borings <u>2</u>	Maximum _____
Hole Diameter <u>2.5</u> in.	Depth <u>40</u> ft.

ESTIMATED STARTING DATE 5-3-06  
ESTIMATED COMPLETION DATE 5-3-06

Approved Wyman Hong Date 4/26/06

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Neil Doran Date 4-19-06  
Neil Doran

ATTACH SITE PLAN OR SKETCH

**APPENDIX B**

**Soil Boring Logs**

Groundwater Investigation Report

Pacific Gas & Electric Company

7205 National Drive

Livermore, California

SECOR PN: 05OT.50212.01

July 24, 2006

PROJECT: **PG&E Livermore Training Center**  
 LOCATION: **7205 National Drive**  
 PROJECT NUMBER: **05OT.50212.01**

WELL / PROBEHOLE / BOREHOLE NO:

**B-4** PAGE 1 OF 1



DRILLING: STARTED **6/9/06** COMPLETED: **6/9/06**  
 INSTALLATION: STARTED **6/9/06** COMPLETED: **6/9/06**  
 DRILLING COMPANY: **Gregg Drilling**  
 DRILLING EQUIPMENT: **Geoprobe**  
 DRILLING METHOD: **Direct Push**  
 SAMPLING EQUIPMENT: **2" x 4' Macrocore**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **26 6/9/06** BOREHOLE DEPTH (ft): **32.0**  
 STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**  
 WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **J. Dowd** CHECKED BY: **N. Doran**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
		CH	Asphalt / baserock						
		CH	<b>FAT CLAY</b> ; CH; dark brown; hard; moist						
5		SM	<b>SILTY SAND</b> ; SM; yellowish brown; loose; dry		B-4@ 5-5'			0	5
		SC	<b>CLAYEY SAND</b> ; SC; yellowish brown; medium dense; dry						
10		CL	<b>SANDY CLAY</b> ; CL; yellowish brown; stiff; dry		B-4@ 10-10'			0.1	10
		SC	<b>CLAYEY SAND</b> ; SC; yellowish brown; dense; dry						
15		SP	<b>SAND</b> ; SP; yellowish brown; loose; dry		B-4@ 15-15'			0.1	15
		CL	<b>LEAN CLAY WITH LITTLE SAND</b> ; CL; yellowish brown; hard; dry						
20		CL	<b>LEAN CLAY WITH LITTLE SAND</b> ; CL; yellowish brown; hard; dry		B-4@ 20-20'			0	20
		CL	<b>LEAN CLAY WITH SAND</b> ; CL; yellowish brown; hard; moist						
25		CL	<b>LEAN CLAY WITH SAND</b> ; CL; yellowish brown; hard; moist		B-4@ 25-25'			0.1	25
		SP	<b>SAND WITH SILT</b> ; SP; yellowish brown; medium dense; wet		B4-GW				
30		SP	<b>SAND WITH SILT</b> ; SP; yellowish brown; medium dense; wet						30
35			Hole terminated at 32 feet.						35

PROJECT: **PG&E Livermore Training Center**  
 LOCATION: **7205 National Drive**  
 PROJECT NUMBER: **05OT.50212.01**

WELL / PROBEHOLE / BOREHOLE NO:

**B-5** PAGE 1 OF 1



SECOR

DRILLING: STARTED **6/9/06** COMPLETED: **6/9/06**  
 INSTALLATION: STARTED **6/9/06** COMPLETED: **6/9/06**  
 DRILLING COMPANY: **Gregg Drilling**  
 DRILLING EQUIPMENT: **Geoprobe**  
 DRILLING METHOD: **Direct Push**  
 SAMPLING EQUIPMENT: **2" x 4' Macrocore**

NORTHING (ft): EASTING (ft):  
 LATITUDE: LONGITUDE:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **26 6/9/06** BOREHOLE DEPTH (ft): **28.0**  
 STATIC DTW (ft): **NE** WELL DEPTH (ft): ---  
 WELL CASING DIAMETER (in): --- BOREHOLE DIAMETER (in): **2**  
 LOGGED BY: **J. Dowd** CHECKED BY: **N. Doran**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
			Asphalt / baserock						
		CH	<b>FAT CLAY</b> ; CH; dark brown; hard; moist						
5		SM	<b>SILTY SAND</b> ; SM; yellowish brown; loose; dry		B-5@ 6-6'			0	5
		SC	<b>CLAYEY SAND</b> ; SC; yellowish brown; dense; dry						
10		CL	<b>SANDY CLAY LITTLE SILT</b> ; CL; yellowish brown; hard; dry		B-5@ 12-12'			0.1	10
15		SP	<b>SAND SOME GRAVEL</b> ; SP; yellowish brown; loose; dry						15
		CL	<b>LEAN CLAY SOME SAND</b> ; CL; yellowish brown; hard; dry		B-5@ 18-18'			0.1	20
20		ML	<b>SILT SOME SAND</b> ; ML; yellowish brown; stiff; dry						20
		CL	<b>LEAN CLAY LITTLE SAND</b> ; CL; yellowish brown; hard; dry		B-5@ 24-24'			0.1	25
25		SC	<b>CLAYEY SAND</b> ; SC; yellowish brown; loose; wet		B5-GW				25
			Hole terminated at 28 feet.						30
35									35



**APPENDIX C**  
**Laboratory Analytical Reports and**  
**Chain-of-Custody Record**

Groundwater Investigation Report

Pacific Gas & Electric Company

7205 National Drive

Livermore, California

SECOR PN: 05OT.50212.01

July 24, 2006



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Rd. • Milpitas, CA 95035 • Ph: (408) 263-5258 • Fax: (408) 263-8293

[www.torrentlab.com](http://www.torrentlab.com)

June 16, 2006

Neil Doran  
SECOR  
57 Lafayette Circle 2nd Floor  
Lafayette, CA 94549  
TEL: (925) 299-9300  
FAX (925) 299-9302  
RE: 050T.50212.01

Order No.: 0606071

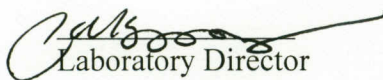
Dear Neil Doran:

Torrent Laboratory, Inc. received 5 samples on 6/12/2006 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 tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

  
Laboratory Director

  
Date



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at [www.torrentlab.com](http://www.torrentlab.com) email: [analysis@torrentlab.com](mailto:analysis@torrentlab.com)

**Report prepared for:** Neil Doran  
SECOR

**Date Received:** 6/12/2006  
**Date Reported:** 6/16/2006

**Client Sample ID:** B4-GW  
**Sample Location:** Soil & Groundwater sampling  
**Sample Matrix:** GROUNDWATER  
**Date/Time Sampled** 6/9/2006 11:00:00 AM

**Lab Sample ID:** 0606071-001  
**Date Prepared:**

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Gasoline)	SW8015B	6/15/2006	0.05	1	0.0500	ND	mg/L	R9783
Surr: Trifluorotoluene	SW8015B	6/15/2006	0	1	65-135	81.1	%REC	R9783
Benzene	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
Ethanol	SW8260B	6/15/2006	100	1	100	ND	µg/L	R9785
Ethyl tert-butyl ether (ETBE)	SW8260B	6/15/2006	5	1	5.00	ND	µg/L	R9785
Ethylbenzene	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
Isopropyl ether (DIPE)	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
Methyl tert-butyl ether (MTBE)	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
t-Butyl alcohol (t-Butanol)	SW8260B	6/15/2006	10	1	10.0	ND	µg/L	R9785
tert-Amyl methyl ether (TAME)	SW8260B	6/15/2006	5	1	5.00	ND	µg/L	R9785
Toluene	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
Xylenes, Total	SW8260B	6/15/2006	1.5	1	1.50	ND	µg/L	R9785
Surr: Dibromofluoromethane	SW8260B	6/15/2006	0	1	61.2-131	115	%REC	R9785
Surr: 4-Bromofluorobenzene	SW8260B	6/15/2006	0	1	64.1-125	93.6	%REC	R9785
Surr: Toluene-d8	SW8260B	6/15/2006	0	1	75.1-127	102	%REC	R9785

Report prepared for: Neil Doran  
SECOR

Date Received: 6/12/2006  
Date Reported: 6/16/2006

Client Sample ID: B4-GW  
Sample Location: Soil & Groundwater sampling  
Sample Matrix: GROUNDWATER  
Date/Time Sampled 6/9/2006 11:00:00 AM

Lab Sample ID: 0606071-002  
Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	6/15/2006	0.1	1	0.100	ND	mg/L	R9792
Surr: Pentacosane	SW8015B	6/15/2006	0	1	40-120	90.9	%REC	R9792

**Report prepared for:** Neil Doran  
SECOR

**Date Received:** 6/12/2006  
**Date Reported:** 6/16/2006

**Client Sample ID:** B5-GW  
**Sample Location:** Soil & Groundwater sampling  
**Sample Matrix:** GROUNDWATER  
**Date/Time Sampled:** 6/9/2006 12:00:00 PM

**Lab Sample ID:** 0606071-003  
**Date Prepared:**

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Gasoline)	SW8015B	6/15/2006	0.05	1	0.0500	ND	mg/L	R9783
Surr: Trifluorotoluene	SW8015B	6/15/2006	0	1	65-135	82.4	%REC	R9783
Benzene	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
Ethanol	SW8260B	6/15/2006	100	1	100	ND	µg/L	R9785
Ethyl tert-butyl ether (ETBE)	SW8260B	6/15/2006	5	1	5.00	ND	µg/L	R9785
Ethylbenzene	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
Isopropyl ether (DIPE)	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
Methyl tert-butyl ether (MTBE)	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
t-Butyl alcohol (t-Butanol)	SW8260B	6/15/2006	10	1	10.0	ND	µg/L	R9785
tert-Amyl methyl ether (TAME)	SW8260B	6/15/2006	5	1	5.00	ND	µg/L	R9785
Toluene	SW8260B	6/15/2006	0.5	1	0.500	ND	µg/L	R9785
Xylenes, Total	SW8260B	6/15/2006	1.5	1	1.50	ND	µg/L	R9785
Surr: Dibromofluoromethane	SW8260B	6/15/2006	0	1	61.2-131	111	%REC	R9785
Surr: 4-Bromofluorobenzene	SW8260B	6/15/2006	0	1	64.1-125	93.3	%REC	R9785
Surr: Toluene-d8	SW8260B	6/15/2006	0	1	75.1-127	101	%REC	R9785

**Report prepared for:** Neil Doran  
SECOR

**Date Received:** 6/12/2006  
**Date Reported:** 6/16/2006

**Client Sample ID:** B5-GW  
**Sample Location:** Soil & Groundwater sampling  
**Sample Matrix:** GROUNDWATER  
**Date/Time Sampled** 6/9/2006 12:00:00 PM

**Lab Sample ID:** 0606071-004  
**Date Prepared:**

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	6/15/2006	0.1	1	0.100	ND	mg/L	R9792
Surr: Pentacosane	SW8015B	6/15/2006	0	1	40-120	98.2	%REC	R9792



**Definitions, legends and Notes**

<b>Note</b>	<b>Description</b>
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
a	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #



**CLIENT:** SECOR  
**Work Order:** 0606071  
**Project:** 050T.50212.01

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R9783**

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>TPHGAS_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>9783</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R9783</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/14/2006</b>	SeqNo: <b>144144</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	0.0500									
Surr: Trifluorotoluene	0.09970	0	0.119	0	83.8	65	135				

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>TPHGAS_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>9783</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R9783</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/14/2006</b>	SeqNo: <b>144145</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	0.2030	0.0500	0.2381	0	85.3	65	135				
Surr: Trifluorotoluene	0.1064	0	0.119	0	89.4	65	135				

Sample ID: <b>LCSD</b>	SampType: <b>LCSD</b>	TestCode: <b>TPHGAS_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>9783</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R9783</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/14/2006</b>	SeqNo: <b>144146</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	0.2283	0.0500	0.2381	0	95.9	65	135	0.203	11.7	20	
Surr: Trifluorotoluene	0.09430	0	0.119	0	79.2	65	135	0	0	20	

Sample ID: <b>0606071-005A MS</b>	SampType: <b>MS</b>	TestCode: <b>TPHGAS_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>9783</b>						
Client ID: <b>TB</b>	Batch ID: <b>R9783</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144161</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	0.1923	0.0500	0.2381	0	80.8	65	135				
Surr: Trifluorotoluene	0.1026	0	0.119	0	86.2	65	135				

Sample ID: <b>0606071-005A MSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPHGAS_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>9783</b>						
Client ID: <b>TB</b>	Batch ID: <b>R9783</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144162</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	0.1779	0.0500	0.2381	0	74.7	65	135	0.1923	7.78	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

**CLIENT:** SECOR  
**Work Order:** 0606071  
**Project:** 050T.50212.01

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R9783**

Sample ID: <b>0606071-005A MSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPHGAS_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>9783</b>						
Client ID: <b>TB</b>	Batch ID: <b>R9783</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144162</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Trifluorotoluene	0.1023	0	0.119	0	86.0	65	135	0	0	20	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** SECOR  
**Work Order:** 0606071  
**Project:** 050T.50212.01

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R9785**

Sample ID: <b>MB</b>		SampType: <b>MBLK</b>		TestCode: <b>8260B_W</b>		Units: <b>µg/L</b>		Prep Date: <b>6/14/2006</b>		RunNo: <b>9785</b>	
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R9785</b>		TestNo: <b>SW8260B</b>				Analysis Date: <b>6/14/2006</b>		SeqNo: <b>144177</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.500									
Ethyl tert-butyl ether (ETBE)	ND	0.500									
Ethylbenzene	ND	0.500									
Isopropyl ether (DIPE)	ND	0.500									
Methyl tert-butyl ether (MTBE)	ND	0.500									
t-Butyl alcohol (t-Butanol)	ND	5.00									
tert-Amyl methyl ether (TAME)	ND	0.500									
Toluene	ND	0.500									
Xylenes, Total	ND	1.50									
Surr: Dibromofluoromethane	13.05	0	11.9	0	110	61.2	131				
Surr: 4-Bromofluorobenzene	12.42	0	11.9	0	104	64.1	125				
Surr: Toluene-d8	12.58	0	11.9	0	106	75.1	127				

Sample ID: <b>LCS</b>		SampType: <b>LCS</b>		TestCode: <b>8260B_W</b>		Units: <b>µg/L</b>		Prep Date: <b>6/14/2006</b>		RunNo: <b>9785</b>	
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R9785</b>		TestNo: <b>SW8260B</b>				Analysis Date: <b>6/14/2006</b>		SeqNo: <b>144202</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.14	0.500	17.86	0	118	66.9	140				
Toluene	21.74	0.500	17.86	0	122	76.6	123				
Surr: Dibromofluoromethane	13.66	0	11.9	0	115	61.2	131				
Surr: 4-Bromofluorobenzene	12.13	0	11.9	0	102	64.1	125				
Surr: Toluene-d8	12.18	0	11.9	0	102	75.1	127				

Sample ID: <b>LCSD</b>		SampType: <b>LCSD</b>		TestCode: <b>8260B_W</b>		Units: <b>µg/L</b>		Prep Date: <b>6/15/2006</b>		RunNo: <b>9785</b>	
Client ID: <b>ZZZZZ</b>		Batch ID: <b>R9785</b>		TestNo: <b>SW8260B</b>				Analysis Date: <b>6/15/2006</b>		SeqNo: <b>144206</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.67	0.500	17.86	0	121	66.9	140	21.14	2.48	20	
Toluene	20.33	0.500	17.86	0	114	76.6	123	21.74	6.70	20	
Surr: Dibromofluoromethane	12.98	0	11.9	0	109	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	12.42	0	11.9	0	104	64.1	125	0	0	0	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit              R RPD outside accepted recovery limits              S Spike Recovery outside accepted recovery limits

**CLIENT:** SECOR  
**Work Order:** 0606071  
**Project:** 050T.50212.01

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R9785**

Sample ID: <b>LCSD</b>	SampType: <b>LCSD</b>	TestCode: <b>8260B_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/15/2006</b>	RunNo: <b>9785</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R9785</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144206</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	12.03	0	11.9	0	101	75.1	127	0	0	0	

Sample ID: <b>0606071-005A MS</b>	SampType: <b>MS</b>	TestCode: <b>8260B_W_PE</b>	Units: <b>µg/L</b>	Prep Date: <b>6/15/2006</b>	RunNo: <b>9785</b>						
Client ID: <b>TB</b>	Batch ID: <b>R9785</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144303</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.40	0.500	17.86	0	109	66.9	140				
Toluene	20.55	0.500	17.86	0.38	113	76.6	123				
Surr: Dibromofluoromethane	13.32	0	11.9	0	112	61.2	131				
Surr: 4-Bromofluorobenzene	11.58	0	11.9	0	97.3	64.1	125				
Surr: Toluene-d8	12.47	0	11.9	0	105	75.1	127				

Sample ID: <b>0606071-005A MSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260B_W_PE</b>	Units: <b>µg/L</b>	Prep Date: <b>6/15/2006</b>	RunNo: <b>9785</b>						
Client ID: <b>TB</b>	Batch ID: <b>R9785</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144304</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.15	0.500	17.86	0	113	66.9	140	19.4	3.79	20	
Toluene	18.71	0.500	17.86	0.38	103	76.6	123	20.55	9.37	20	
Surr: Dibromofluoromethane	13.54	0	11.9	0	114	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	12.03	0	11.9	0	101	64.1	125	0	0	0	
Surr: Toluene-d8	12.17	0	11.9	0	102	75.1	127	0	0	0	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

**CLIENT:** SECOR  
**Work Order:** 0606071  
**Project:** 050T.50212.01

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R9792**

Sample ID: <b>WDSG060612A-MB</b>	SampType: <b>MBLK</b>	TestCode: <b>TPHDOSG_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2006</b>	RunNo: <b>9792</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R9792</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144306</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (Diesel)	ND	0.100									
Surr: Pentacosane	0.07300	0	0.1	0	73.0	40	120				

Sample ID: <b>WDSG060612A-LCS</b>	SampType: <b>LCS</b>	TestCode: <b>TPHDOSG_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2006</b>	RunNo: <b>9792</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R9792</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144307</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (Diesel)	0.3640	0.100	1	0	36.4	30	68.5				
Surr: Pentacosane	0.07600	0	0.1	0	76.0	46.8	104				

Sample ID: <b>WDSG060612A-LCS</b>	SampType: <b>LCSD</b>	TestCode: <b>TPHDOSG_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2006</b>	RunNo: <b>9792</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R9792</b>	TestNo: <b>SW8015B</b>		Analysis Date: <b>6/15/2006</b>	SeqNo: <b>144308</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (Diesel)	0.4150	0.100	1	0	41.5	30	68.5	0.364	13.1	30	
Surr: Pentacosane	0.07200	0	0.1	0	72.0	46.8	104	0	0	0	

<b>Qualifiers:</b>	E Value above quantitation range	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery limits

0606071



# SECOR CHAIN-OF-CUSTODY RECORD

COC # **06333**  
Page 1 of 1

FIELD OFFICE INFORMATION		PROJECT INFORMATION				Number of Containers	ANALYSES / METHOD REQUEST					REMARKS / PRECAUTIONS			
OFFICE: <b>WE 005</b>		Project No.: <b>0507.50212.01</b>	Task: <b>0002</b>				TPH-g by 8015M/8021B	BTEX by 8015M/8021B	TPHd w/SGC by 8015M/3516	Oxygenates by 8260B				TAT	REPORTING REQUIREMENTS
Send Report To: <b>Neil Doran</b> <b>57 Lafayette Circle, 2nd floor</b> <b>Lafayette, CA 94549</b>		Project Name: <b>Soil &amp; Groundwater Sampling, 7205 National Dr., Livermore</b>			Project Manager: <b>Neil Doran</b>									Laboratory: <b>Torrent Lab</b> <b>Milpitas, CA</b>	
Telephone: <b>(925) 299-9300</b>												<input type="checkbox"/> Rush	<input type="checkbox"/> Dup/MS/MSD		
Fax / E-Mail: <b>(925) 299-9302</b>												<input type="checkbox"/> Other	<input type="checkbox"/> Raw Data		
Sample No. / Identification	SAMPLE			Container & Size **	Preservative										
	Date	Time	Matrix*												
B4-GW	6/9/06	1100	AQ	VOAs	HCL	6	X	X		X		- 00	1A	* Ice nearly all melted on 6/10; refreshed ice late 6/10 & late 6/11*	
B4-GW	↓	1100	AQ	32 oz amber	None	2			X			- 50	2A		
B5-GW		1200	AQ	VOAs	HCL	6	X	X		X		- 00	3A		
B5-GW		↓		AQ	32 oz amber	None	2			X			- 60		4A
TB		↓	0600	AQ	VOAs	HCL	6	X	X		X		- 00		5A

Possible Hazard Identification:  Non-Hazardous  Flammable  Skin Irritant  Poison B  Unknown

Sample Disposal:  Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

Sampled by: **Jim Dowd** Shipment Method: **Courier** Airbill Number:

Signature		Print Name	Company	Date	Time
1a Relinquished by:	<i>Jim Dowd</i>	Jim Dowd	Secor	6/12/09	
1b Received by:	<i>Christian Cepeda</i>	Christian Cepeda	TVC / Cal Express	6/12/06	9:50a
2a Relinquished by:	<i>Anil Patel</i>	Anil Patel	Torrent Lab	5-12-06	11:00A
2b Received by:					
3a Relinquished by:					
3b Received by:					

\*Matrix Key: AQ = Aqueous AR = Air SO = Soil WA = Waste OT = Other \*\*Container: A = Amber C = Clear Glass V = VOA S = Soil Jar O = Orbo T = Tedlar B = Brass P = Plastic OT = Other

Anil 6/12

Note 6/12