Pacific Gas and Electric Company®

**Anne Conner**
Sr. Project Manager
Environmental Remediation

3401 Crow Canyon Rd.
San Ramon, CA 94583

925.415.6381 direct
925.415.6852 fax
APB1@pge.com

August 25, 2014

Mr. Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health Department
Division of Environmental Protection
1131 Harbor Way Parkway, 2nd Floor
Alameda, CA 94502-6577

**Subject:** **August 2014 Monitoring Well Decommissioning report**
Pacific Gas and Electric Company, Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

Dear Mr. Wickham:

Please find attached the letter entitled *August 2014 Monitoring Well Decommissioning Report, Pacific Gas & Electric Company (PG&E), Oakland General Construction Yard, 4930 Coliseum Way, Oakland, California*, dated August 26, 2014 prepared by AMEC on behalf of PG&E.

If you have any questions regarding this document, please contact Kathleen Isaacson, P.G., CHG (PG&E project manager) at (415) 392-3875.

Sincerely,

Anne Conner

Anne Conner
Sr. Project Manager
PG&E Environmental Remediation

Enclosure

August 25, 2014

Project 013045007G.00008

Ms. Kathleen Isaacson
Consultant Project Manager
WAU & Company
400 Montgomery Street, Suite 1100
San Ramon, California 94104

**Subject:** **August 2014 Monitoring Well Decommissioning Report**
Pacific Gas and Electric Company
Oakland General Construction Yard
4930 Coliseum Way
Oakland, California

Dear Ms. Isaacson:

AMEC Environment & Infrastructure, Inc. (AMEC), is please to submit the *August 2014 Monitoring Well Decommissioning Report*. This report was prepared by ETIC Engineering, Inc. (ETIC) on behalf of AMEC. This report presents a summary of observations made during this well decommissioning.

Please contact the undersigned if you have any further questions.

Sincerely yours,
AMEC Environment & Infrastructure, Inc.

Yemia Hashimoto, CHG
Senior Hydrogeologist
Direct Tel.: (510) 663-4210
E-mail: yemia.hashimoto@amec.com

YH/dc
x:\13000s\13045.007.g\3000\welldestruction_0825174\amec_ogcy_welldestructioncvrltr_013045007g_08-2014.docx

Attachments: ETIC August 2014 Monitoring Well Decommissioning Report

AMEC Environment & Infrastructure, Inc.
180 Grand Avenue, Suite 1100
Oakland, California 94612-3066
USA
Tel (510) 663-4100
Fax (510) 663-4141
amec.com

# Monitoring Well Decommissioning Report

## Pacific Gas and Electric Company
## Oakland General Construction Yard
## 4930 Coliseum Way
## Oakland, California 94601

## SLIC Case No. RO0000099

## August 2014

**Prepared For:**

**Pacific Gas and Electric Company**
**3401 Crow Canyon Road**
**San Ramon, California 94583**

**Prepared By:**

**ETIC Engineering, Inc.**
**2285 Morello Avenue**
**Pleasant Hill, California 94523**

# Monitoring Well Decommissioning Report

**Pacific Gas and Electric Company**
**Oakland General Construction Yard**
**4930 Coliseum Way**
**Oakland, California 94601**

**SLIC Case No. RO0000099**

**August 2014**

**Prepared For:**

**Pacific Gas and Electric Company**
**3401 Crow Canyon Road**
**San Ramon, California 94583**

**Prepared By:**

**ETIC Engineering, Inc.**
**2285 Morello Avenue**
**Pleasant Hill, California 94523**

REGISTERED GEOLOGIST
THOMAS E. NEELY
Exp. 9.30.2015
No. 7652
STATE OF CALIFORNIA

**Thomas E. Neely, PG, CHG, QSD**
**Senior Hydrogeologist**

August 25, 2014
**Date**

# TABLE OF CONTENTS



## LIST OF FIGURES



## LIST OF TABLES



## LIST OF APPENDIXES

# 1.0 INTRODUCTION

On behalf of AMEC Environment & Infrastructure, Inc. (AMEC) and Pacific Gas and Electric Company (PG&E), ETIC Engineering, Inc. (ETIC) has prepared this *Monitoring Well Decommissioning Report* for the PG&E General Construction Yard located at 4930 Coliseum Way in Oakland, California (the Site) (Figure 1).

Decommissioning of groundwater monitoring wells OW-1, OW-2, OW-4, OW-5, and OW-8 was approved by the Alameda County Health Care Services Agency in a letter dated May 7, 2014 (ACHCSA, 2014). A copy of the letter is included in Appendix A.

# 2.0 SITE DESCRIPTION AND BACKGROUND

The approximate 5-acre site is bounded by Coliseum Way to the south, 50$^{th}$ Avenue to the southeast, and industrial properties to the west, north, and northeast (Figure 1). The site vicinity consists primarily of commercial and industrial businesses. The site has been operated by PG&E as a natural gas distribution center and equipment storage facility from at least the late 1930s until 1990. After removal of the above-ground gas holder tank in 1990, the site has been used as an equipment and vehicle storage facility (AMEC, 2010).

# 3.0 FIELD ACTIVITIES

Activities associated with the work performed included the following:

- Performing pre-field activities.
- Decommissioning groundwater monitoring wells.
- Containing the investigation-derived waste.
- Collecting and analyzing a sample of the investigation-derived waste.
- Completing and submitting Department of Water Resources (DWR) Well Completion Report Forms – DWR 188.
- Preparing a written report summarizing decommissioning activities.

Details of the work performed are presented in the following sections.

## 3.1 PRE-FIELD ACTIVITIES

A well destruction permit was obtained from the Alameda County Public Works Agency (ACPWA) for five groundwater monitoring wells (OW-1, OW-2, OW-4, OW-5, and OW-8) (Figure 2). Monitoring well construction details are presented in Table 1. A copy of the permit is included in Appendix B. A site-specific health and safety plan was prepared for, and implemented, during field activities. The area surrounding each well was marked with white paint, and Underground Service Alert (USA) was notified. Subtronic Corporation, a private utility locator, was retained to locate and mark underground utilities in the vicinity of each well. The ACPWA inspector was notified prior to commencing monitoring well decommissioning.

## 3.2 MONITORING WELL DECOMMISSIONING

On July 21, 2014, in accordance with ACPWA requirements, groundwater monitoring wells OW-1, OW-2, OW-4, and OW-8 were decommissioned by PeneCore Drilling of Woodland, California, a C-57 licensed contractor (PeneCore). Groundwater monitoring well OW-5 was not decommissioned at the request of AMEC and PG&E after oily fluid was noted in the well at the time of gauging.

On July 21, 2014, PeneCore conveyed a neat cement grout through a tremie line, filling each well casing from the bottom to top. PeneCore applied pressure at 25 pounds per square inch (psi) for 5 minutes. The protective well covers and boxes were removed, and the surface was patched with concrete to match grade. An inspector from ACPWA observed and approved the grouting and well decommissioning activities.

## 3.3 INVESTIGATION-DERIVED WASTE

Well destruction debris (e.g. concrete and PVC casing) and water derived from the field activities were contained in DOT-approved 55-gallon drums stored temporarily at the Site. One drum of debris and one drum of wastewater were generated during the well decommissioning. A wastewater sample was collected from the drum of water and submitted to a state-certified laboratory for analysis. The sample was collected in laboratory-supplied bottles. The bottles were sealed, labeled, placed with ice in a thermally insulated cooler, and transported under chain-of-custody protocol to Eurofins Calscience, Inc. (Calscience), a state-certified analytical laboratory, located in Garden Grove, California. Metal debris from the well boxes was recycled.

The wastewater sample was analyzed by Calscience for diesel range organics using EPA Method 8015B, the Title 22 Metals using EPA Method 6010B/7470A, and volatile organic compounds (VOCs) plus gasoline range organics using EPA Method 8260B. The laboratory analytical data and chain-of-custody documentation are included in Appendix C. PG&E profiled the debris and wastewater as non-hazardous and disposal is pending. The drums are planned to be transported under a non-hazardous waste manifest to a permitted disposal facility.

# 4.0 REPORTING

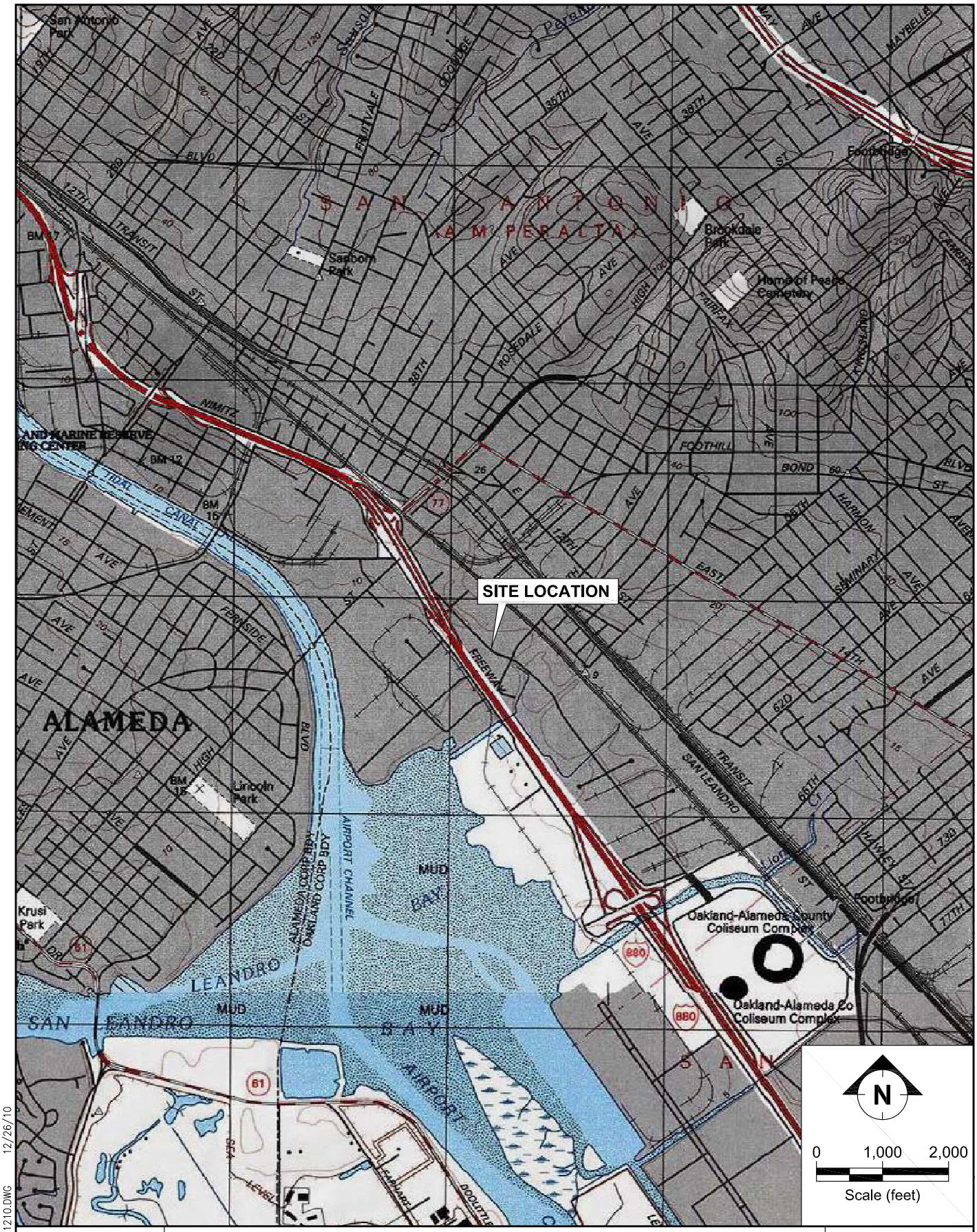
Upon completing the field activities, a Well Completion Report Form – DWR 188 was completed for each decommissioned groundwater monitoring well and was submitted to ACPWA and DWR. Copies of the DWR forms are included in Appendix D.

# 5.0 REFERENCES

AMEC Geomatrix, Inc. (AMEC), 2010. Soil Investigation Work Plan, Pacific Gas and Electric Company, Oakland General Construction Yard, 4930 Coliseum Way, Oakland, California, September 16.

Alameda County Health Care Services Agency (ACHCSA), 2014. Case File Review for SLIC Case No. RO0000099 and GeoTracker Global ID T0600100258, PG&E, 4930 Coliseum Way, Oakland, CA 94601, May 7.

# Figures

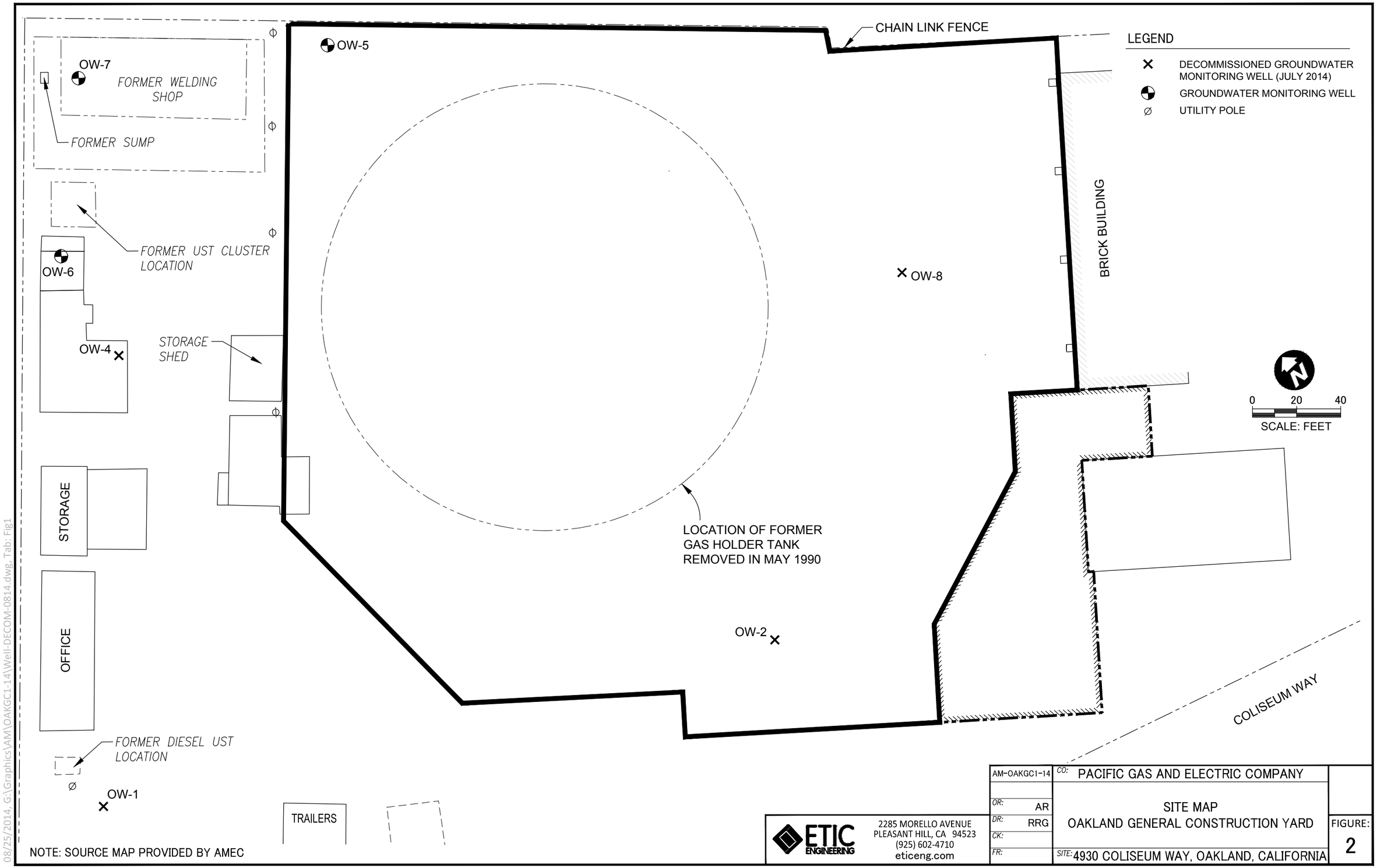



FILENAME: Topo1210.DWG 12/26/10

ETIC ENGINEERING

SITE LOCATION AND TOPOGRAPHIC MAP
OAKLAND GENERAL CONSTRUCTION YARD
4930 COLISEUM WAY
OAKLAND, CALIFORNIA

FIGURE: 1




NOTE: SOURCE MAP PROVIDED BY AMEC

ETIC ENGINEERING
2285 MORELLO AVENUE
PLEASANT HILL, CA 94523
(925) 602-4710
eticeng.com

| | |
|---|---|
| AM-OAKGC1-14 | CO: PACIFIC GAS AND ELECTRIC COMPANY |
| OR: AR | SITE MAP |
| DR: RRG | OAKLAND GENERAL CONSTRUCTION YARD |
| CK: | |
| FR: | SITE: 4930 COLISEUM WAY, OAKLAND, CALIFORNIA |

FIGURE: 2

# Tables

TABLE 1 MONITORING WELL CONSTRUCTION DETAILS
PG&E Oakland General Construction Yard
4930 Coliseum Way, Oakland, California

| Well Number | Date Installed | Date Decommissioned | Borehole Diameter (inches) | Borehole Depth (feet bgs) | Well Depth (feet bgs) | Casing Diameter (inches) | Casing Material | Screened Interval (feet bgs) | Slot Size (inches) | Filter Pack Interval (feet bgs) | Filter Pack Material |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OW-1 | 3/17/1988 | 7/21/2014 | 8 | 18 | 18 | 2 | PVC | 3-18 | 0.010 | 2.5-18 | unknown |
| OW-2 | 3/22/1988 | 7/21/2014 | 8 | 19 | 19 | 2 | PVC | 4-19 | 0.010 | 3.5-19 | #2/12 sand |
| OW-3 | 3/16/1988 | NA | 8 | 18.5 | 18.5 | 2 | PVC | 3.5-18.5 | 0.010 | 3-18.5 | unknown |
| OW-4 | 5/18/1988 | 7/21/2014 | 12 | 21.75 | 20.75 | 2 | PVC | NA-20.75 | 0.010 | NA-21.75 | #2/12 sand |
| OW-5 | 4/16/1991 | --- | 8 | 16.5 | 16.5 | 2 | PVC | 6.5-16.5 | 0.020 | 6-16.5 | #3 sand |
| OW-6 | 12/19/1991 | --- | 8 | 18.5 | 18 | 2 | PVC | 8-18 | 0.020 | 6-18.5 | #2/12 sand |
| OW-7 | 12/19/1991 | --- | 8 | 18 | 18 | 2 | PVC | 8-18 | 0.020 | 6-18 | #2/12 sand |
| OW-8 | 2/10/1993 | 7/21/2014 | 8 | 18.33 | 18 | 2 | PVC | 8-18 | 0.020 | 7-18 | #2/12 sand |

Notes:
TOC = Top of well casing elevation; datam is mean sea level.
PVC = Polyvinyl chloride.
feet bgs = Feet below ground surface.
NA = Not available.
--- = Not applicable.

# Appendix A

# Regulatory Correspondence

ALAMEDA COUNTY
**HEALTH CARE SERVICES**
AGENCY
ALEX BRISCOE, Director

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

May 7, 2014

Ms. Kathleen Isaacson (*Sent via E-mail to: kai3@pge.com*)
PG&E Consultant Project Manager
WAU & Company
3401 Crow Canyon Road
San Ramon, CA 94583

Subject: Case File Review for SLIC Case No. RO0000099 and GeoTracker Global ID T0600100258, PG&E, 4930 Coliseum Way, Oakland, CA 94601

Dear Ms. Isaacson:

Alameda County Environmental Health (ACEH) staff has reviewed the Spills, Leaks, Investigations, and Cleanups (SLIC) case file for the above referenced site including the most recent correspondence entitled, "*Corrective Action Plan Implementation Status Update, PG&E Oakland Construction Yard, 4930 Coliseum Way, Oakland, California*," dated May 1, 2014 (Status Update). The Status Update, which was prepared on your behalf by AMEC Environment & Infrastructure, Inc., requests that implementation of the Corrective Action Plan (CAP) be delayed until the 3rd quarter of 2015. CAP implementation, which would involve repaving of approximately 27,000 square feet of the site, was previously scheduled for 2014. Delay of the start is requested based on improvements to the asphalt surface that were made as part of PG&E site maintenance in September 2013. ACEH concurs with the proposal to delay repaving of the site until the 3rd quarter of 2015. Please present results of the CAP implementation in the Remedial Progress Report requested below.

The Status Update also requests that ACEH approval to destroy monitoring wells OW-1, OW-2, OW-4, OW-5, and OW-8. ACEH has no objection to destruction of these monitoring wells prior to CAP implementation. Monitoring wells OW-6 and OW-7 are to remain in place. Well destruction permits may be obtained from the Alameda County Public Works Agency (http://www.acgov.org/pwa/wells/index.shtml). Upon completion of the well destruction, please present documentation of the well destruction and waste disposal to this office.

**TECHNICAL REPORT REQUEST**

Please upload technical reports to the ACEH ftp site (Attention: Jerry Wickham), and to the State Water Resources Control Board's GeoTracker website according to the following schedule and file-naming convention:

- **September 30, 2015** – Begin CAP Implementation

- **November 30, 2015** – Remedial Progress Report
  File to be named: REM_R_yyyy-mm-dd RO99

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,

Digitally signed by Jerry Wickham
DN: cn=Jerry Wickham, o=Alameda County Environmental Health, ou, email=jerry.wickham@acgov.org, c=US
Date: 2014.05.07 15:17:38 -07'00'

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachments: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Ann Conner (*Sent via E-mail to: apb1@pge.com*), PG&E, 3401 Crow Canyon Road, Room 176C, San Ramon, CA 94583

Yemia Hashimoto, AMEC Environment & Infrastructure, Inc., 2101 Webster Street #12, Oakland, CA 94612 (*Sent via E-mail to: Yemia.Hashimoto@amec.com*)

Jerry Wickham, ACEH (*Sent via E-mail to: jerry.wickham@acgov.org*)

GeoTracker, eFile

## Attachment 1

### Responsible Party(ies) Legal Requirements/Obligations

REPORT/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. Please visit the SWRCB website for more information on these requirements. (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 7835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

| Alameda County Environmental Cleanup Oversight Programs (LOP and SCP) | **REVISION DATE:** July 25, 2012 |
|---|---|
| | **ISSUE DATE:** July 5, 2005 |
| | **PREVIOUS REVISIONS:** October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010 |
| **SECTION:** Miscellaneous Administrative Topics & Procedures | **SUBJECT:** Electronic Report Upload (ftp) Instructions |

The Alameda County Environmental Cleanup Oversight Programs (petroleum UST and SCP) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

**REQUIREMENTS**

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single Portable Document Format (PDF) with no password protection**.
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted**.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

**Submission Instructions**

1) Obtain User Name and Password
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to .loptoxic@acgov.org
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ://alcoftp1.acgov.org
      (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
   b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to .loptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

# Appendix B

# Well Decommissioning Permit

# Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

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

**Application Approved on: 07/17/2014 By jamesy**

**Permit Numbers: W2014-0659 to W2014-0663**
**Permits Valid from 07/21/2014 to 07/23/2014**

**Application Id:** 1405460723150 **City of Project Site:** Oakland
**Site Location:** 4930 Coliseum Way, Oakland, CA
**Project Start Date:** 07/21/2014 **Completion Date:** 07/23/2014
**Assigned Inspector:** Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

**Applicant:** PeneCore Drilling - Tuan Nguyen **Phone:** 530-661-3600
1238 Alice St, Woodland, CA 95776
**Property Owner:** PG &E **Phone:** --
PO Box 770000, San Francisco, CA 94177
**Client:** PG &E **Phone:** 415-392-3875
3400 Crow Canyon Rd, San Ramopn, CA 94583

**Total Due:** $1985.00
**Receipt Number: WR2014-0285** **Total Amount Paid:** $1985.00
**Payer Name : Cindy Buitrago=ETIC** Paid By: VISA **PAID IN FULL**

**Works Requesting Permits:**

Well Destruction-Monitoring - 5 Wells
Driller: PeneCore - Lic #: 906899 - Method: hstem **Work Total: $1985.00**

**Specifications**

| Permit # | Issued Date | Expire Date | Owner Well Id | Hole Diam. | Casing Diam. | Seal Depth | Max. Depth | State Well # | Orig. Permit # | DWR # |
|---|---|---|---|---|---|---|---|---|---|---|
| W2014-0659 | 07/17/2014 | 10/19/2014 | OW1 | 8.00 in. | 2.00 in. | 2.50 ft | 18.00 ft | No Records | 93058 ? | No Records |
| W2014-0660 | 07/17/2014 | 10/19/2014 | OW2 | 8.00 in. | 2.00 in. | 3.50 ft | 19.00 ft | No Records | 93058 ? | No Records |
| W2014-0661 | 07/17/2014 | 10/19/2014 | OW4 | 12.00 in. | 2.00 in. | 7.00 ft | 21.90 ft | No Records | 93058 ? | No Records |
| W2014-0662 | 07/17/2014 | 10/19/2014 | OW5 | 8.00 in. | 2.00 in. | 6.50 ft | 16.50 ft | No Records | 93058 ? | No Records |
| W2014-0663 | 07/17/2014 | 10/19/2014 | OW8 | 8.00 in. | 2.00 in. | 7.00 ft | 18.40 ft | No Records | 93058 ? | No Records |

## Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. 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.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and

mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.

4. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.

5. 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 and liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

6. Applicant shall contact assigned inspector listed on the top of the permit 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.

7. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

8. Remove the Christy box or similar structure.

Destroy well by grouting neat cement with a tremie pipe or pressure grouting (25 psi for 5min.) to the bottom of the well and by filling with neat cement to three (3-5) feet below surface grade. Allow the sealing material to spill over the top of the casing to fill any annular space between casing and soil.

After the seal has set, backfill the remaining hole with concrete or compacted material to match existing conditions.

9. Remove the Christy box or similar structure. Pressure Grout with Cement (Less than 30 ft in depth). After the seal has set, backfill the remaining hole with concrete or compacted material to match existing.

10. 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.

# Appendix C

# Laboratory Analytical Reports
# and
# Chain-of-Custody Documentation

eurofins | Calscience

# WORK ORDER NUMBER: 14-07-1559

*The difference is service*

AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** ETIC Engineering, Inc.

**Client Project Name:** PG&E Oakland General Construction Yard (OAKGC1-14)

**Attention:** Tom Neely
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Approved for release on 07/31/2014 by:
Kristin Beckley
Project Manager

ResultLink

Email your PM

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

eurofins | Calscience

# Contents

Client Project Name: PG&E Oakland General Construction Yard (OAKGC1-14)
Work Order Number: 14-07-1559

eurofins | Calscience

# Work Order Narrative

Work Order: 14-07-1559 Page 1 of 1

**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 07/23/14. They were assigned to Work Order 14-07-1559.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

New York NELAP air certification does not certify for all reported methods and analytes, reference the accredited items here: http://www.calscience.com/PDF/New_York.pdf

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Return to Contents

eurofins | Calscience

# Sample Summary

| | | | |
|---|---|---|---|
| Client: | ETIC Engineering, Inc.<br>2285 Morello Avenue<br>Pleasant Hill, CA 94523-1850 | Work Order: | 14-07-1559 |
| | | Project Name: | PG&E Oakland General Construction Yard (OAKGC1-14) |
| | | PO Number: | |
| | | Date/Time Received: | 07/23/14 10:00 |
| | | Number of Containers: | 5 |
| Attn: | Tom Neely | | |

| Sample Identification | Lab Number | Collection Date and Time | Number of Containers | Matrix |
|---|---|---|---|---|
| Waste Water | 14-07-1559-1 | 07/21/14 17:05 | 5 | Aqueous |

Return to Contents

eurofins | Calscience

# Detections Summary

| | | | |
|---|---|---|---|
| Client: | ETIC Engineering, Inc.<br>2285 Morello Avenue<br>Pleasant Hill, CA 94523-1850 | Work Order: | 14-07-1559 |
| | | Project Name: | PG&E Oakland General Construction Yard (OAKGC1-14) |
| | | Received: | 07/23/14 |
| Attn: | Tom Neely | | Page 1 of 1 |

**Client SampleID**

| Analyte | Result | Qualifiers | RL | Units | Method | Extraction |
|---|---|---|---|---|---|---|
| Waste Water (14-07-1559-1) | | | | | | |
| Barium | 0.775 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Chromium | 0.317 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Cobalt | 0.0430 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Copper | 0.108 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Lead | 0.407 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Molybdenum | 0.0771 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Nickel | 0.0707 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Silver | 0.0100 | | 0.00500 | mg/L | EPA 6010B | EPA 3010A Total |
| Vanadium | 0.152 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Zinc | 1.75 | | 0.0100 | mg/L | EPA 6010B | EPA 3010A Total |
| Diesel Range Organics | 480 | HD | 50 | ug/L | EPA 8015B | EPA 3510C |
| Acetone | 300 | | 100 | ug/L | GC/MS / EPA 8260B | EPA 5030C |
| 2-Butanone | 340 | | 50 | ug/L | GC/MS / EPA 8260B | EPA 5030C |
| Gasoline Range Organics (C4-C12) | 510 | | 250 | ug/L | GC/MS / EPA 8260B | EPA 5030C |

Return to Contents

Subcontracted analyses, if any, are not included in this summary.

* MDL is shown

eurofins | Calscience

# Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 07/23/14
Work Order: 14-07-1559
Preparation: EPA 3510C
Method: EPA 8015B
Units: ug/L

Project: PG&E Oakland General Construction Yard (OAKGC1-14)



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Waste Water** | **14-07-1559-1-D** | **07/21/14 17:05** | **Aqueous** | **GC 45** | **07/25/14** | **07/26/14 07:54** | **140725B09** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Diesel Range Organics | 480 | 50 | 1.00 | HD |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 89 | 68-140 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-15-418-787** | **N/A** | **Aqueous** | **GC 45** | **07/25/14** | **07/26/14 01:57** | **140725B09** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Diesel Range Organics | ND | 50 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 82 | 68-140 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

eurofins | Calscience

# Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 07/23/14
Work Order: 14-07-1559
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: PG&E Oakland General Construction Yard (OAKGC1-14)



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Waste Water** | **14-07-1559-1-E** | **07/21/14 17:05** | **Aqueous** | **ICP 7300** | **07/24/14** | **07/25/14 20:00** | **140724LA4** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.0150 | 1.00 | |
| Arsenic | ND | 0.0100 | 1.00 | |
| Barium | 0.775 | 0.0100 | 1.00 | |
| Beryllium | ND | 0.0100 | 1.00 | |
| Cadmium | ND | 0.0100 | 1.00 | |
| Chromium | 0.317 | 0.0100 | 1.00 | |
| Cobalt | 0.0430 | 0.0100 | 1.00 | |
| Copper | 0.108 | 0.0100 | 1.00 | |
| Lead | 0.407 | 0.0100 | 1.00 | |
| Molybdenum | 0.0771 | 0.0100 | 1.00 | |
| Nickel | 0.0707 | 0.0100 | 1.00 | |
| Selenium | ND | 0.0150 | 1.00 | |
| Silver | 0.0100 | 0.00500 | 1.00 | |
| Thallium | ND | 0.0150 | 1.00 | |
| Vanadium | 0.152 | 0.0100 | 1.00 | |
| Zinc | 1.75 | 0.0100 | 1.00 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

eurofins | Calscience

# Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 07/23/14
Work Order: 14-07-1559
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: PG&E Oakland General Construction Yard (OAKGC1-14)



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **097-01-003-14371** | **N/A** | **Aqueous** | **ICP 7300** | **07/24/14** | **07/25/14 19:13** | **140724LA4** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.0150 | 1.00 | |
| Arsenic | ND | 0.0100 | 1.00 | |
| Barium | ND | 0.0100 | 1.00 | |
| Beryllium | ND | 0.0100 | 1.00 | |
| Cadmium | ND | 0.0100 | 1.00 | |
| Chromium | ND | 0.0100 | 1.00 | |
| Cobalt | ND | 0.0100 | 1.00 | |
| Copper | ND | 0.0100 | 1.00 | |
| Lead | ND | 0.0100 | 1.00 | |
| Molybdenum | ND | 0.0100 | 1.00 | |
| Nickel | ND | 0.0100 | 1.00 | |
| Selenium | ND | 0.0150 | 1.00 | |
| Silver | ND | 0.00500 | 1.00 | |
| Thallium | ND | 0.0150 | 1.00 | |
| Vanadium | ND | 0.0100 | 1.00 | |
| Zinc | ND | 0.0100 | 1.00 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

eurofins | Calscience

# Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 07/23/14
Work Order: 14-07-1559
Preparation: EPA 7470A Total
Method: EPA 7470A
Units: mg/L

Project: PG&E Oakland General Construction Yard (OAKGC1-14)



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Waste Water** | **14-07-1559-1-E** | **07/21/14 17:05** | **Aqueous** | **Mercury 04** | **07/29/14** | **07/29/14 20:13** | **140729L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.000500 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-04-008-7049** | **N/A** | **Aqueous** | **Mercury 04** | **07/29/14** | **07/29/14 13:56** | **140729L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.000500 | 1.00 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

eurofins | Calscience

# Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 07/23/14
Work Order: 14-07-1559
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: PG&E Oakland General Construction Yard (OAKGC1-14)



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Waste Water** | **14-07-1559-1-C** | **07/21/14 17:05** | **Aqueous** | **GC/MS W** | **07/26/14** | **07/27/14 07:17** | **140726L016** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | 300 | 100 | 5.00 | |
| Benzene | ND | 2.5 | 5.00 | |
| Bromobenzene | ND | 5.0 | 5.00 | |
| Bromochloromethane | ND | 5.0 | 5.00 | |
| Bromodichloromethane | ND | 5.0 | 5.00 | |
| Bromoform | ND | 5.0 | 5.00 | |
| Bromomethane | ND | 50 | 5.00 | |
| 2-Butanone | 340 | 50 | 5.00 | |
| n-Butylbenzene | ND | 5.0 | 5.00 | |
| sec-Butylbenzene | ND | 5.0 | 5.00 | |
| tert-Butylbenzene | ND | 5.0 | 5.00 | |
| Carbon Disulfide | ND | 50 | 5.00 | |
| Carbon Tetrachloride | ND | 2.5 | 5.00 | |
| Chlorobenzene | ND | 5.0 | 5.00 | |
| Chloroethane | ND | 25 | 5.00 | |
| Chloroform | ND | 5.0 | 5.00 | |
| Chloromethane | ND | 50 | 5.00 | |
| 2-Chlorotoluene | ND | 5.0 | 5.00 | |
| 4-Chlorotoluene | ND | 5.0 | 5.00 | |
| Dibromochloromethane | ND | 5.0 | 5.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 25 | 5.00 | |
| 1,2-Dibromoethane | ND | 5.0 | 5.00 | |
| Dibromomethane | ND | 5.0 | 5.00 | |
| 1,2-Dichlorobenzene | ND | 5.0 | 5.00 | |
| 1,3-Dichlorobenzene | ND | 5.0 | 5.00 | |
| 1,4-Dichlorobenzene | ND | 5.0 | 5.00 | |
| Dichlorodifluoromethane | ND | 5.0 | 5.00 | |
| 1,1-Dichloroethane | ND | 5.0 | 5.00 | |
| 1,2-Dichloroethane | ND | 2.5 | 5.00 | |
| 1,1-Dichloroethene | ND | 5.0 | 5.00 | |
| c-1,2-Dichloroethene | ND | 5.0 | 5.00 | |
| t-1,2-Dichloroethene | ND | 5.0 | 5.00 | |
| 1,2-Dichloropropane | ND | 5.0 | 5.00 | |
| 1,3-Dichloropropane | ND | 5.0 | 5.00 | |
| 2,2-Dichloropropane | ND | 5.0 | 5.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Return to Contents

eurofins | Calscience

# Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 07/23/14
Work Order: 14-07-1559
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: PG&E Oakland General Construction Yard (OAKGC1-14)



| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 5.0 | 5.00 | |
| c-1,3-Dichloropropene | ND | 2.5 | 5.00 | |
| t-1,3-Dichloropropene | ND | 2.5 | 5.00 | |
| Ethylbenzene | ND | 5.0 | 5.00 | |
| 2-Hexanone | ND | 50 | 5.00 | |
| Isopropylbenzene | ND | 5.0 | 5.00 | |
| p-Isopropyltoluene | ND | 5.0 | 5.00 | |
| Methylene Chloride | ND | 50 | 5.00 | |
| 4-Methyl-2-Pentanone | ND | 50 | 5.00 | |
| Naphthalene | ND | 50 | 5.00 | |
| n-Propylbenzene | ND | 5.0 | 5.00 | |
| Styrene | ND | 5.0 | 5.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | 5.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 5.00 | |
| Tetrachloroethene | ND | 5.0 | 5.00 | |
| Toluene | ND | 5.0 | 5.00 | |
| 1,2,3-Trichlorobenzene | ND | 5.0 | 5.00 | |
| 1,2,4-Trichlorobenzene | ND | 5.0 | 5.00 | |
| 1,1,1-Trichloroethane | ND | 5.0 | 5.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50 | 5.00 | |
| 1,1,2-Trichloroethane | ND | 5.0 | 5.00 | |
| Trichloroethene | ND | 5.0 | 5.00 | |
| Trichlorofluoromethane | ND | 50 | 5.00 | |
| 1,2,3-Trichloropropane | ND | 25 | 5.00 | |
| 1,2,4-Trimethylbenzene | ND | 5.0 | 5.00 | |
| 1,3,5-Trimethylbenzene | ND | 5.0 | 5.00 | |
| Vinyl Acetate | ND | 50 | 5.00 | |
| Vinyl Chloride | ND | 2.5 | 5.00 | |
| p/m-Xylene | ND | 5.0 | 5.00 | |
| o-Xylene | ND | 5.0 | 5.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 5.0 | 5.00 | |
| Tert-Butyl Alcohol (TBA) | ND | 50 | 5.00 | |
| Diisopropyl Ether (DIPE) | ND | 10 | 5.00 | |
| Ethyl-t-Butyl Ether (ETBE) | ND | 10 | 5.00 | |
| Tert-Amyl-Methyl Ether (TAME) | ND | 10 | 5.00 | |
| Ethanol | ND | 500 | 5.00 | |
| Gasoline Range Organics (C4-C12) | 510 | 250 | 5.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Return to Contents

eurofins | Calscience

# Analytical Report

| | | | |
|---|---|---|---|
| ETIC Engineering, Inc. | | Date Received: | 07/23/14 |
| 2285 Morello Avenue | | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | | Preparation: | EPA 5030C |
| | | Method: | GC/MS / EPA 8260B |
| | | Units: | ug/L |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | | Page 3 of 6 |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Dibromofluoromethane | 99 | 78-126 | |
| 1,2-Dichloroethane-d4 | 103 | 75-135 | |
| Toluene-d8 | 97 | 80-120 | |
| Toluene-d8-TPPH | 94 | 88-112 | |
| 1,4-Bromofluorobenzene | 95 | 80-120 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

eurofins | Calscience

# Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 07/23/14
Work Order: 14-07-1559
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: PG&E Oakland General Construction Yard (OAKGC1-14)



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-12-767-6605** | **N/A** | **Aqueous** | **GC/MS W** | **07/26/14** | **07/27/14 02:04** | **140726L016** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 20 | 1.00 | |
| Benzene | ND | 0.50 | 1.00 | |
| Bromobenzene | ND | 1.0 | 1.00 | |
| Bromochloromethane | ND | 1.0 | 1.00 | |
| Bromodichloromethane | ND | 1.0 | 1.00 | |
| Bromoform | ND | 1.0 | 1.00 | |
| Bromomethane | ND | 10 | 1.00 | |
| 2-Butanone | ND | 10 | 1.00 | |
| n-Butylbenzene | ND | 1.0 | 1.00 | |
| sec-Butylbenzene | ND | 1.0 | 1.00 | |
| tert-Butylbenzene | ND | 1.0 | 1.00 | |
| Carbon Disulfide | ND | 10 | 1.00 | |
| Carbon Tetrachloride | ND | 0.50 | 1.00 | |
| Chlorobenzene | ND | 1.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 1.0 | 1.00 | |
| Chloromethane | ND | 10 | 1.00 | |
| 2-Chlorotoluene | ND | 1.0 | 1.00 | |
| 4-Chlorotoluene | ND | 1.0 | 1.00 | |
| Dibromochloromethane | ND | 1.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 5.0 | 1.00 | |
| 1,2-Dibromoethane | ND | 1.0 | 1.00 | |
| Dibromomethane | ND | 1.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 1.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 1.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 1.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 1.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 1.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 0.50 | 1.00 | |
| 1,1-Dichloroethene | ND | 1.0 | 1.00 | |
| c-1,2-Dichloroethene | ND | 1.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 1.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 1.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 1.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 1.0 | 1.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Return to Contents

eurofins | Calscience

# Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 07/23/14
Work Order: 14-07-1559
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: PG&E Oakland General Construction Yard (OAKGC1-14)



| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 1.0 | 1.00 | |
| c-1,3-Dichloropropene | ND | 0.50 | 1.00 | |
| t-1,3-Dichloropropene | ND | 0.50 | 1.00 | |
| Ethylbenzene | ND | 1.0 | 1.00 | |
| 2-Hexanone | ND | 10 | 1.00 | |
| Isopropylbenzene | ND | 1.0 | 1.00 | |
| p-Isopropyltoluene | ND | 1.0 | 1.00 | |
| Methylene Chloride | ND | 10 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 10 | 1.00 | |
| Naphthalene | ND | 10 | 1.00 | |
| n-Propylbenzene | ND | 1.0 | 1.00 | |
| Styrene | ND | 1.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | 1.00 | |
| Tetrachloroethene | ND | 1.0 | 1.00 | |
| Toluene | ND | 1.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 1.0 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 1.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 1.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 10 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 1.0 | 1.00 | |
| Trichloroethene | ND | 1.0 | 1.00 | |
| Trichlorofluoromethane | ND | 10 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 1.0 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 1.0 | 1.00 | |
| Vinyl Acetate | ND | 10 | 1.00 | |
| Vinyl Chloride | ND | 0.50 | 1.00 | |
| p/m-Xylene | ND | 1.0 | 1.00 | |
| o-Xylene | ND | 1.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 1.0 | 1.00 | |
| Tert-Butyl Alcohol (TBA) | ND | 10 | 1.00 | |
| Diisopropyl Ether (DIPE) | ND | 2.0 | 1.00 | |
| Ethyl-t-Butyl Ether (ETBE) | ND | 2.0 | 1.00 | |
| Tert-Amyl-Methyl Ether (TAME) | ND | 2.0 | 1.00 | |
| Ethanol | ND | 100 | 1.00 | |
| Gasoline Range Organics (C4-C12) | ND | 50 | 1.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Return to Contents

eurofins | Calscience

# Analytical Report

| | | | |
|---|---|---|---|
| ETIC Engineering, Inc. | | Date Received: | 07/23/14 |
| 2285 Morello Avenue | | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | | Preparation: | EPA 5030C |
| | | Method: | GC/MS / EPA 8260B |
| | | Units: | ug/L |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | Page 6 of 6 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Dibromofluoromethane | 101 | 78-126 | |
| 1,2-Dichloroethane-d4 | 101 | 75-135 | |
| Toluene-d8 | 98 | 80-120 | |
| Toluene-d8-TPPH | 95 | 88-112 | |
| 1,4-Bromofluorobenzene | 90 | 80-120 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

eurofins | Calscience

# Quality Control - Spike/Spike Duplicate

| | | |
|---|---|---|
| ETIC Engineering, Inc. | Date Received: | 07/23/14 |
| 2285 Morello Avenue | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | Preparation: | EPA 3010A Total |
| | Method: | EPA 6010B |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | Page 1 of 3 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **14-07-1627-2** | **Sample** | **Aqueous** | **ICP 7300** | **07/24/14** | **07/30/14 14:49** | **140724SA4** |
| **14-07-1627-2** | **Matrix Spike** | **Aqueous** | **ICP 7300** | **07/24/14** | **07/25/14 19:22** | **140724SA4** |
| **14-07-1627-2** | **Matrix Spike Duplicate** | **Aqueous** | **ICP 7300** | **07/24/14** | **07/25/14 19:23** | **140724SA4** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 0.5000 | 0.5157 | 103 | 0.5228 | 105 | 72-132 | 1 | 0-10 | |
| Arsenic | 0.09913 | 0.5000 | 0.6083 | 102 | 0.6154 | 103 | 80-140 | 1 | 0-11 | |
| Barium | 0.3165 | 0.5000 | 0.7761 | 92 | 0.7968 | 96 | 87-123 | 3 | 0-6 | |
| Beryllium | ND | 0.5000 | 0.5177 | 104 | 0.5253 | 105 | 89-119 | 1 | 0-8 | |
| Cadmium | ND | 0.5000 | 0.5044 | 101 | 0.5192 | 104 | 82-124 | 3 | 0-7 | |
| Chromium | ND | 0.5000 | 0.4940 | 99 | 0.5033 | 101 | 86-122 | 2 | 0-8 | |
| Cobalt | ND | 0.5000 | 0.5292 | 106 | 0.5371 | 107 | 83-125 | 1 | 0-7 | |
| Copper | ND | 0.5000 | 0.5114 | 102 | 0.5338 | 107 | 78-126 | 4 | 0-7 | |
| Lead | ND | 0.5000 | 0.5075 | 102 | 0.5167 | 103 | 84-120 | 2 | 0-7 | |
| Molybdenum | ND | 0.5000 | 0.5239 | 105 | 0.5353 | 107 | 78-126 | 2 | 0-7 | |
| Nickel | ND | 0.5000 | 0.5087 | 102 | 0.5206 | 104 | 84-120 | 2 | 0-7 | |
| Selenium | ND | 0.5000 | 0.5169 | 103 | 0.5270 | 105 | 79-127 | 2 | 0-9 | |
| Silver | ND | 0.2500 | 0.2621 | 105 | 0.2647 | 106 | 86-128 | 1 | 0-7 | |
| Thallium | ND | 0.5000 | 0.5039 | 101 | 0.5098 | 102 | 79-121 | 1 | 0-8 | |
| Vanadium | ND | 0.5000 | 0.5049 | 101 | 0.5157 | 103 | 88-118 | 2 | 0-7 | |
| Zinc | ND | 0.5000 | 0.5065 | 101 | 0.5254 | 105 | 89-131 | 4 | 0-8 | |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - Spike/Spike Duplicate

| | | |
|---|---|---|
| ETIC Engineering, Inc. | Date Received: | 07/23/14 |
| 2285 Morello Avenue | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | Preparation: | EPA 7470A Total |
| | Method: | EPA 7470A |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | Page 2 of 3 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **14-07-1725-1** | **Sample** | **Aqueous** | **Mercury 04** | **07/29/14** | **07/29/14 14:01** | **140729S03** |
| **14-07-1725-1** | **Matrix Spike** | **Aqueous** | **Mercury 04** | **07/29/14** | **07/29/14 14:03** | **140729S03** |
| **14-07-1725-1** | **Matrix Spike Duplicate** | **Aqueous** | **Mercury 04** | **07/29/14** | **07/29/14 14:05** | **140729S03** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.005000 | 0.006681 | 134 | 0.005799 | 116 | 80-120 | 14 | 0-14 | 3 |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| ETIC Engineering, Inc. | | Date Received: | 07/23/14 |
| 2285 Morello Avenue | | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | | Preparation: | EPA 5030C |
| | | Method: | GC/MS / EPA 8260B |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | | Page 3 of 3 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **14-07-1804-7** | **Sample** | **Aqueous** | **GC/MS W** | **07/26/14** | **07/27/14 04:55** | **140726S008** |
| **14-07-1804-7** | **Matrix Spike** | **Aqueous** | **GC/MS W** | **07/26/14** | **07/27/14 05:23** | **140726S008** |
| **14-07-1804-7** | **Matrix Spike Duplicate** | **Aqueous** | **GC/MS W** | **07/26/14** | **07/27/14 05:52** | **140726S008** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 50.00 | 50.64 | 101 | 47.78 | 96 | 74-122 | 6 | 0-21 | |
| Carbon Tetrachloride | ND | 50.00 | 49.58 | 99 | 46.30 | 93 | 60-144 | 7 | 0-21 | |
| Chlorobenzene | ND | 50.00 | 49.23 | 98 | 48.15 | 96 | 73-120 | 2 | 0-22 | |
| 1,2-Dibromoethane | ND | 50.00 | 48.61 | 97 | 47.87 | 96 | 80-122 | 2 | 0-20 | |
| 1,2-Dichlorobenzene | ND | 50.00 | 47.57 | 95 | 46.46 | 93 | 70-120 | 2 | 0-26 | |
| 1,2-Dichloroethane | ND | 50.00 | 51.63 | 103 | 49.05 | 98 | 64-142 | 5 | 0-20 | |
| 1,1-Dichloroethene | ND | 50.00 | 46.32 | 93 | 44.37 | 89 | 52-136 | 4 | 0-21 | |
| Ethylbenzene | ND | 50.00 | 49.26 | 99 | 47.44 | 95 | 77-125 | 4 | 0-24 | |
| Toluene | ND | 50.00 | 50.64 | 101 | 49.39 | 99 | 72-126 | 2 | 0-23 | |
| Trichloroethene | ND | 50.00 | 50.54 | 101 | 47.43 | 95 | 74-128 | 6 | 0-22 | |
| Vinyl Chloride | ND | 50.00 | 40.93 | 82 | 40.28 | 81 | 67-133 | 2 | 0-20 | |
| p/m-Xylene | ND | 100.0 | 103.2 | 103 | 99.41 | 99 | 63-129 | 4 | 0-25 | |
| o-Xylene | ND | 50.00 | 55.05 | 110 | 52.69 | 105 | 62-128 | 4 | 0-24 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 50.00 | 37.67 | 75 | 47.25 | 94 | 68-134 | 23 | 0-21 | 4 |
| Tert-Butyl Alcohol (TBA) | ND | 250.0 | 243.5 | 97 | 291.9 | 117 | 65-143 | 18 | 0-30 | |
| Diisopropyl Ether (DIPE) | ND | 50.00 | 49.78 | 100 | 48.64 | 97 | 61-139 | 2 | 0-20 | |
| Ethyl-t-Butyl Ether (ETBE) | ND | 50.00 | 49.11 | 98 | 46.70 | 93 | 64-136 | 5 | 0-20 | |
| Tert-Amyl-Methyl Ether (TAME) | ND | 50.00 | 49.04 | 98 | 44.69 | 89 | 67-133 | 9 | 0-20 | |
| Ethanol | ND | 500.0 | 556.2 | 111 | 597.6 | 120 | 34-178 | 7 | 0-58 | |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - PDS

| | | | |
|---|---|---|---|
| ETIC Engineering, Inc. | | Date Received: | 07/23/14 |
| 2285 Morello Avenue | | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | | Preparation: | EPA 7470A Total |
| | | Method: | EPA 7470A |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | | Page 1 of 1 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | PDS/PDSD Batch Number |
|---|---|---|---|---|---|---|
| **14-07-1725-1** | **Sample** | **Aqueous** | **Mercury 04** | **07/29/14 00:00** | **07/29/14 14:01** | **140729S03** |
| **14-07-1725-1** | **PDS** | **Aqueous** | **Mercury 04** | **07/29/14 00:00** | **07/29/14 14:08** | **140729S03** |

| Parameter | Sample Conc. | Spike Added | PDS Conc. | PDS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|---|
| Mercury | ND | 0.005000 | 0.005716 | 114 | 75-125 | |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - LCS/LCSD

| | | | |
|---|---|---|---|
| ETIC Engineering, Inc. | | Date Received: | 07/23/14 |
| 2285 Morello Avenue | | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | | Preparation: | EPA 3510C |
| | | Method: | EPA 8015B |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | | Page 1 of 4 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| **099-15-418-787** | **LCS** | **Aqueous** | **GC 45** | **07/25/14** | **07/26/14 02:14** | **140725B09** |
| **099-15-418-787** | **LCSD** | **Aqueous** | **GC 45** | **07/25/14** | **07/26/14 02:33** | **140725B09** |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 2000 | 2053 | 103 | 2147 | 107 | 75-117 | 4 | 0-13 | |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - LCS

| | | | |
|---|---|---|---|
| ETIC Engineering, Inc. | | Date Received: | 07/23/14 |
| 2285 Morello Avenue | | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | | Preparation: | EPA 3010A Total |
| | | Method: | EPA 6010B |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | | Page 2 of 4 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **097-01-003-14371** | **LCS** | **Aqueous** | **ICP 7300** | **07/24/14** | **07/25/14 19:15** | **140724LA4** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Antimony | 0.5000 | 0.5079 | 102 | 80-120 | 73-127 | |
| Arsenic | 0.5000 | 0.4889 | 98 | 80-120 | 73-127 | |
| Barium | 0.5000 | 0.4955 | 99 | 80-120 | 73-127 | |
| Beryllium | 0.5000 | 0.4931 | 99 | 80-120 | 73-127 | |
| Cadmium | 0.5000 | 0.5179 | 104 | 80-120 | 73-127 | |
| Chromium | 0.5000 | 0.5015 | 100 | 80-120 | 73-127 | |
| Cobalt | 0.5000 | 0.5500 | 110 | 80-120 | 73-127 | |
| Copper | 0.5000 | 0.5199 | 104 | 80-120 | 73-127 | |
| Lead | 0.5000 | 0.5261 | 105 | 80-120 | 73-127 | |
| Molybdenum | 0.5000 | 0.5200 | 104 | 80-120 | 73-127 | |
| Nickel | 0.5000 | 0.5243 | 105 | 80-120 | 73-127 | |
| Selenium | 0.5000 | 0.4749 | 95 | 80-120 | 73-127 | |
| Silver | 0.2500 | 0.2355 | 94 | 80-120 | 73-127 | |
| Thallium | 0.5000 | 0.5259 | 105 | 80-120 | 73-127 | |
| Vanadium | 0.5000 | 0.4894 | 98 | 80-120 | 73-127 | |
| Zinc | 0.5000 | 0.5107 | 102 | 80-120 | 73-127 | |

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - LCS

| | | | |
|---|---|---|---|
| ETIC Engineering, Inc. | | Date Received: | 07/23/14 |
| 2285 Morello Avenue | | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | | Preparation: | EPA 7470A Total |
| | | Method: | EPA 7470A |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | | Page 3 of 4 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-04-008-7049** | **LCS** | **Aqueous** | **Mercury 04** | **07/29/14** | **07/29/14 13:59** | **140729L03** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Mercury | 0.01000 | 0.009921 | 99 | 85-121 | |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - LCS/LCSD

| | | | |
|---|---|---|---|
| ETIC Engineering, Inc. | | Date Received: | 07/23/14 |
| 2285 Morello Avenue | | Work Order: | 14-07-1559 |
| Pleasant Hill, CA 94523-1850 | | Preparation: | EPA 5030C |
| | | Method: | GC/MS / EPA 8260B |
| Project: PG&E Oakland General Construction Yard (OAKGC1-14) | | | Page 4 of 4 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| **099-12-767-6605** | **LCS** | **Aqueous** | **GC/MS W** | **07/26/14** | **07/27/14 00:38** | **140726L016** |
| **099-12-767-6605** | **LCSD** | **Aqueous** | **GC/MS W** | **07/26/14** | **07/27/14 01:07** | **140726L016** |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | ME CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 50.00 | 49.19 | 98 | N/A | N/A | 80-120 | 73-127 | N/A | 0-20 | |
| Carbon Tetrachloride | 50.00 | 46.63 | 93 | N/A | N/A | 67-139 | 55-151 | N/A | 0-20 | |
| Chlorobenzene | 50.00 | 49.35 | 99 | N/A | N/A | 78-120 | 71-127 | N/A | 0-20 | |
| 1,2-Dibromoethane | 50.00 | 48.21 | 96 | N/A | N/A | 80-120 | 73-127 | N/A | 0-20 | |
| 1,2-Dichlorobenzene | 50.00 | 47.71 | 95 | N/A | N/A | 63-129 | 52-140 | N/A | 0-20 | |
| 1,2-Dichloroethane | 50.00 | 48.02 | 96 | N/A | N/A | 70-130 | 60-140 | N/A | 0-20 | |
| 1,1-Dichloroethene | 50.00 | 46.44 | 93 | N/A | N/A | 66-126 | 56-136 | N/A | 0-20 | |
| Ethylbenzene | 50.00 | 50.05 | 100 | N/A | N/A | 80-123 | 73-130 | N/A | 0-20 | |
| Toluene | 50.00 | 49.98 | 100 | N/A | N/A | 80-120 | 73-127 | N/A | 0-20 | |
| Trichloroethene | 50.00 | 51.40 | 103 | N/A | N/A | 80-122 | 73-129 | N/A | 0-20 | |
| Vinyl Chloride | 50.00 | 43.10 | 86 | N/A | N/A | 70-130 | 60-140 | N/A | 0-20 | |
| p/m-Xylene | 100.0 | 105.9 | 106 | N/A | N/A | 75-123 | 67-131 | N/A | 0-25 | |
| o-Xylene | 50.00 | 55.44 | 111 | N/A | N/A | 74-122 | 66-130 | N/A | 0-25 | |
| Methyl-t-Butyl Ether (MTBE) | 50.00 | 49.66 | 99 | N/A | N/A | 69-129 | 59-139 | N/A | 0-22 | |
| Tert-Butyl Alcohol (TBA) | 250.0 | 221.8 | 89 | N/A | N/A | 69-129 | 59-139 | N/A | 0-25 | |
| Diisopropyl Ether (DIPE) | 50.00 | 49.64 | 99 | N/A | N/A | 68-128 | 58-138 | N/A | 0-20 | |
| Ethyl-t-Butyl Ether (ETBE) | 50.00 | 50.86 | 102 | N/A | N/A | 63-135 | 51-147 | N/A | 0-20 | |
| Tert-Amyl-Methyl Ether (TAME) | 50.00 | 50.63 | 101 | N/A | N/A | 67-133 | 56-144 | N/A | 0-20 | |
| Ethanol | 500.0 | 519.4 | 104 | N/A | N/A | 42-168 | 21-189 | N/A | 0-20 | |
| TPPH | 1000 | 1089 | 109 | 1085 | 109 | 65-135 | 53-147 | 0 | 0-30 | |

Total number of LCS compounds: 20
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

Return to Contents

eurofins | Calscience

# Glossary of Terms and Qualifiers

Work Order: 14-07-1559 Page 1 of 1

| Qualifiers | Definition |
|---|---|
| * | See applicable analysis comment. |
| < | Less than the indicated value. |
| > | Greater than the indicated value. |
| 1 | Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification. |
| 2 | Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification. |
| 3 | Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control. |
| 4 | The MS/MSD RPD was out of control due to suspected matrix interference. |
| 5 | The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference. |
| 6 | Surrogate recovery below the acceptance limit. |
| 7 | Surrogate recovery above the acceptance limit. |
| B | Analyte was present in the associated method blank. |
| BU | Sample analyzed after holding time expired. |
| BV | Sample received after holding time expired. |
| E | Concentration exceeds the calibration range. |
| ET | Sample was extracted past end of recommended max. holding time. |
| HD | The chromatographic pattern was inconsistent with the profile of the reference fuel standard. |
| HDH | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected). |
| HDL | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected). |
| J | Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated. |
| JA | Analyte positively identified but quantitation is an estimate. |
| ME | LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean). |
| ND | Parameter not detected at the indicated reporting limit. |
| Q | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater. |
| SG | The sample extract was subjected to Silica Gel treatment prior to analysis. |
| X | % Recovery and/or RPD out-of-range. |
| Z | Analyte presence was not confirmed by second column or GC/MS analysis. |

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Return to Contents

Calscience Environmental Laboratories, Inc.
7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1432
TEL: (714) 895-5494 . FAX: (714) 894-7501

# CHAIN OF CUSTODY RECORD

DATE: 7/21/14
PAGE: 1 OF 1

LABORATORY CLIENT: ETIC Engineering, Inc.
ADDRESS: 2285 Morello Avenue
CITY: Pleasant Hill, CA
TEL: 925-602-4710 Ext. 2161 | FAX: 925-602-4720 | EMAIL: See Instructions

GLOBAL ID # COELT LOG CODE:
PROJECT CONTACT: Tom Neely, ETIC Engineering, Inc.
SAMPLER(S): (SIGNATURE)

P.O.: Invoice Yemia Hashimoto at AMEC
LAB USE ONLY: 14-07-1559
COOLER RECEIPT Temp = _____ °C

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☑ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ____/____/____

SPECIAL INSTRUCTIONS:
email report to eticlabreports@eticeng.com, tneely@eticeng.com

PG&E Oakland General Construction Yard (PG-OAKGC1-14)

REQUESTED ANALYSIS

| LAB USE ONLY | SAMPLE ID | LOCATION/ DESCRIPTION | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | 8260B EPA 8260B/GC/MS VOCs plus TPHg | 8015B Diesel Range Organics (DRO) | 6010B Metals (ICP)/7470A or 7471A Title 22 Metals | CONTAINER TYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| | Waste Water | | 7/21/14 | 1705 | liquid | 1 | X | | | 40ml VOA w/ HCl |
| | Waste Water | | | 1705 | | 1 | X | | | 40ml VOA w/ HCl |
| | Waste Water | | | 1705 | | 1 | X | | | 40ml VOA w/ HCl |
| | Waste Water | | | 1710 | | 1 | | X | | 1L Amber |
| | Waste Water | | | 1700 | | 1 | | | X | Poly w/ Nitric Acid |

| Relinquished by: (Signature) | Received by: (Signature) | Date, & Time: |
|---|---|---|
| | Tom O'Malley EC1 | 7/22/14 0920 |
| Tom O'Malley TO 650 7/22/14 1730 | PNing EC1 | 7/23/14 1000 |
| Relinquished by: (Signature) | Received by: (Signature) | Date, & Time: |

C:\Users\aricci\Desktop\2014.07.2014_COC



Return to Contents

1559

GSO

< WebShip > > > > >

800-322-5555 www.gso.com

*Ship From:*
ALAN KEMP
CAL SCIENCE- CONCORD
5063 COMMERCIAL CIRCLE #H
CONCORD, CA 94520

*Ship To:*
SAMPLE RECEIVING
CEL
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

COD:
$0.00

Reference:
PHILLIPS 66 , ETIC

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 525203899

NPS

ORC

A

GARDEN GROVE

D92845A

26815724

Print Date : 07/22/14 16:55 PM

Package 1 of 1

Send Label To Printer | ☑ Print All | Edit Shipment | Finish

## LABEL INSTRUCTIONS:

Do not copy or reprint **this label for additional shipments - each package must have a unique barcode.**

STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.

STEP 2 - Fold this page in half.

STEP 3 - Securely attach this label to your package, do not cover the barcode.

STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

## ADDITIONAL OPTIONS:

Send Label Via Email | Create Return Label

## TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all the service terms and conditions described in this section. Our liability for loss or damage to any package is limited to your actual damages or $100 whichever is less, unless you pay for and declare a higher authorized value. If you declare a higher value and pay the additional charge, our liability will be the lesser of your declared value or the actual value of your loss or damage. In any event, we will not be liable for any damage, whether direct, incidental, special or consequential, in excess of the declared value of a shipment whether or not we had knowledge that such damage might be incurred including but not limited to loss of income or profit. We will not be liable for your acts or omissions, including but not limited to improper or insufficient packaging, securing, marking or addressing. Also, we will not be liable if you or the recipient violates any of the terms of our agreement. We will not be liable for loss, damage or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, act of public enemies, war, strikes, or civil commotion. The highest declared value for our GSO Priority Letter or GSO Priority Package is $500. For other shipments the highest declared value is $10,000 unless your package contains items of "extraordinary value", in which case the highest declared value we allow is $500. Items of "extraordinary value" include, but or not limited to, artwork, jewelry, furs, precious metals, tickets, negotiable instruments and other items with intrinsic value.

Return to Contents

eurofins | Calscience

WORK ORDER #: 14-07-1[5][5][9]

# SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: ETIC DATE: 07/23/14

**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 2.7 °C - 0.3 °C (CF) = 2.4 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Checked by: 896

**CUSTODY SEALS INTACT:**

☑ Cooler ☐ _____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Checked by: 896

☐ Sample ☐ _____ ☐ No (Not Intact) ☑ Not Present Checked by: 896

| SAMPLE CONDITION: | Yes | No | N/A |
|---|---|---|---|
| Chain-Of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ | ☐ | ☐ |
| ☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels. | | | |
| ☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished. | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☑ | ☐ | ☐ |
| Sample container(s) intact and good condition | ☑ | ☐ | ☐ |
| Proper containers and sufficient volume for analyses requested | ☑ | ☐ | ☐ |
| Analyses received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfides ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation noted on COC or sample container | ☑ | ☐ | ☐ |
| ☐ Unpreserved vials received for Volatiles analysis | | | |
| Volatile analysis container(s) free of headspace | ☑ | ☐ | ☐ |
| Tedlar bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:**

**Solid:** ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

**Aqueous:** ☐VOA ☑VOA**h** (3) ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☑1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐1PB**na** ☐500PB

☐250PB ☑250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

**Air:** ☐Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:** _____ Labeled/Checked by: 896

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope Reviewed by: 681

Preservative: **h:** HCL **n:** $HNO_3$ **na$_2$:**$Na_2S_2O_3$ **na:** NaOH **p:** $H_3PO_4$ **s:** $H_2SO_4$ **u:** Ultra-pure **znna:** $ZnAc_2$+NaOH **f:** Filtered Scanned by: 681



Return to Contents

# Appendix D

# Well Completion Report Forms – DWR 188

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

# Well Completion Report

*Refer to Instruction Pamphlet*

No. e0223489

Page 1 of 3

Owner's Well Number OW-1

Date Work Began 07/21/2014 Date Work Ended 7/21/2014

Local Permit Agency Alamedia County Public Works Agency

Permit Number W2014-0659 Permit Date 7/17/14

**DWR Use Only – Do Not Fill In**

State Well Number/Site Number

Latitude N Longitude W

APN/TRS/Other

## Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Drilling Fluid

| Depth from Surface Feet | to Feet | Description Describe material, grain size, color, etc |
|---|---|---|
| 0 | 1 | Metal traffic box and upper PVC casing removed. |
| | | Sealed with concrete from 6 inches bgs to surface. |
| 1 | 18 | Well was pressure grouted with neat cement. |
| | | A tremie pipe was used to add neat cement grout |
| | | to fill the well casing. Approximately 25 pounds per |
| | | square inch of pressure was then applied to the |
| | | casing for 5 minutes to promote the displacement |
| | | of grout into the filter pack. |
| | | |
| | | |
| | | See boring log for more information |

Total Depth of Boring 18 Feet

Total Depth of Completed Well 18 Feet

## Well Owner

Name Pacific Gas and Electric Company

Mailing Address PO Box 770000

City San Francisco State CA Zip 94177

## Well Location

Address 4930 Coliseum Way

City Oakland County Alameda

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

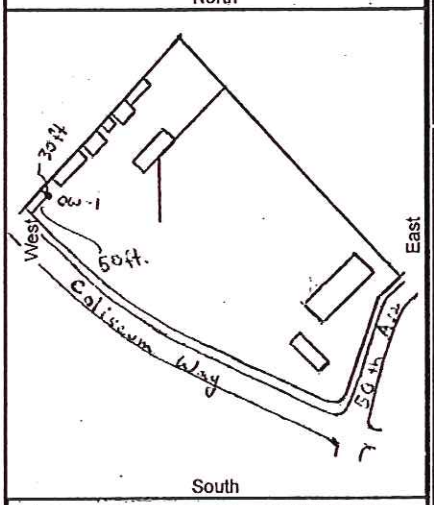
Datum WGS84 Dec. Lat. 37.765094 Dec. Long. -122.216243

APN Book 43 Page 2293 Parcel 9-2

Township 2S Range 3W Section 17

## Location Sketch

(Sketch must be drawn by hand after form is printed.)




Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

## Activity

- ○ New Well
- ○ Modification/Repair
  - ○ Deepen
  - ○ Other
- ◉ Destroy

Describe procedures and materials under "GEOLOGIC LOG"

## Planned Uses

- ○ Water Supply
  - ☐ Domestic ☐ Public
  - ☐ Irrigation ☐ Industrial
- ○ Cathodic Protection
- ○ Dewatering
- ○ Heat Exchange
- ○ Injection
- ○ Monitoring
- ○ Remediation
- ○ Sparging
- ○ Test Well
- ○ Vapor Extraction
- ○ Other

## Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

## Casings

| Depth from Surface Feet | to Feet | Borehole Diameter (Inches) | Type | Material | Wall Thickness (Inches) | Outside Diameter (Inches) | Screen Type | Slot Size if Any (Inches) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## Annular Material

| Depth from Surface Feet | to Feet | Fill | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## Attachments

- ☑ Geologic Log
- ☑ Well Construction Diagram
- ☐ Geophysical Log(s)
- ☐ Soil/Water Chemical Analyses
- ☑ Other Site Map

Attach additional information, if it exists.

## Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Penecore Drilling

220 N. EAST ST. Woodland CA 95776

Address City State Zip

Signed C-57 Licensed Water Well Contractor Date Signed 8/20/14 906899 C-57 License Number

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

PG&E, 1988

GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS

Geologist / Engineer [illegible] License No. 4334

# Soil Boring OW-1

Drilling Log

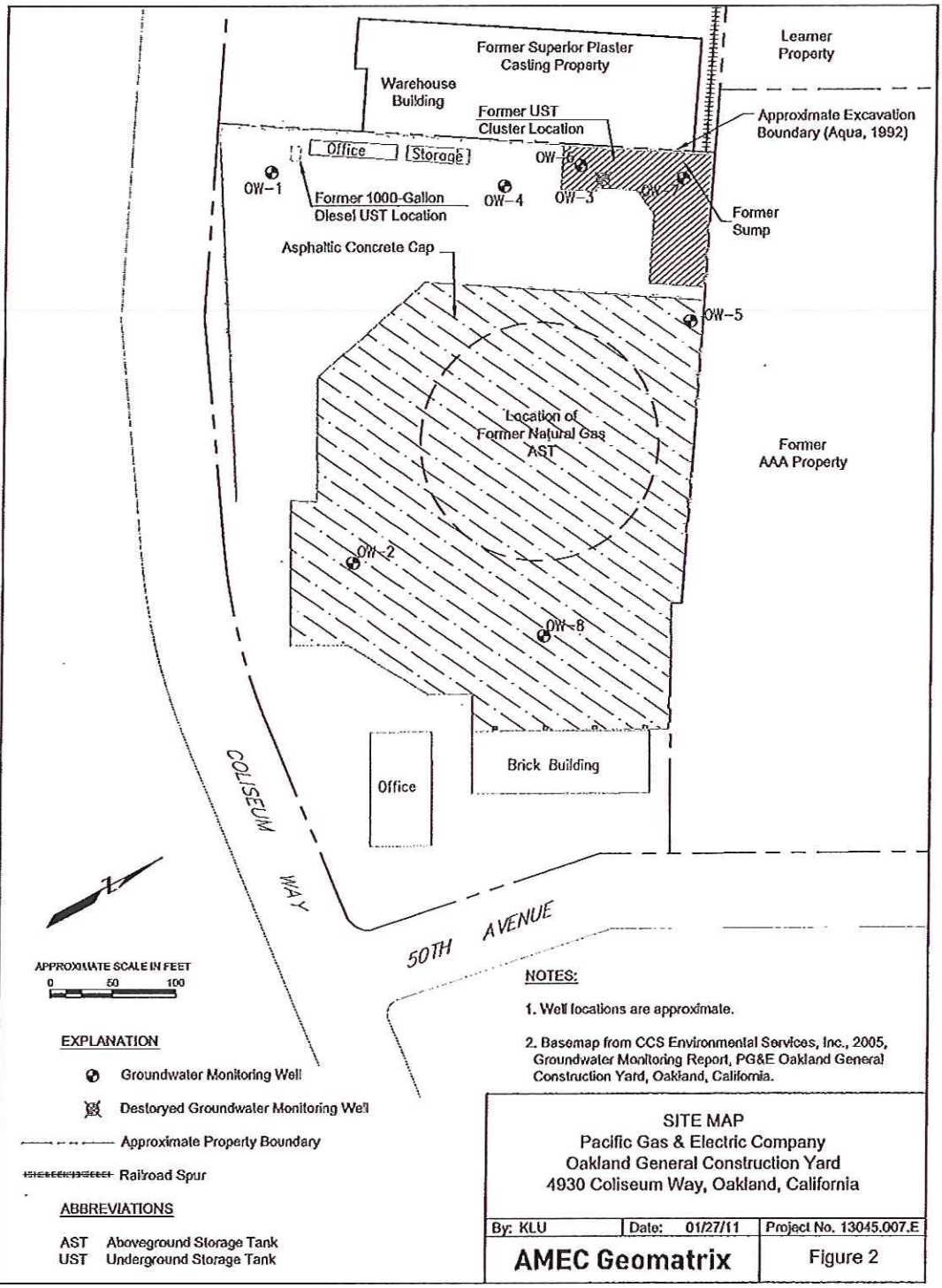
Project PG&E/Oakland Owner Pacific Gas & Electric Co.
Location Oakland Project Number 203-799-2727
Date Drilled 3/17/88 Total Depth of Hole 15 ft. Diameter 8 in.
Surface Elevation ____ Water Level Initial 9.5 ft. 24-Hr. ____
Screen: Dia. 2 IN. Length 15 FEET Slot Size .010
Casing: Dia. 2 IN. Length 3 FEET Type PVC
Drilling Company Pacific Gas & Electric Co. Drilling Method Hollow stem auger
Driller R. Hendren Log by: D. Herring

Sketch Map

Notes

| Depth (Feet) | Well Construction | T.I.P. (ppm) | Sample Number | Graphic Log | Description/Soil Classification |
|---|---|---|---|---|---|
| 0 | | | | | Base course, ± 12 inches |
| 2 | | | A | GM | Brownish-orange sandy gravel with silt (very dense, moist, no product odor) |
| 4 | | 22 | B | CL | |
| 6 | | 2.5 | C | | (Grades to dark grey) |
| 8 | | 31 | D | | Dark grey sandy gravel with clay and silt (very dense, moist, no product odor) |
| 10 | | 3.1 | E | GC | Encountered water 3/17/88 (1315hrs) (Grades orangish-brown, wet) |
| 12 | | 3.0 | | | |
| 14 | | 2.8 | G | | (Grades dense) |
| 16 | | | | | |
| 18 | | | | | End of boring, installed monitor well. |
| 20 | | | | | |
| 22 | | | | | |
| 24 | | | | | |

02100144




Plot Date: 01/27/11 - 1:36pm Plotted by: jmgraul
Drawing Path: S:\13000\13045\13045.007.E\task_0810_1207_SIR2010-10\ Drawing Name: _fig_02_SiteMap.dwg

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

# Well Completion Report

*Refer to Instruction Pamphlet*

No. e0223491

Page 1 of 3

Owner's Well Number OW-2

Date Work Began 07/21/2014 Date Work Ended 7/21/2014

Local Permit Agency Alamedia County Public Works Agency

Permit Number W2014-0660 Permit Date 7/17/14

DWR Use Only – Do Not Fill In

State Well Number/Site Number

N W

Latitude Longitude

APN/TRS/Other

## Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Drilling Fluid

| Depth from Surface Feet | to Feet | Description Describe material, grain size, color, etc |
|---|---|---|
| 0 | 1 | Metal traffic box and upper PVC casing removed. |
| | | Sealed with concrete from 6 inches bgs to surface. |
| 1 | 19 | Well was pressure grouted with neat cement. |
| | | A tremie pipe was used to add neat cement grout |
| | | to fill the well casing. Approximately 25 pounds per |
| | | square inch of pressure was then applied to the |
| | | casing for 5 minutes to promote the displacement |
| | | of grout into the filter pack. |
| | | |
| | | |
| | | See boring log for more information |

Total Depth of Boring 19 Feet

Total Depth of Completed Well 19 Feet

## Well Owner

Name Pacific Gas and Electric Company

Mailing Address PO Box 770000

City San Francisco State CA Zip 94177

## Well Location

Address 4930 Coliseum Way

City Oakland County Alameda

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

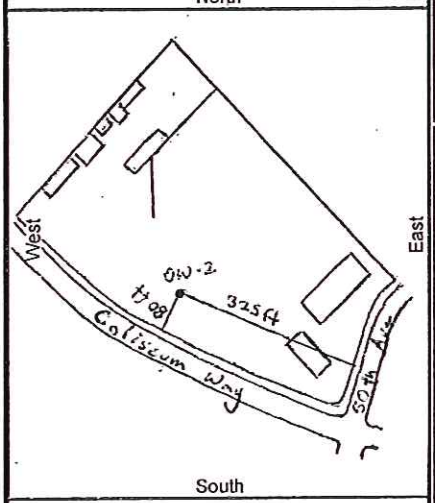
Datum WGS84 Dec. Lat. 37.764796 Dec. Long. -122.215293

APN Book 43 Page 2293 Parcel 9-2

Township 2S Range 3W Section 17

## Location Sketch

(Sketch must be drawn by hand after form is printed.)




Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

## Activity

○ New Well
○ Modification/Repair
○ Deepen
○ Other
◉ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

## Planned Uses

○ Water Supply
☐ Domestic ☐ Public
☐ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
○ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

## Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

## Casings

| Depth from Surface Feet | to Feet | Borehole Diameter (Inches) | Type | Material | Wall Thickness (Inches) | Outside Diameter (Inches) | Screen Type | Slot Size if Any (Inches) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## Annular Material

| Depth from Surface Feet | to Feet | Fill | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## Attachments

☑ Geologic Log
☑ Well Construction Diagram
☐ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☑ Other Site Map

Attach additional information, if it exists.

## Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Penecore Drilling Corporation

1220 N. EAST ST. Address Woodland City CA State 95776 Zip

Signed C-57 Licensed Water Well Contractor Date Signed 8/20/14 906899 C-57 License Number

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

PG&E, 1988

## FIELD SOIL BORING LOG

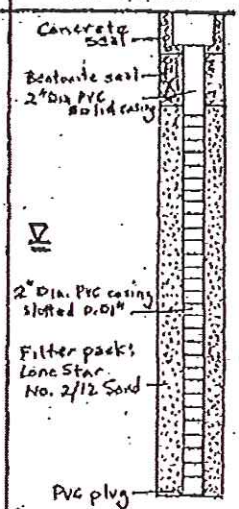
| Project | Job No. | Boring No. | Sheet |
|---|---|---|---|
| Oakland GC Yard | TES 3647 | OW-2 | 1 of 1 |

| Ground Elevation | Type & Diameter of Boring | Location |
|---|---|---|
| | 8" O.D. Hollow-Stem Auger | Coliseum Way, Oakland |

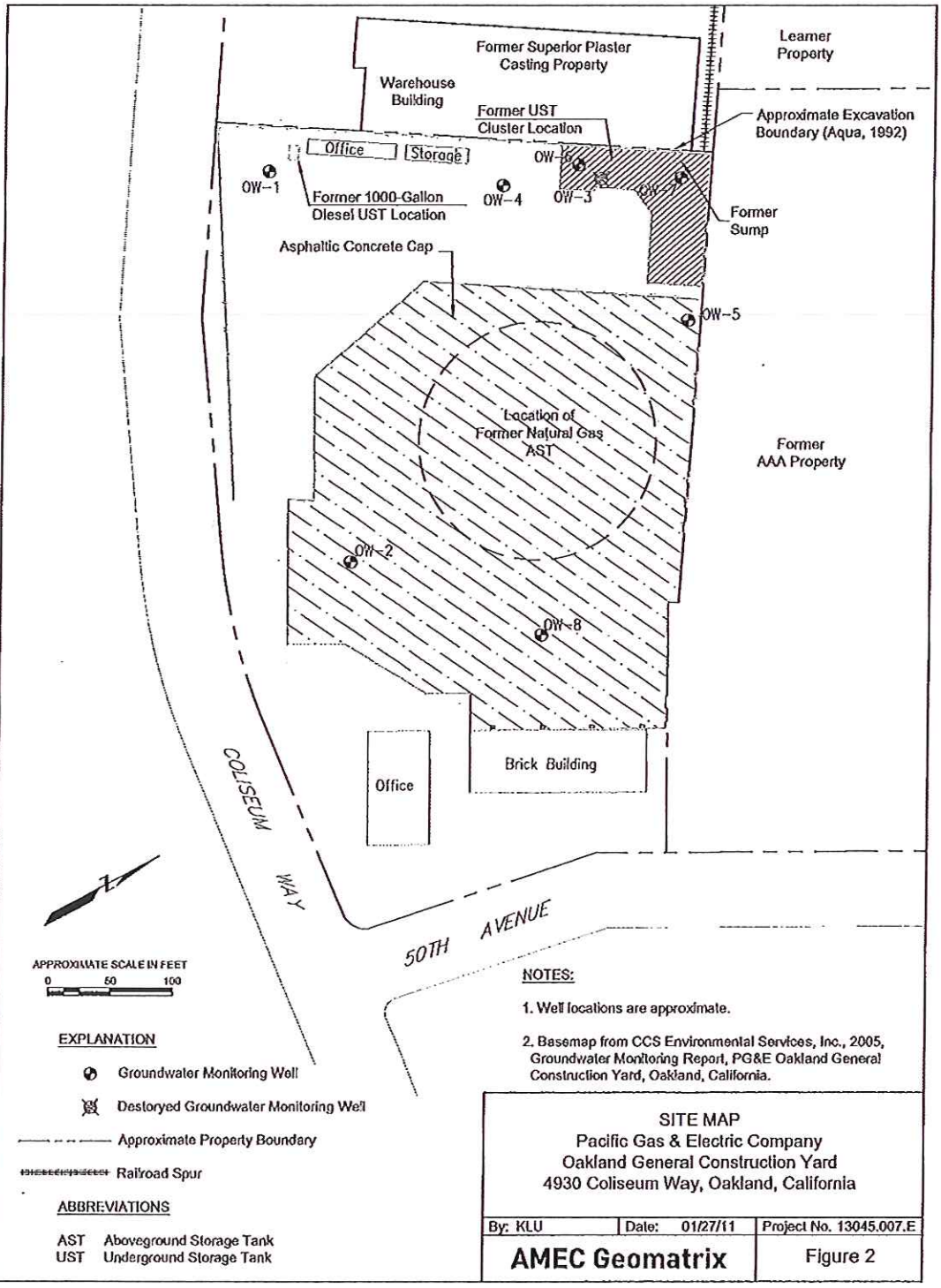
| Bottom of Hole Elevation | Depth | Groundwater Elevation | Date | Date Started | Finished |
|---|---|---|---|---|---|
| | 19' | ~9' below grade | 3/21/88 | 3/21/88 | 3/22/88 |

| Name of Driller | Name of Inspector | Boring Contractor |
|---|---|---|
| Ron Hendren | Eric Johnson | PG and E Mobile B-80 |

| ELEVATION | DESCRIPTION | DEPTH (FT.) | SOIL SYMBOL | SAMPLE TYPE & NUMBER | RECOVERY (INCHES) | BLOWS/6 in. | NOTES ON GROUNDWATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, METHOD OF ADVANCING BORING, SIZE OF CASING |
|---|---|---|---|---|---|---|---|
| | Piezometer only. Boring not logged. No soil samples collected. | 0 | | | | | |
| | | 5 | | | | | |
| | Groundwater encountered at ~9' | | | | | | |
| | | 10 | | | | | |
| | | 15 | | | | | |
| | | 20 | | | | | |




Watertight, security traffic box installed at ground surface. 2" PVC cap installed on top of casing.




Plot Date: 01/27/11 - 1:39pm, Plotted by: jim.grau
Drawing Path: S:\13000\13045\13045.007.E\task_05\10_1207_SIR2010-10\ Drawing Name: _fig_02_SiteMap.dwg

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

# Well Completion Report

*Refer to Instruction Pamphlet*

No. e0223493

Page 1 of 3

Owner's Well Number OW-4

Date Work Began 07/21/2014 Date Work Ended 7/21/2014

Local Permit Agency Alamedia County Public Works Agency

Permit Number W2014-0661 Permit Date 7/17/14

DWR Use Only – Do Not Fill In

State Well Number/Site Number

Latitude N Longitude W

APN/TRS/Other

## Geologic Log

Orientation ⊙ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Drilling Fluid

| Depth from Surface Feet | to Feet | Description Describe material, grain size, color, etc |
|---|---|---|
| 0 | 1 | Metal traffic box and upper PVC casing removed. |
| | | Sealed with concrete from 6 inches bgs to surface. |
| 1 | 20 | Well was pressure grouted with neat cement. |
| | | A tremie pipe was used to add neat cement grout |
| | | to fill the well casing. Approximately 25 pounds per |
| | | square inch of pressure was then applied to the |
| | | casing for 5 minutes to promote the displacement |
| | | of grout into the filter pack. |
| | | |
| | | |
| | | See boring log for more information |

Total Depth of Boring 21.75 Feet

Total Depth of Completed Well 20.75 Feet

## Well Owner

Name Pacific Gas and Electric Company

Mailing Address PO Box 770000

City San Francisco State CA Zip 94177

## Well Location

Address 4930 Coliseum Way

City Oakland County Alameda

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

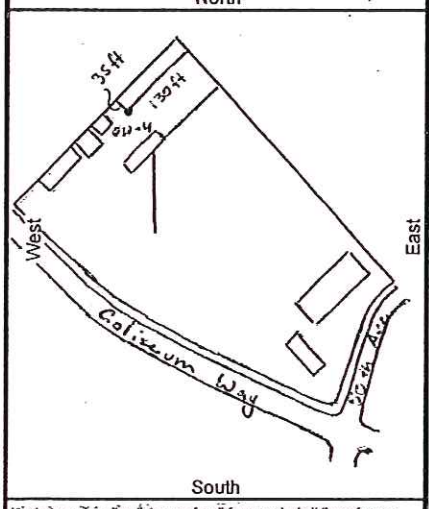
Datum WGS84 Dec. Lat. 37.765496 Dec. Long. -122.215706

APN Book 43 Page 2293 Parcel 9-2

Township 2S Range 3W Section 17

## Location Sketch

(Sketch must be drawn by hand after form is printed.)




Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

## Activity

- ○ New Well
- ○ Modification/Repair
  - ○ Deepen
  - ○ Other
- ⊙ Destroy

Describe procedures and materials under "GEOLOGIC LOG"

## Planned Uses

- ○ Water Supply
  - ☐ Domestic ☐ Public
  - ☐ Irrigation ☐ Industrial
- ○ Cathodic Protection
- ○ Dewatering
- ○ Heat Exchange
- ○ Injection
- ○ Monitoring
- ○ Remediation
- ○ Sparging
- ○ Test Well
- ○ Vapor Extraction
- ○ Other

## Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

## Casings

| Depth from Surface Feet | to Feet | Borehole Diameter (Inches) | Type | Material | Wall Thickness (Inches) | Outside Diameter (Inches) | Screen Type | Slot Size if Any (Inches) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## Annular Material

| Depth from Surface Feet | to Feet | Fill | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## Attachments

- ☑ Geologic Log
- ☑ Well Construction Diagram
- ☐ Geophysical Log(s)
- ☐ Soil/Water Chemical Analyses
- ☑ Other Site Map

Attach additional information, if it exists.

## Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Penecore Drilling

Corporation

2220 N. 8th St. (Address) Woodland (City) CA (State) 95776 (Zip)

Signed (C-57 Licensed Water Well Contractor) 8/25/14 (Date Signed) 906899 (C-57 License Number)

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

FIELD SOIL BORING LOG

PG&E, 1988

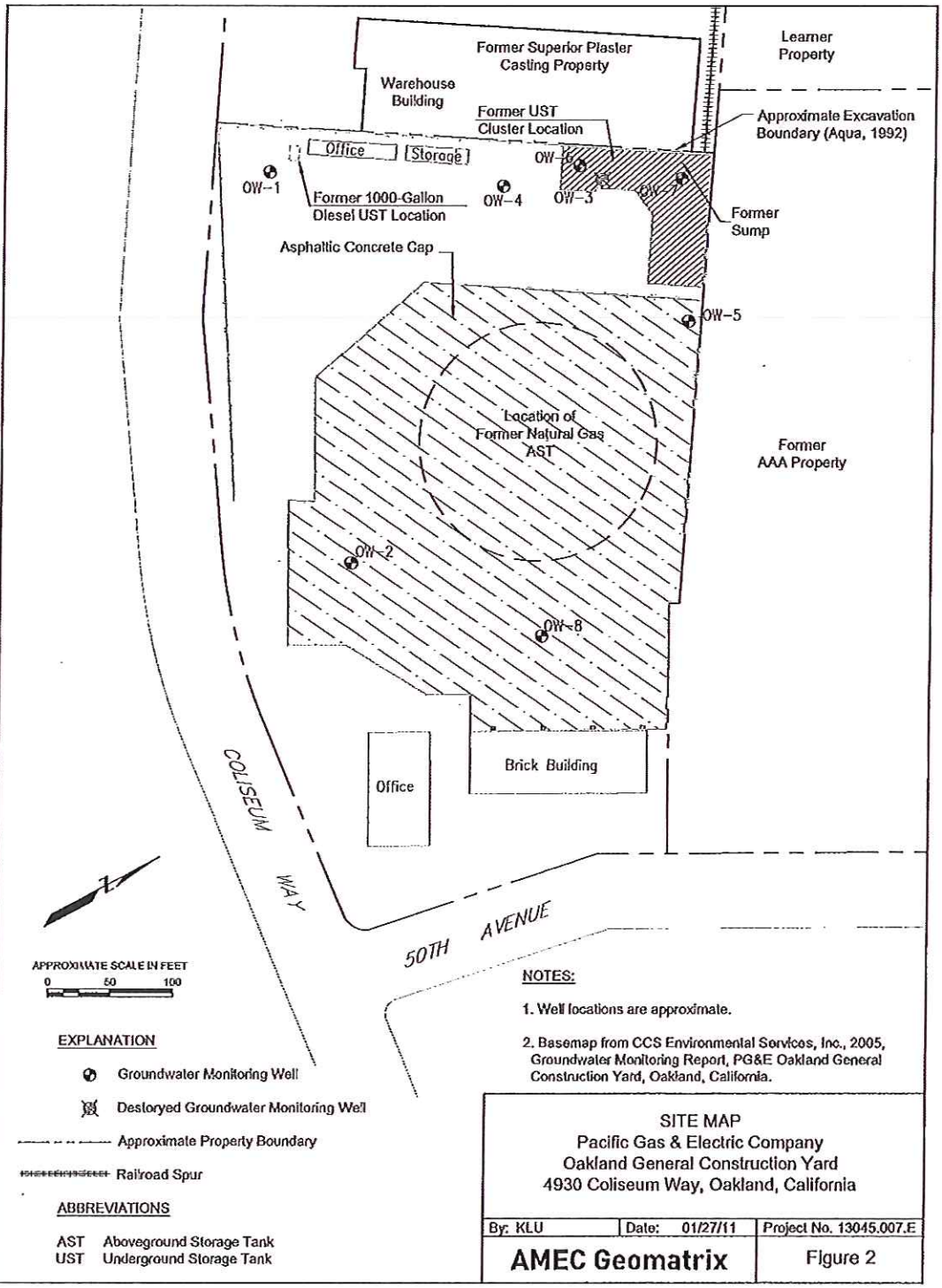
| | | | | |
|---|---|---|---|---|
| PG&E OAKLAND GC YARD | Job No. TES 3647 | Boring No. OW-4 | Sheet 1 of 1 | |
| Ground Elevation | Type & Diameter of Boring 12" O.D. Hollow-Stem Augers | Location Coliseum Way, Oakland | | |
| Total Hole Depth 20'9" | Groundwater Depth ~9' | Date 5/18/88 | Date Started 5/18/88 | Finished 5/18/88 |
| Name of Driller Ron Hendren | Name of Inspector Logger Darrell Kleinman | Boring Contractor PGrande Moore B-80 | | |

DRILL RIG TYPE: ...IN.

WELL CONSTRUCTION DIAGRAM

| DESCRIPTION | DEPTH (FT.) | SOIL SYMBOL | SAMPLE TYPE & NUMBER | RECOVERY (INCHES) | BLOWS/6 in. | NOTES ON GROUNDWATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, METHOD OF ADVANCING BORING, SIZE OF CASING (ATTITUDE, SECURITY SEALS, CORE RUNS) |
|---|---|---|---|---|---|---|
| WELL GRADED GRAVEL - medium brown, dry, dense, gravels to 4" across, FILL (no odor) | 0 | GW | | | | ppm readings taken with Photovac TIP 1 |
| CLAY with silt, sand, gravel, and debris - dark gray with brown mottling, moist, stiff, FILL (no odor) saturated @ 2', decreasing gravel content @ 3', moist @ 4', saturated @ 6' | 5 | CL | 2" SS 1-3 1-2 | 19/24 | 3 5 5 16 | PVC CAP; CEMENT/ BENTONITE GROUT; -2.6 ppm @ 4'; BENTONITE SEAL; 2" DIA. PVC SOLID CASING |
| CLAYEY GRAVEL with sand - medium grayish-green, moist, dense (no odor) | | GC | 2" SS 2-2 3-1 | 16/24 11/17 | 6 13 20 33 7 24 22 | -2.9 ppm @ 6'; -2.3 ppm @ 7.5'; * |
| SILTY GRAVEL with sand - medium yellowish-brown, wet to saturated (@ 9'), dense (no odor) | 10 | GM | 2" SS 4-4 | 15/24 | 33 30 | -1.5 ppm @ 10' |
| SILTY SAND - medium yellowish-brown, saturated, dense, sand is medium-grained (no odor) | | SM | 2" SS 5-2 5-1 | 16/24 | 21 23 25 | -2.1 ppm @ 11'; * |
| POORLY GRADED GRAVEL with silt - medium yellowish-brown, saturated, dense, rounded gravels to 1" across (no odor) | | GP-GM | | | | SAND PACK: LONESTAR #2/12; 12" DIA. BOREHOLE |
| CLAYEY SAND - light brown, saturated, dense, sand is medium- to coarse-grained (no odor) | 15 | SC | 2" SS 6-1 | 10/24 | 8 7 11 12 | -2.7 ppm @ 16' |
| LEAN CLAY - light brown, saturated, stiff to very stiff (no odor) | | CL | 2" SS 7-2 7-1 | | 5 7 11 15 | 2" DIA. PVC SCH. 40 SCREEN, 0.010" WIDE SLOTS; -3.5 ppm @ 18.6'; PVC PLUG |
| | 20 | | | | | BORING TERMINATED @ 21'9" |
| | | | | | | MONITORING WELL (2" ø) INSTALLED |
| | 25 | | | | | * sample submitted for lab chemical analysis |

NOTES:




Plot Date: 01/27/11 - 1:38pm, Plotted by: jim.greul
Drawing Path: S:\13000\13045\13045.007.E\task_08\10_1207_SIR2010-10\, Drawing Name: _dg_02_SiteMap.dwg

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

# Well Completion Report

*Refer to Instruction Pamphlet*

No. e0223495

Page 1 of 4

Owner's Well Number OW-8

Date Work Began 07/21/2014 Date Work Ended 7/21/2014

Local Permit Agency Alamedia County Public Works Agency

Permit Number W2014-0663 Permit Date 7/17/14

**DWR Use Only – Do Not Fill In**

State Well Number/Site Number

Latitude N Longitude W

APN/TRS/Other

## Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Drilling Fluid

| Depth from Surface Feet | to Feet | Description Describe material, grain size, color, etc |
|---|---|---|
| 0 | 1 | Metal traffic box and upper PVC casing removed. |
| | | Sealed with concrete from 6 inches bgs to surface. |
| 1 | 18 | Well was pressure grouted with neat cement. |
| | | A tremie pipe was used to add neat cement grout |
| | | to fill the well casing. Approximately 25 pounds per |
| | | square inch of pressure was then applied to the |
| | | casing for 5 minutes to promote the displacement |
| | | of grout into the filter pack. |
| | | See boring log for more information |

Total Depth of Boring 18.4 Feet

Total Depth of Completed Well 18.3 Feet

## Well Owner

Name Pacific Gas and Electric Company

Mailing Address PO Box 770000

City San Francisco State CA Zip 94177

## Well Location

Address 4930 Coliseum Way

City Oakland County Alameda

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

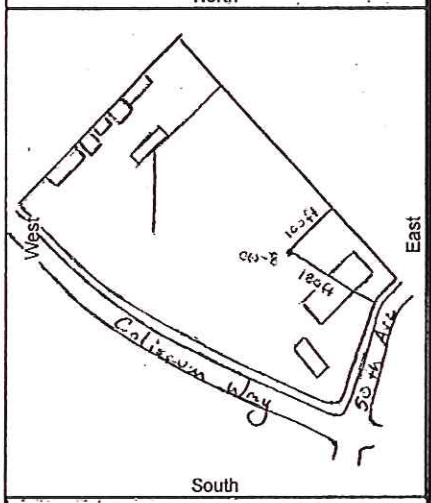
Datum WGS84 Dec. Lat. 37.764890 Dec. Long. -122.214815

APN Book 43 Page 2293 Parcel 9-2

Township 2S Range 3W Section 17

## Location Sketch

(Sketch must be drawn by hand after form is printed.)




Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

## Activity

- ○ New Well
- ○ Modification/Repair
  - ○ Deepen
  - ○ Other
- ◉ Destroy

Describe procedures and materials under "GEOLOGIC LOG"

## Planned Uses

- ○ Water Supply
  - ☐ Domestic ☐ Public
  - ☐ Irrigation ☐ Industrial
- ○ Cathodic Protection
- ○ Dewatering
- ○ Heat Exchange
- ○ Injection
- ○ Monitoring
- ○ Remediation
- ○ Sparging
- ○ Test Well
- ○ Vapor Extraction
- ○ Other

## Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

## Casings

| Depth from Surface Feet | to Feet | Borehole Diameter (Inches) | Type | Material | Wall Thickness (Inches) | Outside Diameter (Inches) | Screen Type | Slot Size if Any (Inches) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## Annular Material

| Depth from Surface Feet | to Feet | Fill | Description |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## Attachments

- ☑ Geologic Log
- ☑ Well Construction Diagram
- ☐ Geophysical Log(s)
- ☐ Soil/Water Chemical Analyses
- ☑ Other Site Map

Attach additional information, if it exists.

## Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Penecore Drilling

Person, Firm or Corporation

220 N. 8th St. Woodland CA 95776

Address City State Zip

Signed 8/20/14 906899

C-57 Licensed Water Well Contractor Date Signed C-57 License Number

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ACFCWCD, 1993

The Earth Technology Corporation

# Borehole Log

| | | | |
|---|---|---|---|
| Project Name: PG&E Oakland | | | Project Number: 690262.03 |
| Borehole Location: 100 ft west of east Prop. line 75' north or south Prop. line | | Borehole No. OW-8 | Sheet 1 of 1 |
| Drilling Agency: HEW | | Driller: Jasper Booker/Mike Canpy (helper) | |
| Drilling Equipment: CME 55 | | Date Started: 0900 2/10/93 | Total Depth (feet): 18'4" |
| Drilling Method: Hollow Stem Auger | | Date Finished: 0925 2/10/93 | Depth to Bedrock (feet): |
| Drilling Fluid: NA | | Number of grab only Samples: for logging | Depth to Water (feet): 11:30 7.71' |
| Completion Information: 2" PVC set bottom @ 18.2' screen (0.020): 8'-18' bentonite: 6'-7' sand (2/12): 7'-18' Cement grout: 0.5'-6'. | | Borehole Diameter (in): 8" | Elevation and Datum: |
| | | Logged By: HP. | |
| | | Checked by: | Date: |

| Depth (feet) | Sample Number | Sample Interval | Sample Blow Count | Sample Recovery | Sample Time | Field Analysis PID (ppm) S/B* | Field Analysis PID (ppm) S/B* | LOG Graphic | LOG USCS or Rock Type | Lithologic Description | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 4" Asphalt over approx 10" lt gray: base rock overlying about 10" brown base rock w/ sand, moist | |
| | | | | | | | | | ML | | |
| 5 | | | | | | | | | CL | SANDY SILT, dk yellowish brown (10YR3/4), moist, some gravel to 1" | |
| | | | | | | | | | | SANDY CLAY (CL), very dk gray (10YR2/1) to black (2.5YN2/-), wet to saturated at 7', medium stiff to soft, fine grained sand, trace gravel | |
| 10 | | | | | | | | | CL | | |
| | | | | | | | | | SC | SANDY CLAY, dk brown (10YR 2/3), wet, stiff, coarse grained sand, some subangular gravel to ½" | |
| 15 | | | | | | | | | CH | | |
| | | | | | | | | | | CLAYEY SAND, dk yellowish brown (10YR4/4), saturated, medium dense, uncemented | |
| 20 | | | | | | | | | | SILTY CLAY (CH), olive gray (5Y5/2), moist to wet, stiff, high plasticity | |
| | | | | | | | | | | Bottom at 18'4" | |
| 25 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |

Key * S/B = Sample reading / background reading; NA = not analyzed

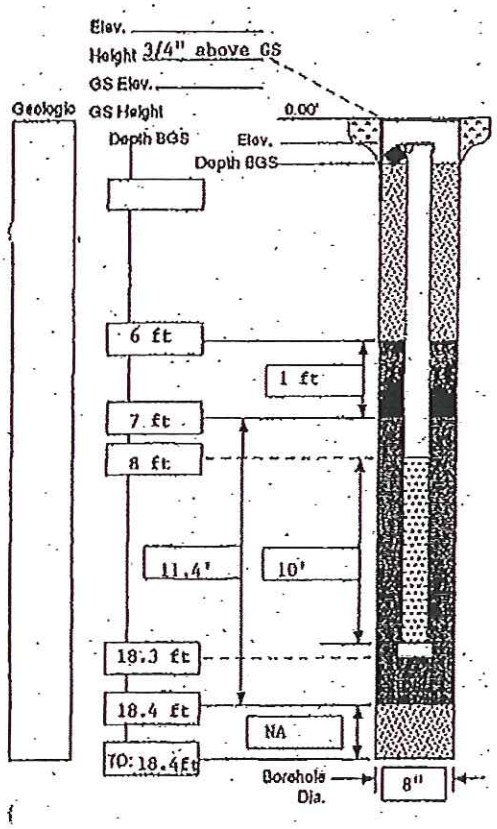
Form F-1009

ACFCWCD, 1993

The Earth Technology Corporation

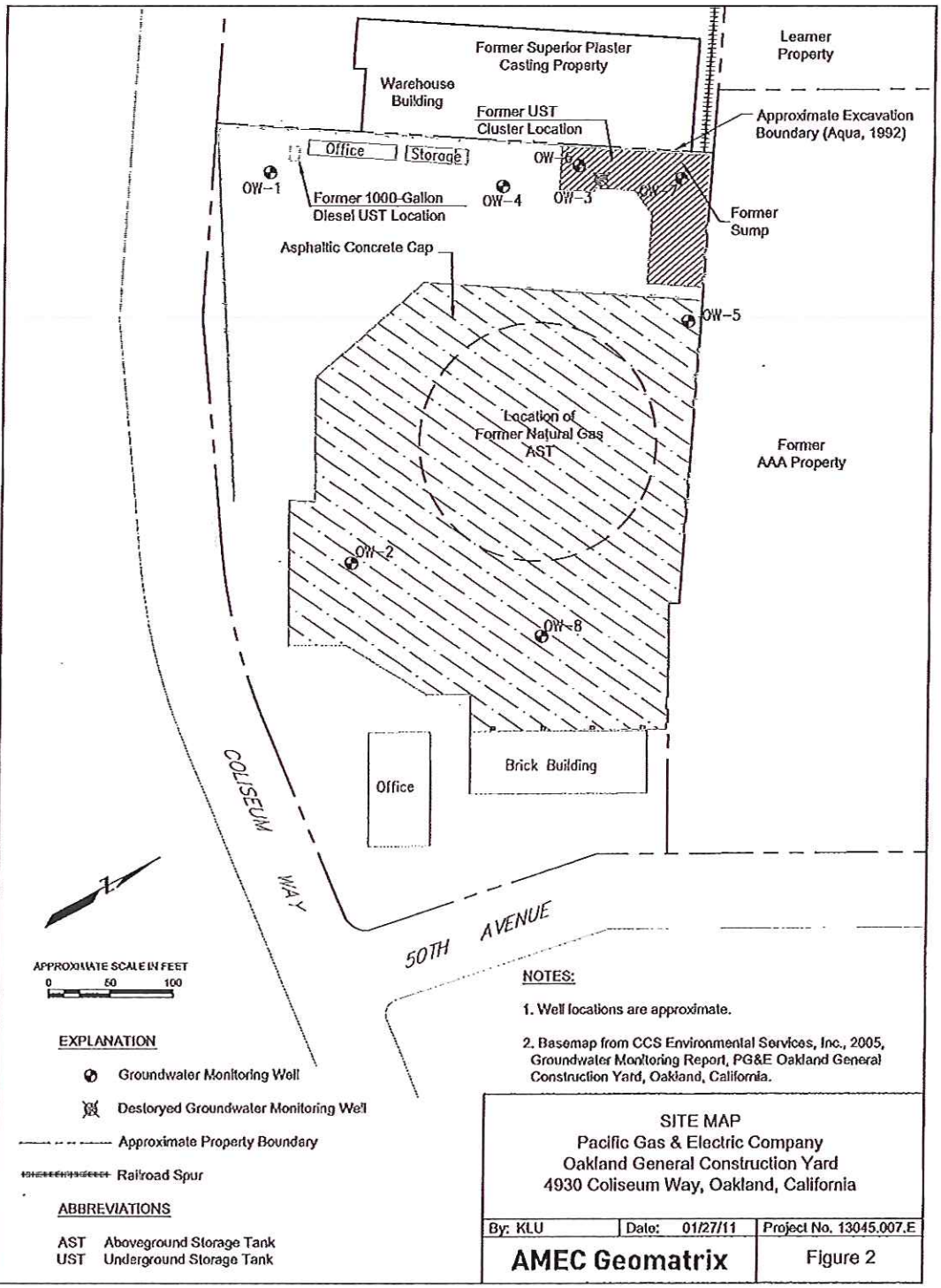
# Monitoring Well Construction Log - Flush Mount

| | | |
|---|---|---|
| Project Name: PG&E Oakland | Project Number: 690262.03 | Date: 2/10/93 |
| Well: Observation/monitoring | Well ID: OW-8 | Sheet 1 of 1 |
| Driller: Jasper Booker | Borehole Diameter (in): 8" | Total Depth (ft): 18'4" |
| Drilling Agency: HEW | Date Started: 2/10/93 | Depth to Water (ft): |
| Drilling Equipment: CME-55 | Date Finished: 2/10/93 | Elevation and Datum: |
| Drilling Method: Hollow Stem Auger | Logged by: M. Peterson | Checked by: |
| Drilling Fluid: NA | Number of Samples: 0 | Date: |




PROTECTIVE CSG: Diversified Well Products
Manhole Type: Cast Iron cover w/ PVC Sleeve
Diameter: 8" ID/8 3/4" OD
Depth BGS: 0" Weep Hole (Y/N)
GUARD POSTS (Y/N)
No.: Type:
SURFACE PAD
Composition and Size: Concrete - 16" Diameter
RISER PIPE
Type: SCH 40 PVC
Diameter: 2"
Total Length (TOC to TOS): 8'
Vented Cap (Y/N)
GROUT
Composition and Proportions: 2-94 lb sacks/13 gal $H_2O$
Tremied (Y/N)
Interval BGS: 0.5' to 6'
CENTRALIZERS
Depth(s): NA
SEAL 3/8" Bentonite pellets
Type:
Source:
Setup / Hydration Time: 25 min Vol. Fluid Added: 3 gallons
Tremied (Y/N) 10:05 - 10:30
FILTER PACK
Type: Lapis Lustre 2/12
Amt. Used: 3-100 lb. sacks
Tremied (Y/N) 7' to 18'4"
Source: RMC Lone star
Gr. Size Dist:
SCREEN
Type: SCH 40 PVC
Diameter: 2"
Slot Size and Type: 0.020 slot
Interval BGS: 8' to 18'
WELL FOOT (Y/N)
Interval BGS: 18' to 18.3' Length 3½"
Bottom Cap (Y/N)
BACKFILL PLUG
Material: NA
Setup / Hydration Time:
Tremied (Y/N)

Form F-1015
2/1991




Plot Date: 01/27/11 - 1:38pm, Plotted by: jim.grau
Drawing Path: S:\13000\13045\13045.007.E\task_08\10_1207_SIR2010-10\, Drawing Name: _fig_02_SiteMap.dwg