

Atlantic Richfield Company

Chuck Carmel

Remediation Management Project Manager

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October 27, 2014

RECEIVED

By Alameda County Environmental Health at 9:51 am, Oct 28, 2014

Re: Well Destruction Report
Atlantic Richfield Company Station #2111
1156 Davis Street, San Leandro, California
ACEH Case #RO0000494

"I declare, that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct."

Submitted by,



Chuck Carmel
Remediation Management Project Manager

Attachment:



WELL DESTRUCTION REPORT
Atlantic Richfield Company Station No. 2111
1156 Davis Street
San Leandro, Alameda County, California

Prepared for:

Mr. Chuck Carmel
Atlantic Richfield Company
P.O. Box 1257
San Ramon, CA 94583

Prepared by:

Broadbent & Associates, Inc.
4820 Business Center Drive, Suite 110
Fairfield, California 94534
(707) 455-7290

October 27, 2014

Project No. 06-88-615



BROADBENT

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broadbentinc.com

CREATING SOLUTIONS. BUILDING TRUST.

October 27, 2014

Project No. 06-88-615

Atlantic Richfield Company
P.O. Box 1257
San Ramon, CA 94583
Submitted via ENFOS

Attn.: Mr. Chuck Carmel

Re: Well Destruction Report, Atlantic Richfield Company Station No. 2111
1156 Davis Street, San Leandro, Alameda County, California
ACEH Case No. RO0000494

Dear Mr. Carmel:

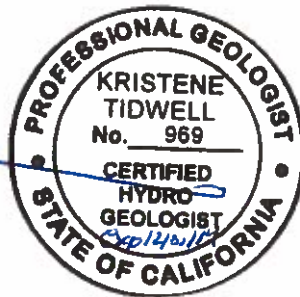
Broadbent & Associates, Inc. (Broadbent) is pleased to submit this *Well Destruction Report (Report)* for Atlantic Richfield Company Station No. 2111 located at 1156 Davis Street, San Leandro, California (Site). This Report documents the permanent decommissioning of eight groundwater monitoring wells, and three vapor extraction wells. These activities were carried out in accordance with the Alameda County Environmental Health Agency's directive letter dated March 13, 2014.

Should you have questions or require additional information, please do not hesitate to contact us at (707) 455-7290.

Sincerely,

BROADBENT & ASSOCIATES, INC.

Kristene Tidwell, P.G., C.H.G.
Associate Hydrogeologist



Enclosures

cc: Mr. Jerry Wickham, Alameda County Environmental Health (Submitted via ACEH ftp Site)
Electronic copy uploaded to GeoTracker

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WELL DESTRUCTION REPORT

Atlantic Richfield Company Station No. 2111
1156 Davis Street, San Leandro, California
ACEH Case #RO0000494

1.0 INTRODUCTION

On behalf of the Atlantic Richfield Company, RM (a BP affiliated company), Broadbent & Associates, Inc. (Broadbent) has prepared this *Well Destruction Report* (Report) documenting case closure activities at Atlantic Richfield Company Station No. 2111, located at 1156 Davis Street, San Leandro, California (Site). Case Closure was recommended by Alameda County Environmental Health (ACEH) in their March 13, 2014 *Well Decommissioning Letter* (Appendix A). This Report presents details of the field activities performed.

2.0 SITE BACKGROUND

The Site is located at 1156 Davis Street, San Leandro, California. It is an active ARCO-brand gasoline station (Station No. 2111) with an AM/PM convenience store. Current structures on the Site include two underground storage tanks (USTs), four fuel dispenser islands with a total of eight dispensers, and a small commercial building. The majority of the Site is paved with asphalt and concrete. Limited planter islands are present along the perimeter of the Site. A Site location map is included as Drawing 1. A Site Plan depicting current building, UST, and, well locations is presented as Drawing 2.

The Site is bound by Preda Street to the east, Davis Street to the south, a church/daycare center building to the west, and single-family residences to the north. Across Preda Street, to the east is a 7-Eleven. Across Davis Street, to the south are more single-family residences. To the west of the church/daycare center is a large, multi-unit apartment complex.

The Site has operated as a gasoline fueling station since the environmental case was opened in 1987. The Site is likely to remain a service station for the foreseeable future. A detailed Site history is included in Appendix B.

3.0 FIELD ACTIVITIES PERFORMED

During June 10 through June 13, 2014, Broadbent oversaw Cascade Drilling, LP (Cascade) pressure grout monitoring wells MW-1 through MW-8 and vapor extraction wells V-1, V-2, and V-3. Where safety concerns permitted, up to two feet of the top of each well casing were removed from wells MW-5 and MW-6 following completion of pressure grouting. The top two feet of the other well casings were not removed due to their close proximity to underground storage tanks and/or underground utilities. A Site map depicting abandoned well locations is provided as Drawing 2.

3.1 Preliminary Field Activities

Necessary permits from Alameda County Public Works Agency (ACPWA) and an encroachment permit (for well MW-6 along Preda Street – see Drawing 2) from the City of San Leandro were secured prior to performing the field investigation. Copies of these permits are included in Appendix C. All borings were marked and areas were outlined with white spray paint, and an Underground Service Alert (USA) ticket was secured to notify all member utility companies of the planned field activities. Additionally, all

boring locations were cleared for underground utilities by NORCAL Geophysical Consultants, Inc. (NORCAL) on May 22, 2014. NORCAL's survey report is included in Appendix D.

3.2 Well Destruction Activities

During June 10 through 13, 2014, monitoring wells MW-1 through MW-8 and vapor extraction wells V-1, V-2, and V-3 were destroyed by filling each well casing with cement grout via tremmie pipe then applying 25 psi of air pressure for 5 minutes. On October 16, Christy boxes (or similar) and up to two feet of the top of each well casing were removed following completion of pressure grouting: MW-5 and MW-6. Each well was destroyed in accordance with ACPWA requirements. California Department of Water Resources Well Completion Reports have been completed, but are not published in this Report due to confidentiality of the records.

3.3 Excess Soil Produced

No excess soil was generated during Site well destruction.

4.0 CONCLUSIONS & RECOMMENDATIONS

Monitoring, groundwater extraction and soil vapor extraction wells were abandoned in general accordance with ACPWA monitoring well destruction requirements. Well abandonment work activities complete the Site case closure process. No further actions are recommended. We anticipate that following submittal of this report, Atlantic Richfield Company will be issued a "Remedial Action Completion Certificate."

5.0 LIMITATIONS

This document has been prepared for the exclusive use of Atlantic Richfield Company. The findings presented in this report are based upon the observations of Broadbent field personnel. Services were performed in accordance with the generally accepted standard of practice at the time this report was written. No warranty, expressed or implied, is intended.

DRAWINGS

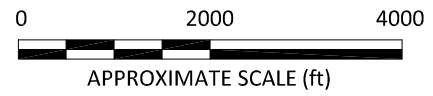
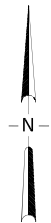
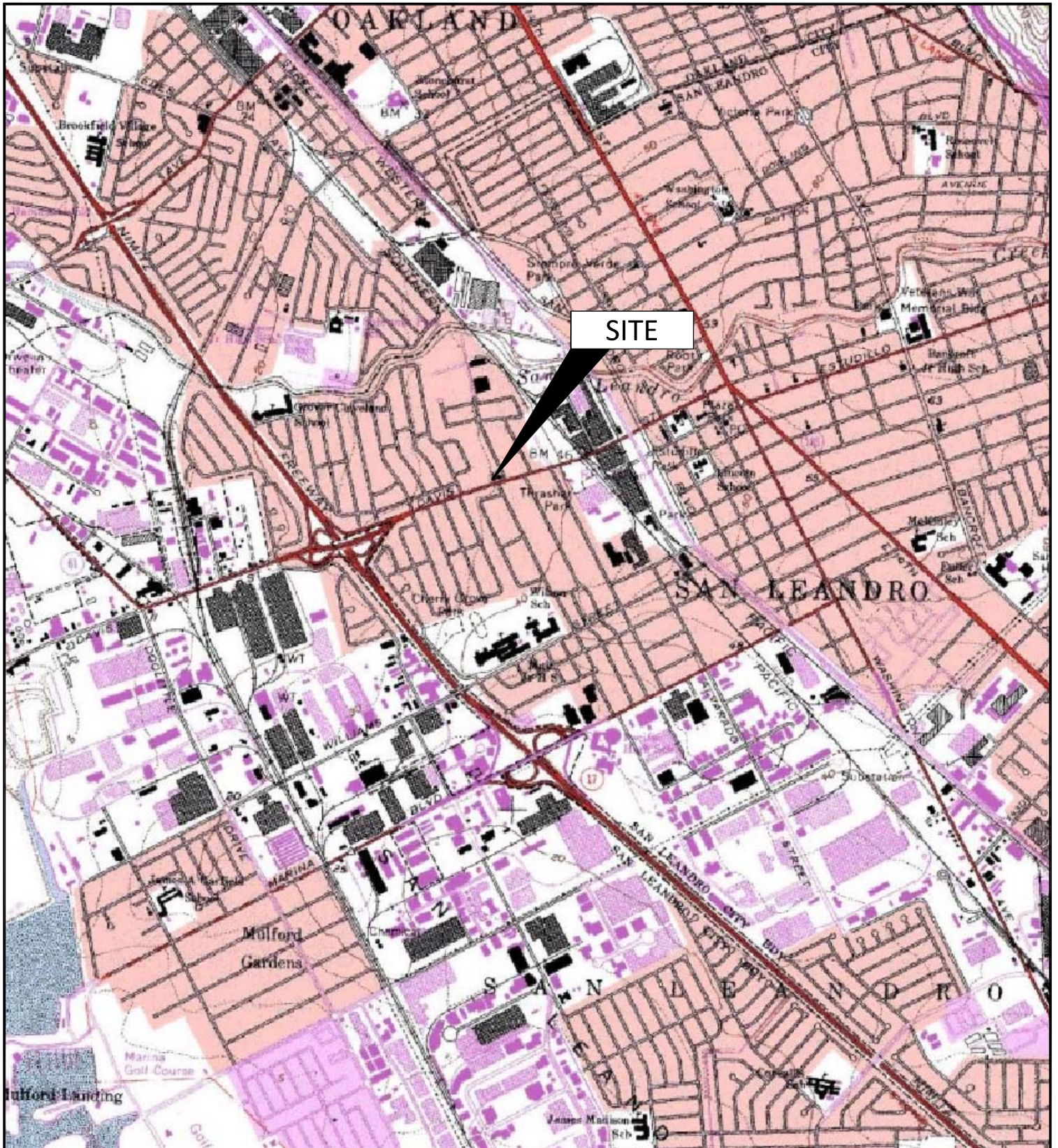
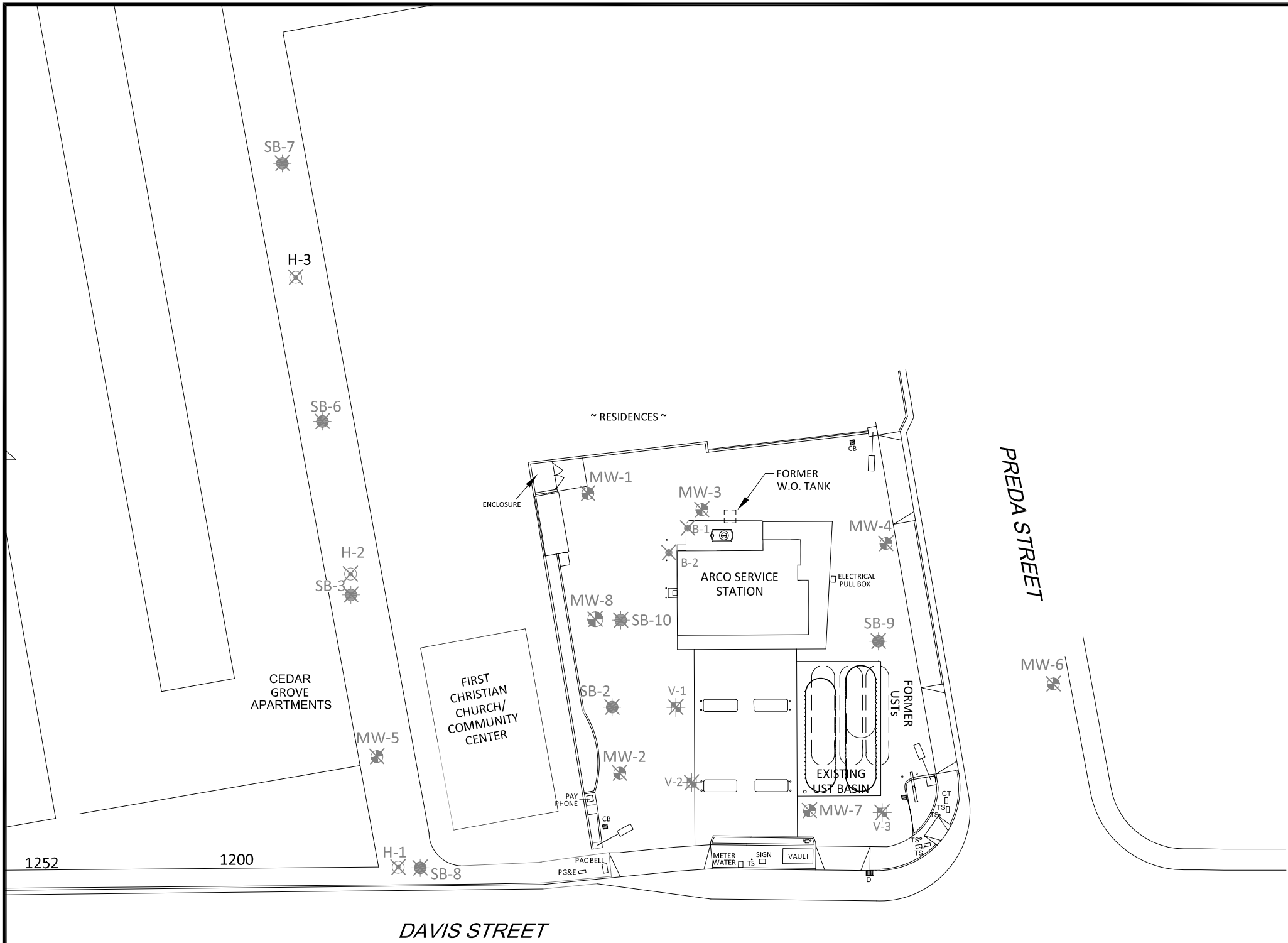


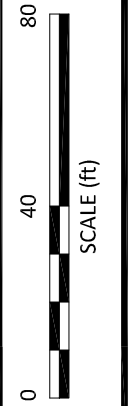
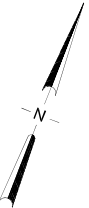
IMAGE SOURCE: USGS



LEGEND

- Decommissioned 2013 CPT Boring
- Decommissioned Monitor Well Location
- Decommissioned Vapor Extraction Well Location
- Decommissioned Soil Boring Location
- Hydropunch Location

NOTE: SITE MAP ADAPTED FROM DELTA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



APPENDIX A

REGULATORY CORRESPONDENCE



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

May 15, 2014

Charles Carmel
Atlantic Richfield Company
P.O. Box 1257
San Ramon CA 94583
(Sent via E-mail to: charles.carmel@bp.com)

Subject: Well Destruction for Fuel Leak Case No. RO0000494 and GeoTracker Global ID T0600101764, ARCO #2111, 1156 Davis Street, San Leandro, CA 94577

Dear Mr. Carmel:

Alameda County Environmental Health (ACEH) staff have reviewed the fuel leak case file for the above-referenced site and concur that no further action related to the underground storage tank fuel release is required at this time. No objections to the proposed case closure were received during a public comment period that ended May 14, 2014. Please destroy the monitoring wells and provide documentation of the well destruction and waste disposal to this office no later than August 27, 2014. Remedial action completion certification will be issued following receipt of the documentation.

Well destruction permits may be obtained from the Alameda County Public Works Agency (<http://www.acgov.org/pwa/wells/index.shtml>). If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

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:

- **August 27, 2014** – Well Destruction Report
File to be named: WELL_DCM_R_yyyy-mm-dd RO494

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Responsible Parties
RO0000494
May 15, 2014
Page 2

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org. Case files can be reviewed online at the following website: <http://www.acgov.org/aceh/index.htm>. If your email address does not appear on the cover page of this notification ACEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case

Sincerely,

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

Attachment: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 2032 (*Sent via E-mail to: lgriffin@oaklandnet.com*)

Kristene Tidwell, Broadbent, 875 Cotting Lane, Suite G, Vacaville, CA 95688 (*Sent via E-mail to: ktidwell@broadbentinc.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

DETAILED SITE HISTORY

Previous Environmental Activities at Site

On August 30, 1993 GeoStrategies, Inc. (GSI) observed the removal of a hydraulic hoist and underlying material. GSI collected four soil samples from the excavation pit S-7-HL (7.0 feet below ground surface, ft bgs), S-7½-HL (7.5 ft bgs), S-8-HL (8 ft bgs), and S-9-HL (9 ft bgs). The concentrations of total extractable petroleum hydrocarbons (TEPH) as hydraulic oil ranged from 9,200 milligrams per kilogram (mg/kg) to 27,000 mg/kg in samples S-9-HL and S-7-HL, respectively (GSI, 10/4/1993). Historical analytical results are tabulated within Appendix C.

On March 4, 1994 GSI observed the advancement of two soil borings (B-1 and B-2) to find the extent of the hydraulic oil contamination. Both borings were advanced to a depth of approximately 20.0 ft bgs in the vicinity of the former hydraulic hoist. During the investigation eight soil samples were collected with concentrations ranging from non-detect (less than or equal to 1.0 mg/kg) to 11 parts per million (ppm) in samples B1-4.5 and B2-20 respectively. GSI concluded that the hydraulic oil had not significantly impacted the surrounding area. However, GSI also concluded that unidentified hydrocarbons had impacted the capillary fringe beneath the northwestern corner of the service station building (GSI, 4/13/1994).

On August 15, 1994 GSI observed the removal of a 280 gallon waste-oil tank and over excavation of the surrounding area. Seven soil samples were collected during the excavation, four of which (soil samples WO-N, WO-1, WO-B and WO-B2) contained petroleum hydrocarbon at maximum concentrations of: 310 ppm total petroleum hydrocarbons as gasoline (TPH-g); 780 mg/kg total petroleum hydrocarbons as diesel (TPH-d); 2,000 ppm total petroleum hydrocarbons as motor oil range (TPH-mo); 7,900 mg/kg total recoverable petroleum hydrocarbons (TRPH) (GSI, 9/27/1994). On September 12, 1994, GSI observed the installation of a 600 gallon waste-oil tank in the same area as the former waste-oil tank.

On July 12 and 13, 1995, EMCON observed the installation of onsite monitoring wells MW-1 through MW-4. The total depths for the monitoring well borings ranged between 27.5 ft bgs and 40 ft bgs. Soil samples collected from borings for wells MW-1, MW-3, and MW-4 did not contain any petroleum hydrocarbon contamination. However, soil samples collected from the boring for well MW-2 contained maximum concentrations of TPH-g at 320 mg/kg, benzene at 0.26 mg/kg, ethylbenzene at 3.4 mg/kg, and Total Xylenes at 1.5 mg/kg (EMCON, 11/8/1995). Historical boring locations are depicted in Drawing 2. Tabulated historic soil and groundwater analytical results are provided within Appendix C.

Between February 28 and March 1, 1996, EMCON observed the installation of offsite monitoring wells MW-5 and MW-6, onsite monitoring well MW-7, and onsite vapor extraction wells VW-1 through VW-4. Soil samples collected from offsite wells MW-5 and MW-6 did not contain petroleum hydrocarbons. Soil samples from onsite well MW-7 adjacent to the corner of the underground storage tanks (UST) pit contained up to 55 mg/kg of TPH-g, up to 0.11 mg/kg of benzene, up to 0.80 mg/kg of ethylbenzene, and up to 1.5 mg/kg of total xylenes. Soil samples from each of vapor extraction wells VW-1 through VW-4 contained petroleum hydrocarbons, with the most significant concentrations being in VW-2 and VW-4: up to 1,100 mg/kg of TPH-g (VW-4), up to 0.30 mg/kg of benzene (VW-2), up to 0.50 mg/kg of ethylbenzene (VW-1), and up to 3 mg/kg of total xylenes (VW-4) (EMCON, 9/19/1996).

In October 2000, Petcon Technologies, Inc. removed the three 12,000-gallon former USTs, product lines and dispensers from the Site. Approximately 930 cubic yards (yd³) of soil was excavated from under the former gasoline USTs (to a depth of 17 ft bgs), product lines and dispenser islands. A representative of

Delta Environmental Consultants, Inc. (Delta) collected soil samples from former USTs, product lines and dispenser islands. In the area of the former gasoline USTs, soil samples T1-S, T1-N, T2-S, T2-N, T2-M, T3-S, and T3-N contained maximum concentrations of TPH-g at 4,400 mg/kg (T2-N), methyl tertiary butyl ether (MTBE) at 89 mg/kg, benzene, toluene, ethylbenzene, and total xylenes (BTEX) at 7.7 mg/kg, 190 mg/kg, 58 mg/kg, and 300 mg/kg, respectively. Soil samples collected under the product lines contained at 430 mg/kg of TPH-g (PL-1), MTBE at 4.7 mg/kg, and BTEX at 0.16 mg/kg, 0.02 mg/kg, 2.1 mg/kg, and 3.6 mg/kg, respectively. Soil samples collected under the dispenser islands contained 2,100 mg/kg of TPH-g, 13 mg/kg of MTBE, and BTEX at 2.0 mg/kg, 20 mg/kg, 30 mg/kg, and 170 mg/kg, respectively. The highest product line (PL-1) and dispenser island soil confirmation sample concentrations (DP-1) were from the southeast dispenser pump area. This area was over-excavated up to 10 ft bgs, with confirmation samples still containing 19 mg/kg of TPH-g, 7.7 mg/kg of MTBE, and BTEX at 0.4 mg/kg, 0.81 mg/kg, 0.42 mg/kg, and 2.6 mg/kg, respectively. The excavations were reportedly backfilled with clean pea gravel (Delta, 2/2/2001).

On May 5, 2001, Delta conducted soil sampling during the removal and upgrade of a sump within the service station building. A Delta representative collected one soil core sample at two feet (ft) below the bottom of the sump following its removal. Laboratory analysis of the soil sample reported 305 mg/kg of TPH-g, 465 mg/kg of TPH-d, and 543 mg/kg of TRPH. No concentrations of benzene, toluene, or MTBE were detected above the laboratory reporting limits. Minor to trace concentrations of ethylbenzene, total xylenes, sec-butylbenzene, p-isopropyltoluene, naphthalene, 2-methylnaphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene (Delta, 8/9/2001).

In January 2002, Delta conducted a three-day dual-phase soil vapor and groundwater extraction (DPE) pilot test from the vapor extraction well VW-2, and then limited DPE pilot tests from monitoring wells MW-2 and MW-7. Water levels typically decreased several feet in the extraction wells and exhibited varied responses in the observation wells. Estimated average vapor-phase removal rates were 11.6 pounds of TPH-g per day from well VW-2 and 7.32 pounds of TPH-g per day from well MW-7. Grab groundwater samples collected showed a decreasing trend in petroleum hydrocarbon concentrations from well VW-2 during the short-term pilot test. Concentrations of petroleum hydrocarbons in soil vapor before and after the pilot tests remained approximately the same order of magnitude. A total of 14,900 gallons of water was extracted during the DPE pilot test. Delta concluded that limited DPE was possible at the Site. Even though in the short term they admitted that DPE was limited in its ability to quickly lower groundwater levels to expose impacted soils for soil vapor extraction (SVE), they hypothesized that given enough time of system operation it was reasonable to expect that the groundwater levels could be adequately lowered. Furthermore, Delta noted that even though significant hydrocarbon vapor recovery rates might not be reasonably expected from DPE due to the fine-grained soils, the overall effect of reducing the groundwater levels in itself might allow the soils to be exposed to atmospheric oxygen from SVE, which in turn might enhance the natural attenuation of the impacted soils and groundwater. The test also indicated that just those wells completed in finer-grained materials onsite would be effective in a DPE system, whereas monitoring well MW-2 would not serve as a practical DPE well due to its excessive groundwater production rates (Delta, 7/16/2002).

On November 26, 2003, URS observed the installation of onsite monitoring well MW-8. Eight soil samples were collected from the borehole advanced prior to the installation of well MW-8 with a maximum concentration of 150 mg/kg of TPH-g at 16.5 ft bgs. On March 20 and 21, 2004, URS observed the drilling of six off-site borings (H-1 through H-5 and SB-1) and one on-site boring (SB-2) using direct-push technology. Five of the seven borings (H-1 through H-5) had sufficient groundwater for grab samples. Grab groundwater samples were collected from H-1, H-2, and H-3 while multiple

depth-discrete groundwater samples were collected from borings H-4 and H-5. Borings SB-1 and SB-2 were advanced for lithologic logging purposes and were not sampled. Groundwater samples H-1, H-2, and H-5 at 40 ft bgs contained gasoline range organics (GRO) at 820 micrograms per liter ($\mu\text{g/L}$), 260,000 $\mu\text{g/L}$, and 53 $\mu\text{g/L}$, respectively. Grab groundwater sample H-2 also contained ethylbenzene at 5,800 $\mu\text{g/L}$, total xylenes at 11,000 $\mu\text{g/L}$, and MTBE at 7,600 $\mu\text{g/L}$. Depth-discrete groundwater sample H-4 at 27 ft bgs also contained 0.72 $\mu\text{g/L}$ of total xylenes. Benzene, toluene, ethanol, tert-butyl alcohol (TBA), di-isopropyl alcohol (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), 1,2-dichloroethane (1,2-DCA), and 1,2-dibromomethane (EDB) were not detected above the various laboratory reporting limits (URS, 5/6/2004).

During the First Quarter of 2007, a DPE system was started up at the Site that extracted soil vapor and groundwater from wells V-1, V-2, V-3, MW-1, MW-2 (groundwater extraction only), MW-3, and MW-7. The DP system operated until September 2009, when it was shut down due to asymptotic mass removal rates (Broadbent, 2009). In July 2012 the DPE system, which had been sitting idle since 2009, was removed. All equipment was removed and properly disposed of by Belshire Environmental.

References

- Broadbent & Associates, Inc., 30 October 2009. *Third Quarter 2009 Ground-Water Monitoring and Remediation System Status Report, Atlantic Richfield Company Station #2111, 1156 Davis Street, San Leandro, California; ACEH Case #RO0000494*
- Delta Environmental Consultants, Inc., 2 February 2001. *Tank Basin, Product Line and Dispenser Island Sampling Results, ARCO Station No.2111, 1156 Davis Street, San Leandro, California.*
- Delta Environmental Consultants, Inc., 9 August 2001. *Sump Sampling Results, ARCO Service Station No.2111, 1156 Davis Street, San Leandro, California.*
- Delta Environmental Consultants, Inc., 16 July 2002. *Results of a Dual Phase Extraction Pilot Test, ARCO Service Station No.2111, 1156 Davis Street, San Leandro, California.*
- EMCON, 8 November 1995. *Site Characterization, ARCO Service Station 2111, 1156 Davis Street, San Leandro, California.*
- EMCON, 19 September 1996. *Soil and Groundwater Assessment Report, ARCO Service Station 2111, San Leandro, California.*
- GeoStrategies, Inc., 4 October 1993. *Letter Report of The Results of Soil Sampling Associated with Hydraulic Hoist Removal at ARCO Station 2111, 1156 Davis Street in San Leandro, California.*
- GeoStrategies, Inc., 13 April 1994. *Report of Initial Subsurface Investigation, ARCO Station 2111, 1156 Davis Street, San Leandro, California.*
- GeoStrategies, Inc., 27 September 1994. *Report for Waste-Oil Tank Removal Activities at ARCO Station 2111, 1156 Davis Street, San Leandro, California.*
- URS Consultants, Inc., 6 May 2004. *Additional Subsurface Investigation Report, ARCO Service Station #2111, 1156 Davis Street, Hayward [sic], California.*

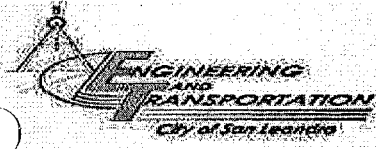
APPENDIX C

PERMITS

160 7/18/14

Inspector

1400258



City of San Leandro
Engineering and Transportation Department
835 East 14th Street
San Leandro, California 94577
(510) 577-3428



ENCROACHMENT PERMIT

Permit Type: Environmental

JL

Permit Number: ENC2014-00256 Job Address: 1158 Davis St M

Issued: 5/19/2014

Project Name: BROADMENT & ASSOCIATE INC.

Description of Work: One Monitoring well destruction on Preda St., near Davis St., intersection PCI # 68

Customer #
26076

Planned Start Date: June 01, 2014

Planned Completion Date: August 30, 2014

USA Tag No.

Emergency Contact: Kristene Tidwell
Applicant:

Contact Phone Number: 707-430-7133
Owner:

BROADBENT & ASSOCIATES, INC.
875 COTTING LANE, SUITE G
VACAVILLE CA 95688

Bp West Co
Po Box 5015
Buena Park CA 90622-5015

Contractor:

Agent:

ALEX MARTINEZ
875 COTTING LN SUITE G
VACAVILLE CA 95688

FINAL

Associated Permits:

- Building Permit No.
- Oro Loma Permit No.
- Cal State Permit No.
- Ala County Permit No. W2014-0473
- Grading Permit No.

PERMIT FEE: 65 To Acct #3306
 PLAN CHECKER _____ Hrs _____
 RESTORE/INSPECT DEPOSIT 1800
 To CN# 26076
 STREET CUT FEE _____ To Acct #3304
 TOTAL: 1865

Utility/Job Number

Method of Repair
Backfill Required Class 2 AB or CDF

Pavement Section Requir
Section 1 6 inches
Section 2
Section 3
Min Depth of Cover

All work shall be per City Standard Trench, Backfill & Resurface plans and specs. Two way traffic and pedestrian safety shall be maintained at all times.

Consent Form Pre Video Post Video *Call* Must provide USA prior to start of work

PLEASE CALL (510) 577-3308 FOR INSPECTIONS 24 HOURS PRIOR TO WORK

By the application and acceptance of this permit, the undersigned intending to be legally bound does hereby agree that all work performed will be in accordance with all applicable provisions of this permit and all regulations, provisions, and specifications as adopted by the City. Further, the undersigned agrees that this permit is to serve as a guaranty for payment for all permit and/or inspection charges as billed by the City. Any misrepresentation of information requested from the applicant on this form shall make this permit null and void.

Signature: _____ Print Name: ALEX MARTINEZ Date: 5/19/2014 3:46:45PM

GENERAL PROVISIONS ENC2014-00256

- (a) All work must be performed in accordance with City of San Leandro Standard Plans, Specifications, and Title V Chapter 1 of the Municipal Code.
- (b) Twenty four hours notice required prior to start and/or requests for inspection. All work must be completed between the hours of 8:00AM to 4:00PM. No work is permitted on Saturday, Sunday, City holidays, or Furlough days. The City website has a schedule of holidays and furlough days: <http://www.sanleandro.org/holidayschedule.html>
- (c) City to be notified next working day (by permit application) of all emergency work performed.
- (d) Permittee shall be responsible for all liability imposed by law for personal injury or property damage proximately caused by failure on permittee's part to perform his obligations under said permit respect to maintenance. If any claim of such liability is made against the City of San Leandro or its officers or employees, permittee shall defend, indemnify and hold each of them harmless from such claim.
- (e) No utility contractor or subcontractor shall park their construction equipment, including personal vehicles, entirely or partially in the sidewalk area. Per Section 5610 of the Streets and Highways Code, the permittee shall be responsible for the repair of any damaged sidewalk where utility contractor's or subcontractor's vehicles or equipment are parked whether or not the damage was preexisting.
- (f) Cost of emergency work required to restore unsatisfactorily construction that becomes hazardous will be charged to permittee.
- (g) Permit void 90 days from issue date unless otherwise noted. Extension time may be granted when requested in writing.
- (h) Permit must be readily available at work site. Permit is not assignable.
- (i) Section 6500 of the Labor Code requires permit from the State Division of Industrial Safety (CAL OSHA) prior to an excavation five feet or deeper.
- (j) Prior to digging or drilling, permittee shall request Undergrounding Service Alert (USA) markings, phone #800-227-2600.
- (k) Trenches are to be inspected prior to backfilling. Backfill compaction tests may be required.
- (l) All tunneling prohibited. Pipe must be bored or jacked or open trenched - including under curb, gutter and/or sidewalk.
- (m) Forms for concrete work must be inspected prior to placing concrete.
- (n) All concrete, including concrete pavement (overlayed with A.C. or not), must be sawcut prior to breakout. Concrete sections to be replaced shall be no smaller than 30 inches in either length or width. All sawcuts must be along scorelines, 1.5" minimum depth (special conditions for concrete pavements). If a sawcut falls within 30 inches of a construction joint, expansion joint, or edge, the concrete shall be removed to the joint or edge. Forms for concrete work must be inspected prior to placing concrete.
- (o) Temporary paving is required in all street and sidewalk areas and is to be placed the same day work is performed. From **October 15** through **April 15**, only A.C. paving is to be used. Temporary paving is to be maintained by applicant.
- (p) Permanent paving or sidewalk is to be replaced within **30 days**. Permittee shall notify City before placing surfacing.
- (q) Permittee shall provide, erect, and/or maintain such lights, barriers, warning signs, patrols, watchmen and other safeguards as are necessary to protect the traveling public in accordance with the current State "Manual of Warning Signs, Lights, and Devices for Use in Performance of Work Upon Highways".
- (r) Before any work is begun that will interrupt the normal flow of public traffic, proposed lane closures or advanced warning light, sign, and barricade with flashing light details and layout plans shall be submitted to the City. If flagmen are required copies of certifications must be provided prior to issuance of a permit.
- (s) Open trench one lane at a time, with necessary traffic control, to keep traffic moving in both directions during working hours. If at the end of the work day backfilling operations have not been completed, steel bridging shall be required to make the entire traveled way available to the public traffic.
- (t) Pedestrian safety shall be maintained at all times.
- (u) Permittee shall contact City for final inspection and approval of completed work.

ART • Arterial

Col • Collector

Res - Residential

#26076

14/256

INSPECTION RECORD 1158 Davis St.

Inspected Date	Comments	Inspector	Hours Charged	Date Charged
5/19/14	Review T.C. P.	D. H.	0.5	
6-11-14	Contractor ^{monitoring} abanbring well. Barricading _{per plan.}	KB	1.0	6-11-14
7/10/14	Check final site, appears job completed properly NOT view @ time of destruction by myself.	CB	-50hr	7/10/14
	"Permit Final"			
		Subtotal		



BROADBENT

875 Colting Ln., Suite G, Vacaville, CA 95688

[T] 707-455-7290 [F] 707-455-7295

broadbentinc.com

Creating Solutions. Building Trust.

April 29, 2014

Project No. 06-88-615

City of San Leandro
Engineering and Transportation Department
835 E. 14th Street
San Leandro, CA 94577

Attn.: Jane K. Lo

Re: Encroachment Permit Application for Atlantic Richfield Company Station No. 2111
1156 Davis Street, San Leandro, California

Dear Ms. Lo:

On behalf of the Atlantic Richfield Company – a BP affiliated company, Broadbent & Associated, Inc. (Broadbent) is preparing for well destruction at the Atlantic Richfield Company Station No. 2111 located at 1156 Davis Street, San Leandro (Drawings 1 and 2). It is anticipated that this work will occur in May 2014.

The Encroachment Permit Application has been attached to this letter. A total of one (1) monitoring well will be destroyed within the City of San Leandro Public Right-of-Way along Preda Street near the intersection with Davis Street (MW-6, Drawing 2), using pressure grout technology and a drill rig.

Should you have questions regarding the permit application or supporting documents, please do not hesitate to contact me at (707) 455-7290.

Sincerely,

BROADBENT & ASSOCIATES, INC.

Lu Damerell
Project Geologist

ATTACHMENTS:

Application to Perform Work in the Public Right-of-Way
Drawing 1 Site Location Map
Drawing 2 Site Map with Well Destruction Locations
Insurance Certificate
Business License
Traffic Control Plan
Check for Application Fees

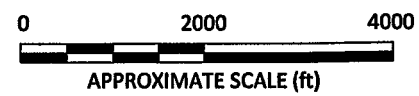
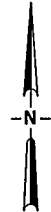
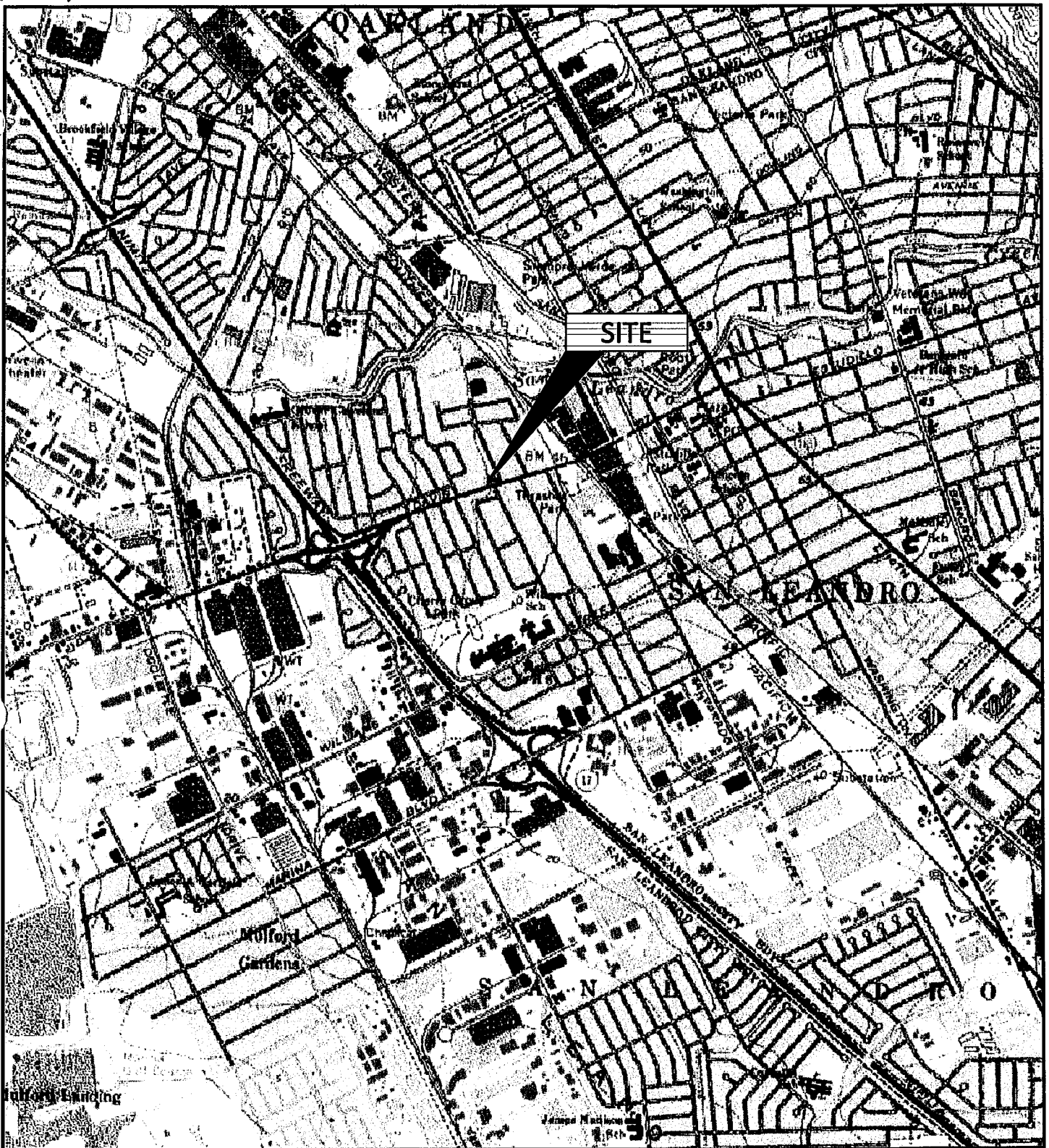


IMAGE SOURCE: USGS

BROADBENT
 1324 Mangrove Ave., Suite 212
 Chico, California 95926
 Project No.: 06-88-615 Date: 9/13/2013

Station No.2111
 1156 Davis Street
 San Leandro, California

Site Location Map

Drawing

1

CITY OF SAN LEANDRO
ENGINEERING AND TRANSPORTATION
REPORT OF TIME CHARGED TO CUSTOMERS
 Plan Checks, Inspection, Permit and Enforcement Fees

Permit No.: ENC20 1400256 Date Issued: 5/19/2014
 Customer No.: 26076 Customer Name: BROADBAND ASSOCIATES INC
 Applicant Name: BROADBAND ASSOCIATES INC Address of work: Davis St., 1156

Date	Description of Work	Engineering			Engineer Total
		Staff	Rate/Hr.	Hours	
6/11/2014	Inspection	Brooks, K.	\$38.00	0.50	\$19.00
7/10/2014	Inspection - FINAL	Brian, C.	\$38.00	0.50	\$19.00

FINANCE DEPARTMENT: Please release all remaining funds
 in this account after deducting time charged on this sheet.

Subtotal (Payroll) \$ 38.00
 *Plus 173% Overhead \$ 65.74

JOB COMPLETE: Permit No. : ENC20 1400256

Subtotal \$ 103.74

STREET DAMAGE FEE: Length x Width x \$1.50 = _____

Street Damage Fee \$ -
 **Penalty \$ -
 Permit Fee \$ -

* Hourly personnel charge plus a factor of 32% for benefits, 54% for indirect overhead charges and 87% for staff support charges.

** Not Applicable

TOTAL HOURS: 1.0 **TOTAL** \$ 103.74

APPENDIX D

UTILITY CLEARANCE SURVEY

NORCAL Job No. 14-1034.27

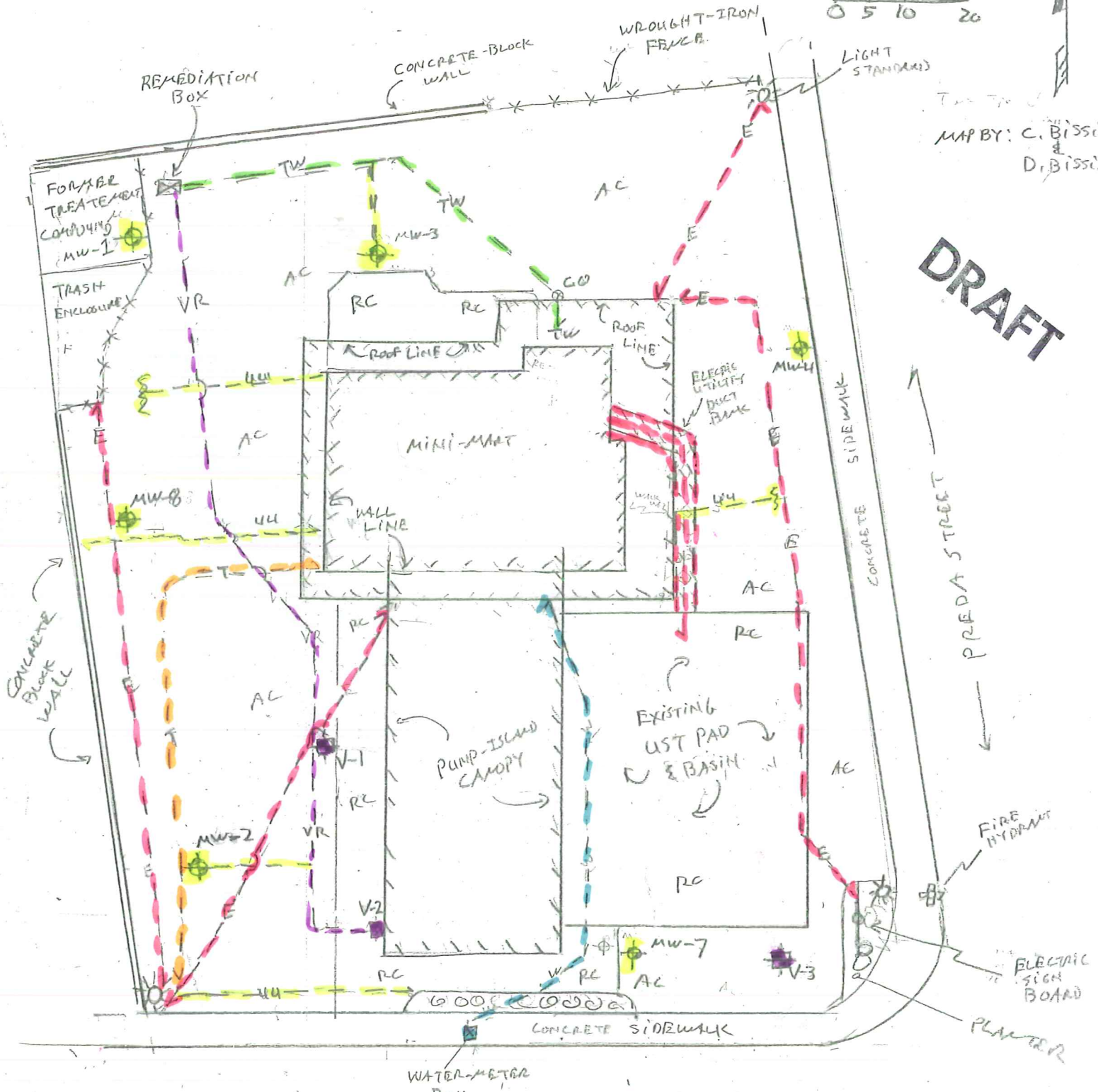
BROAD BEAT / ARCO STATION 2111 5/22/14

Davis & Preda St.
San Leandro, Calif 1"=20'



MAP BY: C. BISSON & D. BISSON

DRAFT



← DAVIS STREET →

DRAFT

- LEGEND:**
- - E - - ELECTRICAL LINE
 - - T - - TELEPHONE LINE
 - - VR - - VAPOR RECOVERY LINE
 - - TW - - TREATED WATER LINE
 - - UU - - UNDIFFERENTIATED UTILITY
 - - W - - WATER
 - ⊙ EXISTING MONITORING WELL
 - ⊠ EXISTING VAPOR RECOVERY WELL
 - ⊙ C.O. - SEWER CLEAN-OUT
 - ⊗ LIGHT STANDARD
 - AC - ASPHALT PAVEMENT
 - RC - REINFORCED CONCRETE PAVEMENT

PERSONNEL: D. BISSIRI / C. BISSIRI

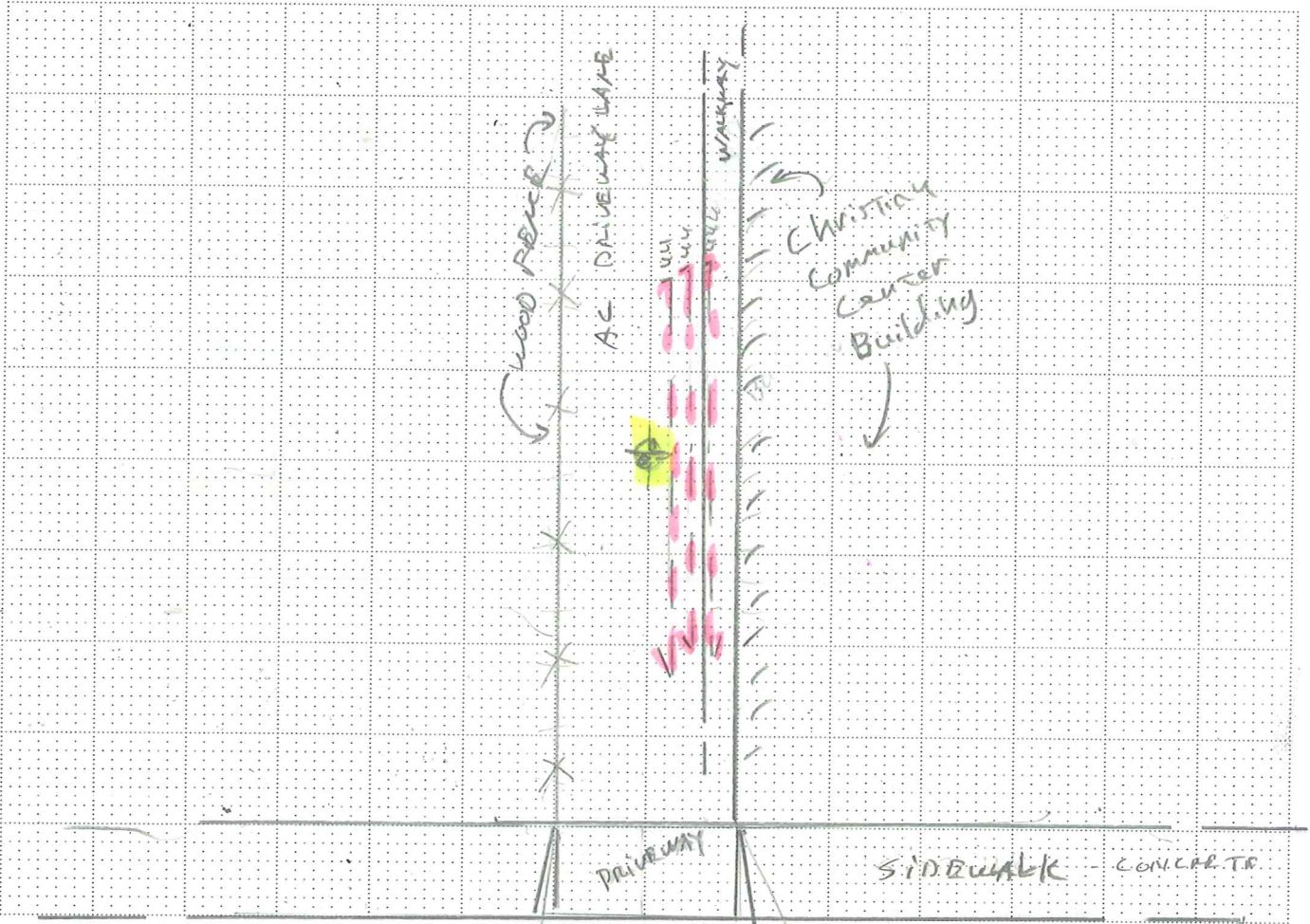
JOB: 14-1034.27

DATE: 5/22/14

CLIENT: Broadbent & Associates

LOCATION: ALCO STN 2111
Davis & Preda Streets, San Leandro

BORING: MW-5 - EXISTING WELL



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- Existing Well Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| - GPR (Radar) | - EMC (Conduction) | - Wet |
| - RD 4000 | - EMI (Induction) | - Dry |
| - M Scope | - Ambient | - other |
| - other | - GPR | |

REMARKS

← DAVIS STREET →