Atlantic Richfield Company

Chuck Carmel
Remediation Management Project Manager

PO Box 1257
San Ramon, CA 94583
Phone: (925) 275-3804
Fax: (925) 275-3815
E-Mail: chuck.carmel@bp.com

November 21, 2014

Re: Well Destruction Report
Atlantic Richfield Company Station #2162
15135 Hesperian Boulevard, San Leandro, California
ACEH Case #RO0000190

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. 2162
15135 Hesperian Boulevard
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

November 21, 2014

Project No. 06-88-620

BROADBENT
875 Cotting Ln., Suite G, Vacaville, CA 95688
(T) 707-455-7290 (F) 707-455-7295
broadbentinc.com

November 21, 2014

Project No. 06-88-620

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. 2162
15135 Hesperian Boulevard, San Leandro, Alameda County, California
ACEH Case No. RO0000190

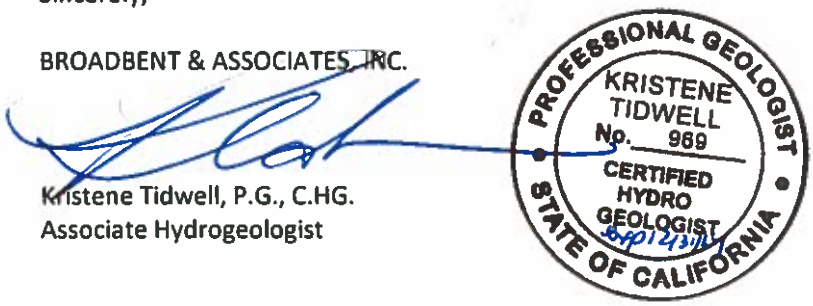
Dear Mr. Carmel:

Broadbent & Associates, Inc. (Broadbent) is pleased to submit this *Well Destruction Report* (Report) for Atlantic Richfield Company Station No. 2162 located at 15135 Hesperian Boulevard, San Leandro, California (Site). This Report documents the permanent decommissioning of six groundwater monitoring wells and two vapor extraction wells. These activities were carried out in accordance with the Alameda County Environmental Health Agency's directive email dated October 28, 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.HG.
Associate Hydrogeologist

Enclosures

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

TABLE OF CONTENTS

WELL DESTRUCTION REPORT

Atlantic Richfield Company Station No. 2162
15135 Hesperian Boulevard, California
ACEH Case #RO0000190

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. 2162, located at 15135 Hesperian Boulevard, San Leandro, California (Site). Case Closure was recommended by Alameda County Environmental Health (ACEH) in their October 28, 2014 email (Appendix A). This Report presents details of the field activities performed.

2.0 SITE BACKGROUND

The Site is located at 15135 Hesperian Boulevard, San Leandro, California. It is an active ARCO-brand gasoline station (Station No. 2162) with a convenience store and three automotive service bays. Current structures on the Site include four underground storage tanks (USTs), four fuel dispenser islands with a total of eight dispensers, and a 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 Ruth Court to the north, Hesperian Boulevard to the east, and commercial and residential buildings to the south and west. Across Ruth Court, to the north is a large office building. Directly to the south of the Site is a KFC restaurant. Across Hesperian Boulevard, to the west is a 24-hour Fitness gym and a Petsmart pet store, which are part of the Bayfair Center mall.

The Site has operated as a gasoline fueling station since the environmental case was open 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 November 13, 2014, Broadbent oversaw Cascade Drilling, L.P. (Cascade), pressure grout monitoring wells MW-1 through MW-6 and vapor extraction wells VW-1 and VW-2. Where safety concerns permitted, well vaults and the top two feet of well casing were removed from each well following completion of pressure grouting. 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) were secured prior to performing the field investigation. A copy of this permit 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 January 14, 2014. NORCAL's survey report is included in Appendix D.

3.2 Well Destruction Activities

During November 13, 2014, monitoring wells MW-1 through MW-6 and vapor extraction wells VW-1 and VW-2 were destroyed by pressure grouting. Where safety concerns permitted, well vaults and the top two feet of each well casing was removed from each well following completion of pressure grouting. The wells were then filled with concrete to match the existing surface. 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 produced during well destruction activities.

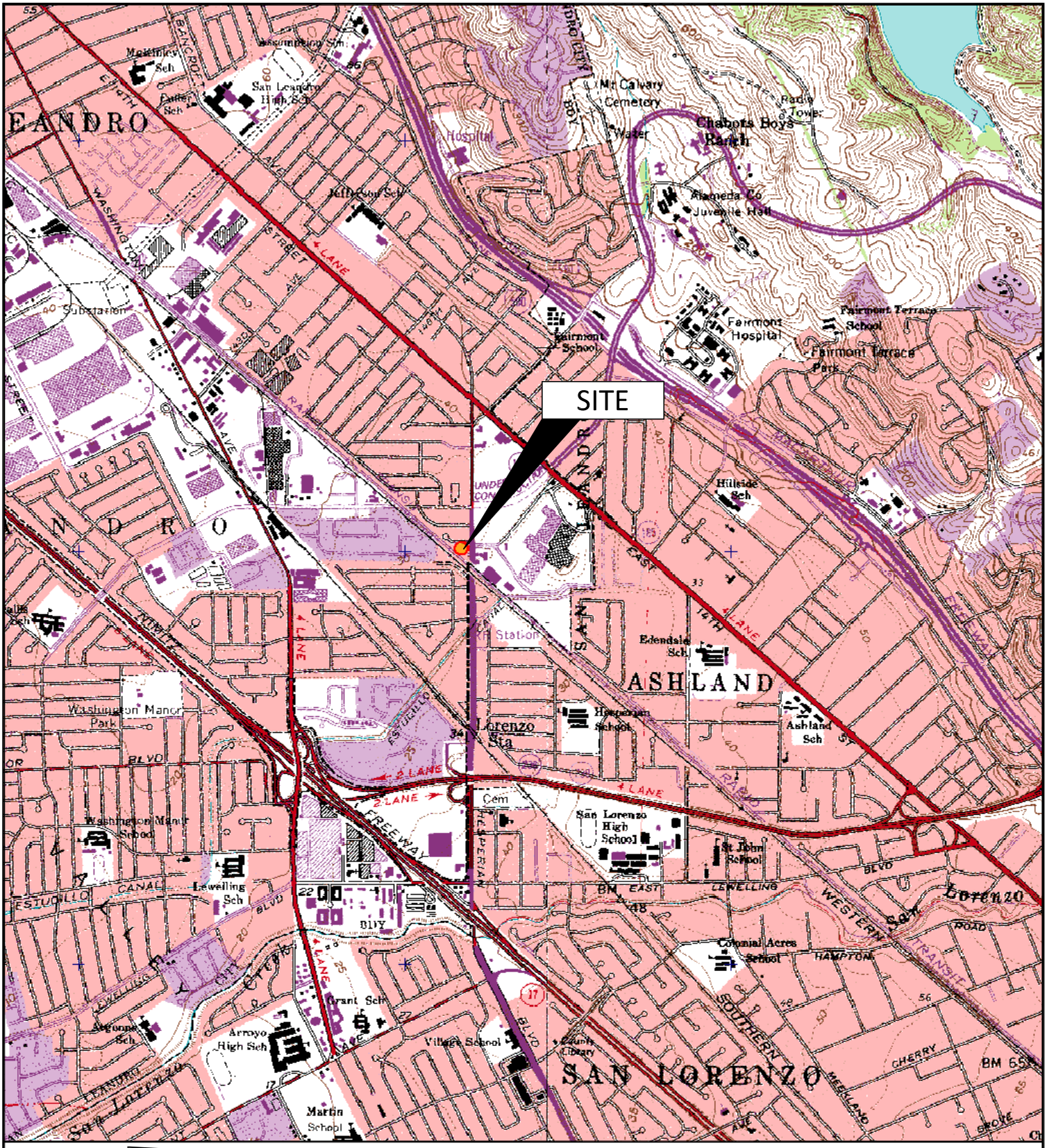
4.0 CONCLUSIONS & RECOMMENDATIONS

Monitoring, groundwater extraction, soil vapor extracion and soil vapor probes wells were abandoned in general accordance 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

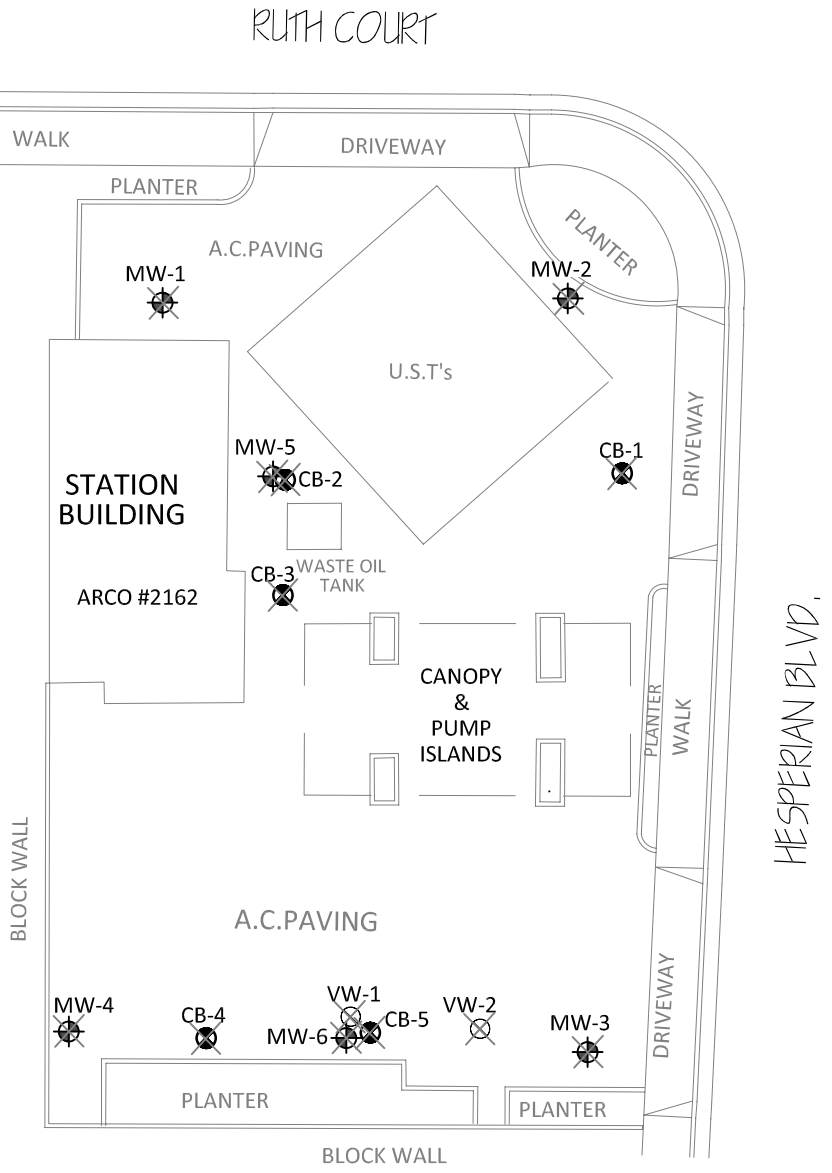


BROADBENT
2000 Kirman Ave.
Reno, Nevada 89502
Project No.: 06-88-620 Date: 7/2/2013

Station #2162
15135 Hesperian Boulevard
San Leandro, California

Site Location Map

Drawing
1



LEGEND

- Decommissioned Groundwater Monitoring Well Location
- Decommissioned Vapor Extraction Well Location
- Decommissioned Soil Boring Location

N

0 30 60

SCALE (ft)

NOTE: SITE MAP ADAPTED FROM WOOD RODGERS SURVEYING.

BROADBENT
4820 Business Center Drive, Suite 110
Fairfield, CA 94534

Project No.: 06-88-620 Date: 11/10/2014

Station #2162
15135 Hesperian Boulevard
San Leando, California

Decommissioned Well Location Map

Drawing 2

APPENDIX A

REGULATORY CORRESPONDENCE

Nowell, Keith, Env. Health

From:	Nowell, Keith, Env. Health
Sent:	Tuesday, October 28, 2014 8:06 AM
To:	'charles.carmel@bp.com'
Cc:	'Ktidwell@broadbentinc.com'; Roe, Dilan, Env. Health
Subject:	Fuel leak case BP #2162 (ARCO #2162), A15135 Hesperian Blvd., San Leandro, ACEH case file number RO190
Attachments:	Attachment_1_and_ftpUploadInstructions_2014-05-15.pdf; DIR_L_2014-10-01.pdf

Dear Mr. Carmel:

The public comment period for the subject site ended on October 27, 2014. One comment was received by Alameda County Environmental Health (ACEH) and addressed on September 16, 2014. The comment and the ACEH response can be viewed on the ACEH and GeoTracker websites.

You are free to proceed with the destruction of all wells associated with the site (groundwater, vapor, etc.), as requested in the attached October 1, 2014 letter from ACEH. As requested in the letter, please contact the Alameda County Public Works Agency to obtain well destruction permits. Following the well destruction, please provide ACEH a well destruction report according to the schedule outlined below. The well destruction report should document site activities, provide well destruction permit documentation, and documentation indicating that any remaining waste derived from investigation, remediation, and well destruction activities have been removed from the site.

TECHNICAL REPORT REQUEST

Please submit reports to Alameda County Environmental Health (Attention: Keith Nowell), and upload technical reports to the ACEH ftp site (Attention: Keith Nowell), and to the State Water Resources Control Board's Geotracker website, in accordance with the following specified file naming convention and schedule:

- **January 4, 2015 – Well Destruction Report** - File to be named RO190_WELL_DCM_R_yyyy-mm-dd

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.

Should you have any questions, please contact me at (510) 567--6764 or send me an electronic mail message at keith.nowell@acgov.org.

Sincerely,
Keith Nowell, PG, CHG
Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements/Obligations and Electronic Report Upload (ftp) Instructions

Attachment 2 – ACEH Directive Letter dated October 1, 2014

Keith Nowell PG, CHG
Hazardous Materials Specialist
Alameda County Environmental Health

1131 Harbor Bay Parkway
Alameda , CA 94502-6540
phone: 510 / 567 - 6764
fax: 510 / 337 - 9335
email: keith.nowell@acgov.org

PDF copies of case files can be reviewed/downloaded at:
http://www.acgov.org/aceh/lop/ust.htm

APPENDIX B

DETAILED SITE HISTORY

Previous Environmental Activities at Site

An underground storage tank (UST) leak was reported at the Site in September 1991. Prior to removing or replacing the USTs, five soil borings (B1A and B1 through B4) and two vapor extraction wells (VW1 and VW2) were advanced (Roux, 1991). A total of 10 soil samples were collected and analyzed for total petroleum hydrocarbon as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) from the five soil borings and two vapor extraction wells. Boring B4 at 7.5 feet (ft) below ground surface (bgs) had the highest concentrations of TPHg (2,400 milligrams per kilograms; mg/kg) and BTEX (17 mg/kg, 62 mg/kg, 41 mg/kg, and 260 mg/kg, respectively). In late 1991 through early 1992, the USTs, waste oil tank, product lines, and dispensers were removed and replaced with four, double-walled fiberglass, 10,000 gallon tanks. During removal and replacement activities, approximately 1,000 cubic yards of petroleum hydrocarbon impacted soil and approximately 50,000 gallons of water were removed from the UST excavation (Roux, 1992). A total of five sidewall soil samples were collected from the former UST complex and seven soil samples were collected from beneath the product lines. The sidewall soil sample SW-5 had the highest concentrations of TPHg (1,000 mg/kg) and BTEX (2.3 mg/kg, 9.2 mg/kg, 25 mg/kg, and 220 mg/kg, respectively; Appendix B).

A limited soil vapor performance test was completed on June 6, 1991 to determine if Soil Vapor Extraction (SVE) was feasible at the Site. Results of the test using vapor wells VW-1 and VW-2 in the southern portion of the Site showed that SVE was not an effective remediation technique due to an insufficient radius of influence by the SVE test system.

In September 1992, soil borings B5 through B8 were advanced and converted into monitoring wells MW-1 through MW-4, respectively. Thirteen soil samples were collected from borings B5 through B8 and analyzed for TPHg and BTEX. Maximum concentrations of TPHg and BTEX were at 550 parts per million (ppm), 1.4 ppm, 1.3 ppm, 10 ppm, and 48 ppm, respectively. Periodic groundwater monitoring and sampling began in 1992 at the Site (RESNA, 1993).

In January 2003, the product lines and dispensers were removed and upgraded. Approximately 183 tons of soil were excavated and removed from the Site during upgrade activities. Eight soil samples were collected below the dispensers (S-D1 through S-D8) and four soil samples from beneath the pipelines (S-L1 through S-L4) at a depth ranging from 3 to 3.5 ft bgs. Seven of the 12 samples contained concentrations of TPHg, BTEX, and MTBE at maximum concentration of 200 ppm, 0.072 ppm, 2.1 ppm, 1.4 ppm, 1.5 ppm, and 0.55 ppm, respectively (URS, 2003).

In July 2007, Stratus Environmental, Inc. (Stratus) advanced a total of five soil borings to evaluate the extent of petroleum hydrocarbon impacted soil and groundwater at the Site. Soil and groundwater samples were collected from each boring for laboratory analyses. The analytical results for the collected soil samples indicated concentrations of gasoline range organics (GRO) above laboratory reporting limits in five of the 14 soil samples at concentrations ranging from 0.65 mg/kg (CB3 7.5'-8') to 1,100 mg/kg (CB5 11.5'-12'); Diesel-Range Organics (DRO) were detected above laboratory reporting limits in 11 of the 14 soil samples collected at concentrations ranging from 1.6 mg/kg (CB3 15.5'-16') to 1,300 mg/kg (CB2 11.5'-12'); Total Xylenes were detected above laboratory reporting limits in soil sample CB2 11.5'-12' at a concentration of 0.0071 mg/kg; and MTBE was detected above laboratory reporting limits in soil sample CB3 7.5'-8' at a concentration of 0.0063 mg/kg. No additional analytical results were reported above the laboratory reporting limits in soil samples. Four of the five grab-groundwater samples contained maximum concentrations of GRO at 1,900 micrograms per liter (µg/L), DRO at

2,000 µg/L, benzene at 12 µg/L, ethylbenzene at 110 µg/L, total xylenes at 140 µg/L, MTBE at 70 µg/L, and TAME at 3.9 µg/L (Broadbent, 2007).

Based on the field investigation observations, analytical results obtained, and to further progress towards case closure, Broadbent recommended that a new monitoring well be constructed along the southern boundary of the Site in the approximate location of boring CB-5. In April 2009, Stratus oversaw RSI Drilling, Inc. advance two Geoprobe/hollow-stem auger soil borings (identified as MW-5 and MW-6) at the Site. Boring MW-5 (completed as well MW-5) was located in close proximity of the previous boring CB-2, slightly north of the former waste oil tank and southwest of the USTs. Boring MW-6 (completed as well MW-6) was located in close proximity of previous boring CB-5, directly south of well VW-1 and west of previous boring CB-5 (Broadbent, 2009).

A sensitive receptor survey was performed by Closure Solutions, Inc. in October 2011 (Closure Solutions, Inc., 2011). Based on the review of information performed, a total of seven domestic and irrigation wells were identified within half a mile radius of the Site. In addition, the nearest surface water body is the Estudillo Canal, a concrete-lined channel. The Estudillo Canal is located approximately 800 feet to the southeast (cross-gradient) of the Site and connects to the San Francisco Bay, located approximately three miles west-southwest of the Site.

References

Broadbent & Associates, Inc., 14 September 2007. *Soil & Ground-Water Investigation Report, ARCO Station #2162, 15135 Hesperian Boulevard, San Leandro, CA.*

Broadbent & Associates, Inc., 2 June 2009. *On-Site Soil & Ground-Water Investigation Report, ARCO Station No. 2162, 15135 Hesperian Boulevard, San Leandro, CA.*

Closure Solutions, Inc., 31 October 2011. *Sensitive Receptor Survey, ARCO Station No. 2162, 15135 Hesperian Boulevard, San Leandro, CA.*

Roux Associates, 28 August 1991. *Preliminary Tank Replacement Assessment, ARCO Facility No. 2162, 15135 Hesperian Boulevard, San Leandro, CA.*

Roux Associates, 7 July 1992. *Underground Storage Tank Replacement and Soil Sampling, ARCO Facility No. 2162, 15135 Hesperian Boulevard, San Leandro, CA.*

RESNA Industries Inc., 10 March 1993. *Report Subsurface Environmental Investigation, ARCO Station 2162, 15135 Hesperian Boulevard, San Leandro, CA.*

URS Corporation, 28 April 2003. *Product Line Removal and Upgrade Soil Sampling Report, ARCO Station No. 2162, 15135 Hesperian Boulevard, San Leandro, CA.*

APPENDIX C

PERMITS

Alameda County Public Works Agency - Water Resources Well Permit

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

Application Approved on: 11/20/2014 By jamesy

Permit Numbers: W2014-1129
Permits Valid from 12/01/2014 to 12/01/2014

Application Id: 1416351077932 **City of Project Site:** San Leandro
Site Location: 15135 Hesperian Blvd., San Leandro. (Arco-branded gas station)
Project Start Date: 12/01/2014 **Completion Date:** 12/01/2014
Assigned Inspector: Contact Sam Brathwaite at (925) 570-7609 or sbrathwaite@groundzonees.com

Applicant: Broadbent and Associates, Inc. - Kristene Tidwell
4820 Business Center Drive, Suite 110, Fairfield, CA 94534 **Phone:** 707-455-7290
Property Owner: Charles Carmel
PO Box 1257, San Ramon, CA 94583 **Phone:** --
Client: ** same as Property Owner **
Contact: Nicholas Vrdoljak **Phone:** 707-455-7290 **Cell:** 818-857-9004

Total Due: $265.00
Receipt Number: WR2014-0482 **Total Amount Paid:** $265.00
Payer Name : Kristene Tidwell Paid By: VISA **PAID IN FULL**

Works Requesting Permits:

Well Destruction-Vapor monitoring well - 2 Wells
Driller: Cascade Drilling, L.P. - Lic #: 838110 - Method: press **Work Total: $265.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2014-1129	11/20/2014	03/01/2015	VW-1	6.00 in.	2.00 in.	1.00 ft	10.50 ft	3S/2W6F	No Records	No Records
W2014-1129	11/20/2014	03/01/2015	VW-2	6.00 in.	2.00 in.	1.00 ft	10.00 ft	3S/2W6F	No Records	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. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

3. 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.

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

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

5. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

6. Remove the Christy box or similar structure. Overdrill or clean out to original depth. After the seal has set, backfill the remaining hole with concrete or compacted material to match existing.

7. 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.

8. Vapor monitoring wells constructed with tubing shall be decomissioned by complete removal of tubing, grout seal, and fill material of sand or bentonite. Fill material may be removed by hand auger if material can be removed completely.

Vapor monitoring wells constructed with pvc pipe less than 2" shall be overdrilled to total depth.

Vapor monitoring wells constructed with 2" pvc pipe or larger may be grouted by tremie pipe (any depth) or pressure grouted (less than 30', 25 psi for 5 min).

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: 10/29/2014 By jamesy

Permit Numbers: W2014-1016 to W2014-1021
Permits Valid from 11/13/2014 to 11/13/2014

Application Id: 1411421191669 **City of Project Site:** San Leandro
Site Location: 15135 Hesperian Blvd.
Project Start Date: 11/13/2014 **Completion Date:** 11/13/2014
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Applicant: Broadbent - Lu Damerell
4820 Business Center Drive #110, Fairfield, CA 94534 **Phone:** 510-364-2079
Property Owner: Chuck Carmel
PO Box 1257, San Ramon, CA 94583 **Phone:** --
Client: Chuck Carmel
PO Box 1257, San Ramon, CA 94583 **Phone:** --

Total Due: $2382.00
Receipt Number: WR2014-0436 **Total Amount Paid:** $2382.00
Payer Name : Broadbent & Associates, Inc. Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Well Destruction-Monitoring - 6 Wells
Driller: Cascade - Lic #: 938110 - Method: press **Work Total: $2382.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2014-1016	10/29/2014	02/11/2015	MW-1	10.00 in.	4.00 in.	5.00 ft	16.00 ft	3S/2W6F4	92436	403551
W2014-1017	10/29/2014	02/11/2015	MW-2	10.00 in.	4.00 in.	5.00 ft	16.00 ft	3S/2W6F5	92436	403548
W2014-1018	10/29/2014	02/11/2015	MW-3	10.00 in.	4.00 in.	5.00 ft	16.00 ft	3S/2W6F6	92436	403549
W2014-1019	10/29/2014	02/11/2015	MW-4	10.00 in.	4.00 in.	5.00 ft	16.00 ft	3S/2W6F	No Records	No Records
W2014-1020	10/29/2014	02/11/2015	MW-5	10.00 in.	4.00 in.	5.00 ft	16.00 ft	3S/2W6F	No Records	No Records
W2014-1021	10/29/2014	02/11/2015	MW-6	10.00 in.	4.00 in.	5.00 ft	16.00 ft	3S/2W6F	No Records	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. 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 D

UTILITY CLEARANCE SURVEY

NORCAL GEOPHYSICAL CONSULTANTS, INC.

January 28, 2014

Luis Damerell
Broadbent & Associates, Inc.
875 Cotting Lane, Suite G
Vacaville, CA 95688

Subject: Utility Location Survey
BP-ARCO Service Station No. 2162
15135 Hesperian Blvd
San Leandro, California

NORCAL Job No: 13-1034.19

Dear Mr. Damerell:

This report presents the findings of a utility locating survey performed by NORCAL Geophysical Consultants, Inc. at BP-ARCO Station No. 2162 for Broadbent & Associates, Inc. (BAI) The field survey was conducted in two phases: Phase 1 was conducted on December 18, 2013 by NORCAL California Professional Geophysicist David Bissiri (PGp 1009) and Field Technician Chris Bissiri; Phase 2 was conducted on January 14, 2014 by David Bissiri and Field Technician Travis Black. Logistical support and site safety information were provided by Mr. Lu Damerell of BAI.

1.0 SITE DESCRIPTIONS and SCOPE OF WORK

The BP-ARCO site is located on the southwest corner of the intersection of Hesperian Boulevard and Ruth Court in San Leandro, California. The station comprises a pump island and canopy located in the central portion and a mini-mart and cashier office building in the western portion. The UST tank-pad is located in the northeast portion of the station. Hesperian Boulevard is located to the east and Ruth Court is located to the north of the site. The parking lot of a KFC fast-food restaurant is located south of the station. An alley is located to the west, behind the station.

The scope of work, as outlined by BAI, consisted of delineating detectable underground utility alignments in two areas: 1) the accessible outside portions of the gasoline station and adjoining sidewalks and alley, designated for the purposes of this report as the "Service Station Survey Area"; 2) the accessible portions of the parking lot and adjoining sidewalk of the restaurant, designated as the "KFC Survey Area".

The utility location survey was performed as part of an ongoing remediation plan currently managed by Broadbent & Associates. The information will be used to aid in determining possible preferential pathways of ground water flow leading off-site.

2.0 FIELD INVESTIGATIONS

2.1 EQUIPMENT

We investigated the designated survey areas using the electromagnetic line locating/metal detection (EMLL) and ground penetrating radar (GPR) methods. The EMLL method was used in the electromagnetic conduction, ambient and metal detection (MD) modes. The conduction mode was used to locate metal utilities that are accessible from the surface in at least one location. This is typically done by applying a signal current to a line by directly connecting the transmitter to the exposed utility through a vault or a hose bib and using a receiver to trace the respective lines. The ambient procedure was used to locate utilities that exhibit currents already flowing on the line (aka "passive signals"). The most common passive signals are generated by live electric and telephone lines, water lines acting as electrical grounds, and metal pipes re-radiating radio signals.

The MD mode is used to locate metal utilities that are not accessible at the surface, and isolated buried objects such as USTs, utility vaults, and other metallic features or debris. This is done by holding the transmitter-receiver unit above the ground and continuously scanning over the surface. Metallic utilities and isolated objects will produce a response indicating when the unit is directly over the metal object.

The GPR method was used to confirm the location of the utilities detected with the EMLL, and to locate possible non-metallic utilities. Since GPR depth of detection is based on site specific soil conditions, not all subsurface features are detectable. Descriptions of the MD, EMLL, and GPR methods are provided in Appendix A.

2.2 SITE SURVEY

The designated survey areas typically consisted of a 20- by 20-foot square centered on the proposed boring(s). We then investigated the sub-surface for detectable underground utilities and other potential near-surface drilling obstructions. A brief description of our field procedures is presented below:

- Site Reconnaissance: We visually inspected the immediate area to locate visible utility vaults, valves, clean-outs, meters, hose bibs, etc.

- EMLL Direct Connect and Induction Survey: We traced accessible utilities using the EMLL direct connect and induction methods, as described above.

- EMLL Ambient Survey: We used the EMLL ambient procedure to investigate the survey areas for non-accessible utilities emitting a passive signal, as described above.

- EMLL Metal Detection (MD) Survey: We scanned the survey areas with the MD to investigate for metal utilities that were not accessible at the surface. Since the specific type of utility (i.e. water, gas, etc.) cannot be determined by this method, they are referred to as undifferentiated utilities. We also used the MD method to investigate the survey areas for possible buried metal objects.

- GPR Survey: We obtained GPR data throughout the survey areas. We examined the GPR records for reflection patterns characteristic of underground utilities and other potential subsurface objects, as well as changes in fill material that may be associated with utility corridors or USTs.

- Field Survey Map: Upon completion of the survey at each of the proposed drilling locations, we drafted a scaled site diagram showing the area of the geophysical survey, structures or above ground cultural features that are in close proximity to the drilling locations, and the locations of detected subsurface objects and utility alignments.

3.0 LIMITATIONS

All of the geophysical methods used for this investigation have limitations that may not allow for the detection of certain subsurface features due to subsurface conditions or the proximity of above ground objects. The specific limitations for each method are described in Appendix A.

4.0 RESULTS

The results of the geophysical investigation shown on the Site Maps presented on Plate1 (Service Station Survey Area) and Plate 2 (KFC Survey Area). These maps depict the locations of pertinent above-ground site features in the vicinity of the designated survey areas and the locations of interpreted subsurface features. The subsurface features detected at each area are discussed below:

Service Station Survey Area

- A suspected natural gas service lateral located in the northwest corner of the survey area. This line extends southward from Ruth Court along the eastern edge of the alley to the corner of the station building, where it appears to terminate at a service "blank". The portion of the line that continues into the building appears to be out of service, but it is probable that the portion in the alley is still pressurized.

- Two storm drain laterals that extend across the sidewalks. One extends northward from a catch basin located to the west of the driveway along Ruth Court, while the other extends eastward from a catch basin located at the southern end of the planter separating the two driveways that face Hesperian Boulevard.

- An "L"-shaped electric line that extends northward from a point near the northeast corner of the station building toward the sidewalk along Ruth Court, then eastward across the driveway. It appears to extend through the planter located in the northeast corner of the site and then continue beyond the eastern limit of the survey area.

- Four suspected north-south trending lines in, or adjacent to, the sidewalk along Hesperian Boulevard. One is suspected to be an electric line, while the rest are undifferentiated lines. All four lines appear to extend southward from the corner planter for a distance ranging from approximately 40 feet (across the northern driveway) to 125 feet (the southern survey limit).

- Ten assorted lines that do not appear to extend beyond the station property. These lines comprise various electric, water, product, and undifferentiated utilities. The lines are of various lengths and orientations and extend between the building, canopy, planters, and UST zone.

- An approximately 15- by 10-foot zone of suspected disturbed soil located in the southwest corner of the survey area. This disturbed zone was detected with the GPR and is suggestive of a possible backfilled pit.

Note that we assume additional utilities and piping associated with the USTs extend between the UST Zone and the pump islands under the canopy. However, we were able to delineate only a limited portion of them.

KFC Survey Area

- Three suspected utilities in the northwest portion of the survey area, in the vicinity of a trash enclosure located along a low wall that separates the KFC property from the station property: the first is a suspected electric line extending from a sign along the western survey limit toward the KFC building; the second is an undifferentiated utility extending southward from the trash enclosure to the alley west of the KFC building; And the third is a probable sanitary sewer line that may form a "T" at a clean-out located approximately 5 feet east of the western survey limit. The alignment(s) of the sewer line are conjectural, as we did not detect the line. However, given the location of the clean-out relative to the building and alley, the outfall likely either goes northward up the alley toward Ruth Court, or eastward across the parking lot toward Hesperian Boulevard.

- Three north-south trending lines in the driveway area along Hesperian Boulevard: the first is a storm drain line that extends between two catch basins on either side of the driveway; the second is an electric line extending from a sign located north of the driveway to a planter located south of the driveway; the third is an undifferentiated utility extending northward from an electric vault located in the sidewalk, south of the driveway. This line could be an electric line, but as we did not access the vault, this could not be confirmed.

5.0 STANDARD CARE AND WARRANTY

The scope of NORCAL's services for this project consisted of using geophysical methods to explore the area of investigation for underground utilities. The accuracy of our findings is subject to specific site conditions and limitations inherent to the techniques used. We performed our services in a manner consistent with the level of skill ordinarily exercised by members of the profession currently employing similar methods. No warranty, with respect to the performance of services or products delivered under this agreement, expressed or implied, is made by NORCAL.

We appreciate having the opportunity to provide our geophysical services to BAI. If you have any questions, or require additional geophysical services, please do not hesitate to call.

Respectfully,

NORCAL Geophysical Consultants, Inc.

David Bissiri
Professional Geophysicist, PGp 1009

DJB/KGB/tt

Enclosure: Plates: 1 - 2
Appendix A: GEOPHYSICAL METHODOLOGY

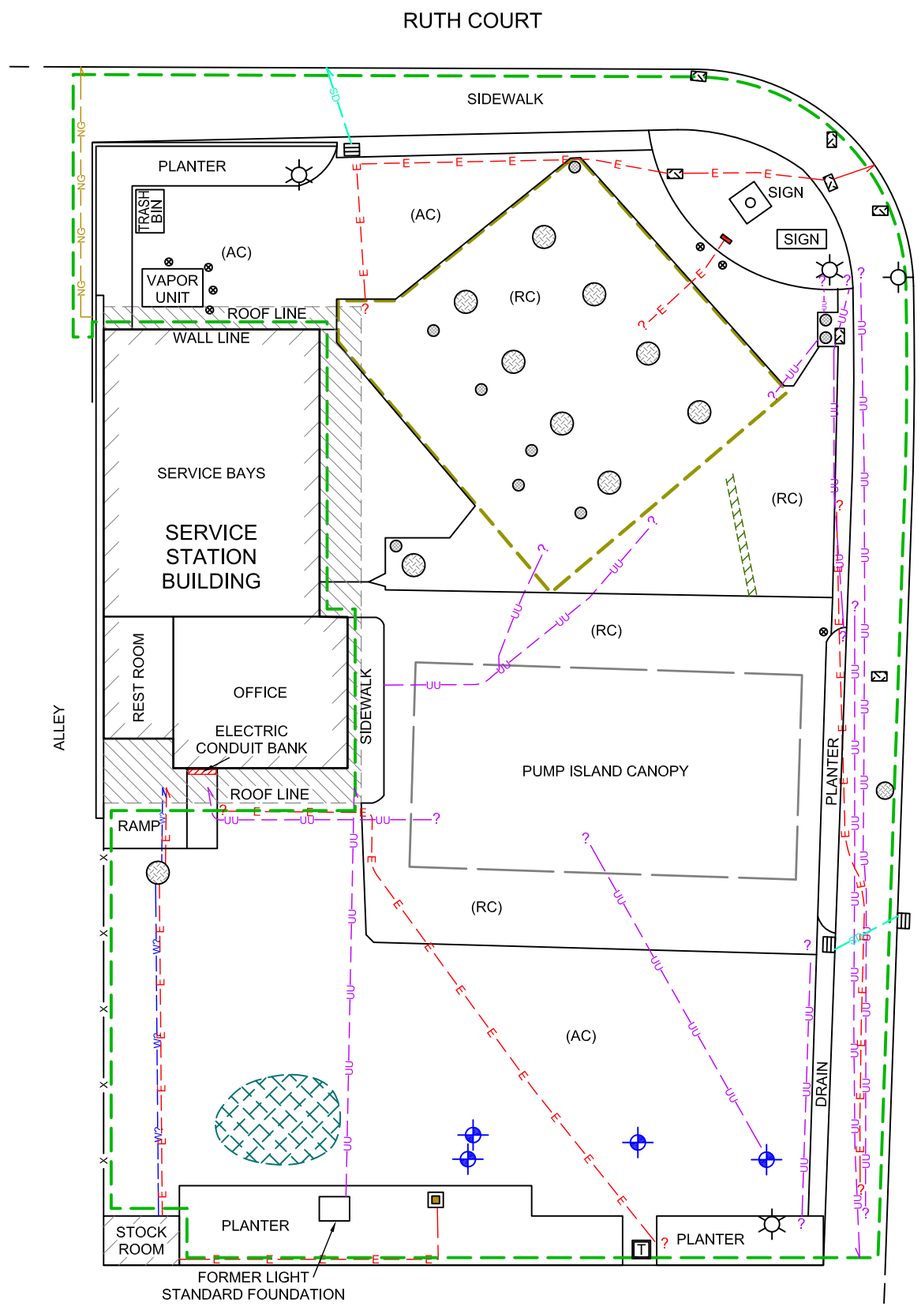
LIMITATIONS:

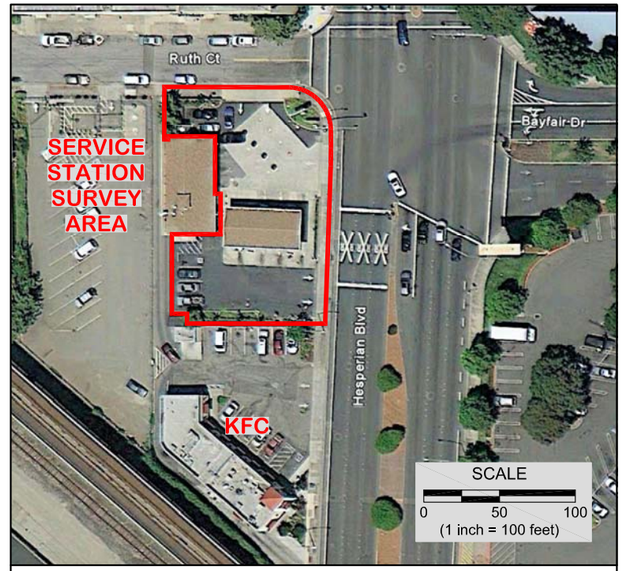
The detected utilities, as shown, may not represent all of the existing underground utilities as there are limitations unique to each geophysical method. These limitations may include: 1) subsurface targets too small or at depths beyond the detection limits of specific instruments, 2) subsurface targets not having a significant contrast in physical properties with the surrounding soils and 3) other cultural features above or below ground that cause instrumental interference and do not allow the detection of certain subsurface targets.

Some utilities may not be detectable using standard line location techniques, such as certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, metal pipes with insulating joints, communication lines, and non-energized electrical lines. In addition, utilities with tracer wires may be unavailable to private utility locating companies due to security reasons.

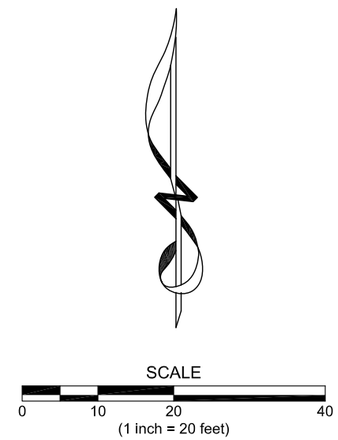
LEGEND

	LIMITS OF GEOPHYSICAL SURVEY
E	ELECTRIC LINE
NG	NATURAL GAS LINE
SD	STORM DRAIN LINE
	SUSPECTED PRODUCT LINE
UU	UNDIFFERENTIATED UTILITY LINE
W	WATER LINE
W?	SUSPECTED WATER LINE
	UTILITY LINE CONTINUATION (LINE IS SUSPECTED TO CONTINUE BEYOND DETECTED LOCATION)
?	UTILITY LINE NOT DETECTED BEYOND LOCATION (LINE MAY TERMINATE OR CONTINUE)
x	FENCE
	GPR ANOMALY - DISTURBED ZONE
	UST ZONE (UTILITIES NOT DETECTED)
	AIR/WATER DISPENSER
	BOLLARD
	EMERGENCY SHUT OFF SWITCH
	LIGHT STANDARD
	METAL PLATE
	MONITORING WELL
T	PAY TELEPHONE
	STORM DRAIN CATCH BASIN
	TRAFFIC SIGNAL
	UTILITY VAULT/PULL BOX
(AC)	ASPHALT
(RC)	REINFORCED CONCRETE





VICINITY MAP



NOTE: WE ASSUME PIPING AND ASSOCIATED UTILITY LINES EXTEND BETWEEN THE PUMPS AND THE EXISTING USTs; HOWEVER, WE WERE ABLE TO DELINEATE ONLY A LIMITED PORTION OF THEM. PLEASE REFER TO THE ASSOCIATED WRITTEN REPORT FOR DETAILS.

NORCAL

GEOPHYSICAL SURVEY MAP
BP-ARCO STATION 2162-SERVICE STATION AREA
15135 HESPERIAN BOULEVARD

LOCATION: SAN LEANDRO, CALIFORNIA

CLIENT: BROADBENT & ASSOCIATES

JOB #: 13-1034.19

NORCAL GEOPHYSICAL CONSULTANTS INC.

DATE: JAN. 2014

DRAWN BY: G.RANDALL

APPROVED BY: DJB

PLATE 1

LIMITATIONS:

The detected utilities, as shown, may not represent all of the existing underground utilities as there are limitations unique to each geophysical method. These limitations may include: 1) subsurface targets too small or at depths beyond the detection limits of specific instruments, 2) subsurface targets not having a significant contrast in physical properties with the surrounding soils and 3) other cultural features above or below ground that cause instrumental interference and do not allow the detection of certain subsurface targets.

Some utilities may not be detectable using standard line location techniques, such as certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, metal pipes with insulating joints, communication lines, and non-energized electrical lines. In addition, utilities with tracer wires may be unavailable to private utility locating companies due to security reasons.

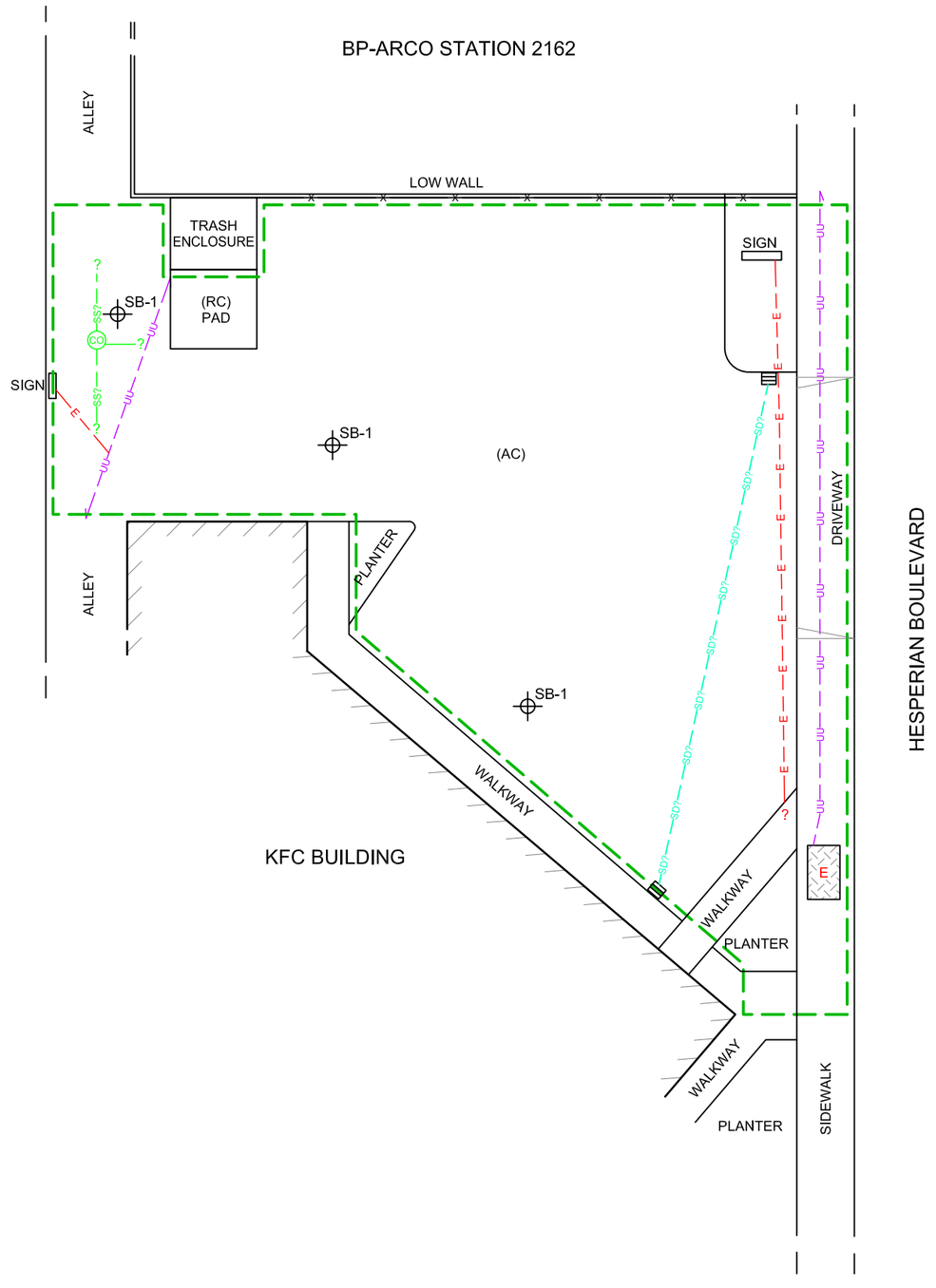
SCALE

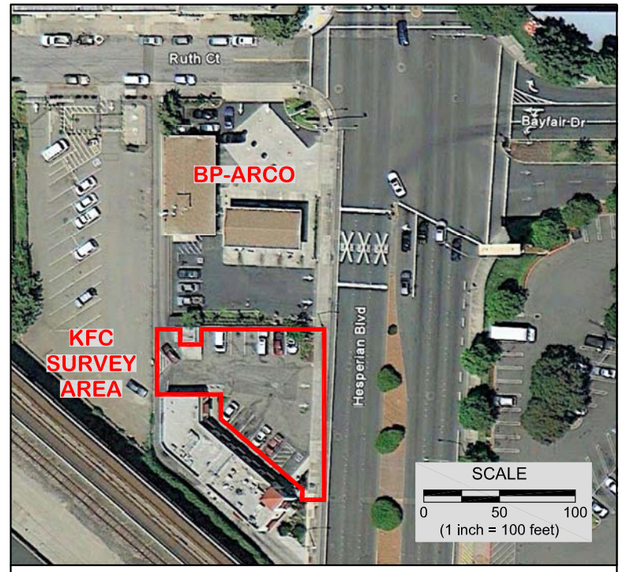
0 10 20 40

(1 inch = 20 feet)

LEGEND

— — —	LIMITS OF GEOPHYSICAL SURVEY
—E—	ELECTRIC LINE
—SS?—	SUSPECTED SANITARY SEWER LINE (NOT DETECTED)
—SD?—	SUSPECTED STORM DRAIN LINE
—UU—	UNDIFFERENTIATED UTILITY LINE
——>	UTILITY LINE CONTINUATION (LINE IS SUSPECTED TO CONTINUE BEYOND DETECTED LOCATION)
——?	UTILITY LINE NOT DETECTED BEYOND LOCATION (LINE MAY TERMINATE OR CONTINUE)
—x—	FENCE
⊕	PROPOSED BORING LOCATION
E	ELECTRIC VAULT
CO	SANITARY SEWER CLEANOUT
▤	STORM DRAIN CATCH BASIN
(AC)	ASPHALT





VICINITY MAP

GEOPHYSICAL SURVEY MAP
BP-ARCO STATION 2162 - KFC AREA
15135 HESPERIAN BOULEVARD

LOCATION: SAN LEANDRO, CALIFORNIA

CLIENT: BROADBENT & ASSOCIATES

JOB #: 13-1034.19

NORCAL GEOPHYSICAL CONSULTANTS INC.

DATE: JAN. 2014

DRAWN BY: G.RANDALL

APPROVED BY: DJB

PLATE 2

Appendix A

GEOPHYSICAL METHODOLOGY

Appendix A

ELECTROMAGNETIC LINE LOCATION/METAL DETECTION (EMLL/MD)

METHODOLOGY

Electromagnetic line location techniques (EMLL) are used to locate the magnetic field resulting from an electric current flowing on a line. These magnetic fields can arise from currents already on the line (passive) or currents applied to a line with a transmitter (active). The most common passive signals are generated by live electric lines and re-radiated radio signals. Active signals can be introduced by connecting the transmitter to the line at accessible locations or by induction.

The detection of underground utilities is affected by the composition and construction of the line in question. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless the utilities carry a passive current, they must be exposed at the surface or in accessible utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that are not detectable using standard electromagnetic line location techniques include those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and pipes with insulated connections.

Buried objects can also be detected, without direct contact, by using the metal detection technique (MD). This is used to detect buried near surface metal objects such as rebar, manhole covers, USTs, and various metallic debris. The MD transmitter-receiver unit is held above the ground and continuously scanned over the surface. The unit utilizes two orthogonal coils that are separated by a specified distance. One of the coils transmits an electromagnetic signal (primary magnetic field) which in turn produces a secondary magnetic field about the subsurface metal object. Since the receiver coil is orthogonal to the transmitter coil, it is unaffected by the primary field. Therefore, the secondary magnetic fields produced by buried metal object will generate an audible response from the unit. The peak of this response indicates when the unit is directly over the metal object.

The instrumentation we used for the EMLL and MD survey consists of a Radio Detection RD-400 and a Fisher TW-6 inductive pipe and cable locator.

DATA ANALYSIS

The EMLL/MD instrumentation indicates the presence of buried metal by emitting an audible tone; there are no recorded data to analyze. Therefore, the locations of buried objects detected with these methods are marked on the ground surface during the survey.

LIMITATION

The detection of underground utilities is dependent upon the composition and construction of the line of interest, as well as depth. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless carrying a passive current these utilities must be exposed at the surface or accessible in utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that may not be detectable using standard electromagnetic line location techniques include certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and metal pipes with insulating joints. Pipes generally deeper than about five to seven feet may not be detected.

GROUND PENETRATING RADAR (GPR)

METHODOLOGY

Ground penetrating radar is a method that provides a continuous, high resolution cross-section depicting variations in the electrical properties of the shallow subsurface. The method is particularly sensitive to variations in electrical conductivity and electrical permittivity (the ability of a material to hold a charge when an electrical field is applied).

The GPR system operates by radiating electromagnetic pulses into the ground from a transducer (antenna) as it is moved along a traverse. Since most earth materials are transparent to electromagnetic energy, the signal spreads downward into the subsurface. However, when the signal encounters a variation in electrical permittivity, a portion of the electromagnetic energy is reflected back to the surface. When the signal encounters a metal object, all of the incident energy is reflected. The reflected signals are received by the same transducer and are printed in cross-section form on a graphical recorder. Changes in subsurface reflection character on the GPR records can provide information regarding the location of USTs, sumps, buried debris, underground utilities, and variations in the shallow stratigraphy.

The GPR system used was a Geophysical Survey Systems, Inc. SIR-3000 Subsurface Interface Radar Systems equipped with a 400 megahertz (MHz) transducer, respectively. This transducer is used to provide high resolution at shallow depths.

DATA ANALYSIS

GPR records are examined to identify reflection patterns characteristic of USTs, utilities, septic tanks, and other buried debris. Typically, USTs are manifested by broad localized hyperbolic (upside-down "U" shape) reflection patterns that vary in intensity. The intensity of a reflection pattern is usually dependent upon the condition of the respective UST, its burial depth, and the type of fill over the UST. Utilities and other buried debris are typically manifested by narrow localized hyperbolic reflections that also vary in intensity.

LIMITATIONS

The ability to detect subsurface targets is dependent on site specific conditions. These conditions include depth of burial, the size or diameter of the target, the condition of the specific target in question, the type of backfill material associated with the target, and the surface conditions over the target. Under ideal conditions, the GPR can generally detect objects buried to approximately six feet. However, as the clay content in the subsurface increases, the GPR depth of detection decreases. Therefore, it is possible that on-site soil conditions and target features may limit the depth of detection to the upper one to two feet below ground surface.