



**CONESTOGA-ROVERS
& ASSOCIATES**

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
www.CRAworld.com

TRANSMITTAL

DATE: August 12, 2009 REFERENCE NO.: 240612

PROJECT NAME: 1784 150th Avenue, San Leandro

TO: Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RECEIVED
9:55 am, Aug 17, 2009
Alameda County
Environmental Health

Please find enclosed: Draft Final
 Originals Other
 Prints

Sent via: Mail Same Day Courier
 Overnight Courier Other GeoTracker and ACHCSA FTP uploads

QUANTITY	DESCRIPTION
1	Soil Vapor Probe Sampling Report

As Requested For Review and Comment
 For Your Use

COMMENTS:
If you have any questions regarding the content of this document, please contact Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown

Completed by: Peter Schaefer
[Please Print]

Signed:

Filing: Correspondence File



Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Denis L. Brown
Shell Oil Products US
HSE - Environmental Services
20945 S. Wilmington Ave.
Carson, CA 90810-1039
Tel (707) 865 0251
Fax (707) 865 2542
Email denis.l.brown@shell.com

Re: Shell-branded Service Station
1784 150th Avenue
San Leandro, California
SAP Code 136019
Incident No. 98996068
Agency Site No. RO0000367

Dear Mr. Wickham:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

A handwritten signature in black ink, appearing to read "Denis L. Brown", is written over a horizontal line.

Denis L. Brown
Project Manager



SOIL VAPOR PROBE SAMPLING REPORT

**SHELL-BRANDED SERVICE STATION
1784 150TH AVENUE
SAN LEANDRO, CALIFORNIA**

**SAP CODE 136019
INCIDENT NO. 98996068
AGENCY NO. RO0000367**

**AUGUST 12, 2009
REF. NO. 240612 (10)**
This report is printed on recycled paper.

**Prepared by:
Conestoga-Rovers
& Associates**

5900 Hollis Street, Suite A
Emeryville, California
U.S.A. 94608

Office: (510) 420-0700
Fax: (510) 420-9170

web: <http://www.CRAworld.com>

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SOIL VAPOR PROBE SAMPLING PROCEDURES.....	2
2.1 PERSONNEL PRESENT	2
2.2 SOIL VAPOR SAMPLING	2
3.0 CONCLUSIONS AND RECOMMENDATIONS	3

LIST OF FIGURES
(Following Text)

- FIGURE 1 VICINITY MAP
FIGURE 2 SOIL VAPOR DATA MAP

LIST OF TABLES
(Following Text)

- TABLE 1 SOIL VAPOR ANALYTICAL DATA

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to document the recent soil vapor probe monitoring event. Alameda County Health Care Services Agency's (ACHCSA's) April 21, 2009 letter requested this event.

The site is an operating Shell-branded service station located at the southern corner of the 150th Avenue and Freedom Avenue intersection in San Leandro, California (Figure 1). The area surrounding the site is mixed commercial and residential. The site layout (Figure 2) includes a station building, two dispenser islands, and three fuel underground storage tanks (USTs). One waste oil UST was removed from the site on May 25, 2006.

A summary of previous work performed at the site and additional background information was submitted in CRA's February 5, 2009 *Subsurface Investigation Report* and is not repeated herein.

2.0 SOIL VAPOR PROBE SAMPLING PROCEDURES

2.1 PERSONNEL PRESENT

CRA Staff Geologist Erin Reinhart-Koylu attempted to sample soil vapor probe SVP-5 under the supervision of California Professional Geologist Peter Schaefer.

2.2 SOIL VAPOR SAMPLING

On July 14, 2009, CRA attempted to sample soil vapor probe SVP-5 using a lung box and Tedlar® bag. Soil vapor probe SVP-5 could not be sampled, because water was present in the probe's Teflon tubing. Several attempts were made to clear the water without success. Approximately two-thirds of a liter of water were purged from the soil vapor probe.

3.0 CONCLUSIONS AND RECOMMENDATIONS

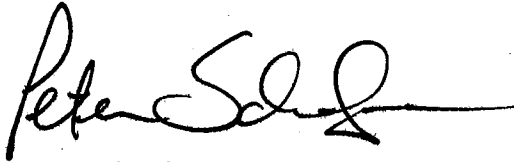
During the previous round of soil vapor sampling on January 17, 2009, which was conducted following a multi-phase extraction pilot test conducted during November 2008, all soil vapor sample concentrations were below San Francisco Bay Regional Water Quality Control Board (RWQCB) environmental screening levels (ESLs) for residential and commercial land use.

Soil vapor sample concentrations in on-site probes have been below the residential land use RWQCB ESLs with the exception of total petroleum hydrocarbons as gasoline (TPHg) in probes SVP-1 and SVP-4 during the September 2007 sampling event, and all constituent of concern concentrations have been below the commercial land use RWQCB ESLs during all five sampling events. Based on these results, no further on-site soil vapor monitoring was conducted.

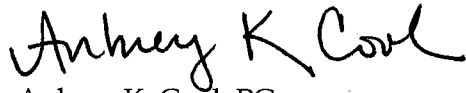
In off-site probe SVP-5, TPHg concentrations exceeded residential and commercial land use RWQCB ESLs in two of the five events, ethylbenzene concentrations exceeded residential and commercial land use RWQCB ESLs during the September 15, 2008 event only, and benzene and xylenes concentrations exceeded residential land use RWQCB ESLs during the September 15, 2008 event only. SVP-5 could not be sampled during the May 20, 2008 and July 14, 2009 events due to water in the sampling tubing.

CRA recommends one additional round of soil vapor sampling from SVP-5 early in the fourth quarter of 2009, when subsurface conditions are likely to be drier.

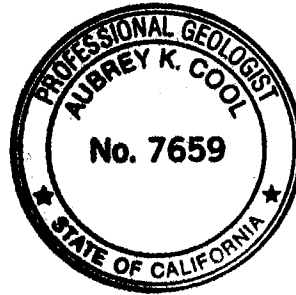
All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES



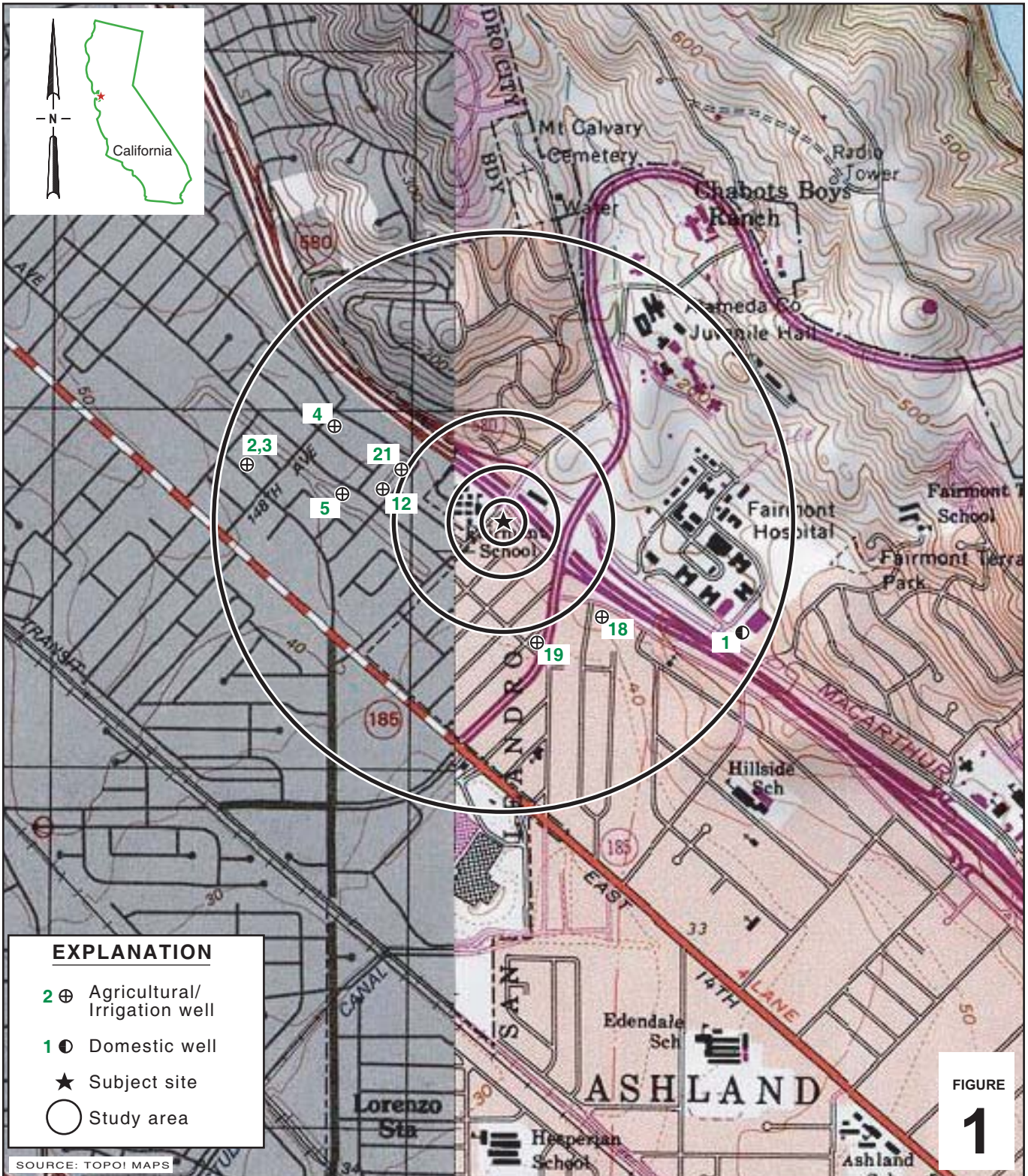
Peter Schaefer, CEG, CHG



Aubrey K. Cool, PG



FIGURES



I:\Shell\6-charts\2406--\240612-San Leandro 1784 150th\240612-FIGURES\240612 VICINITY.AI

FIGURE 1

Shell-branded Service Station
 1784 150th Avenue
 San Leandro, California

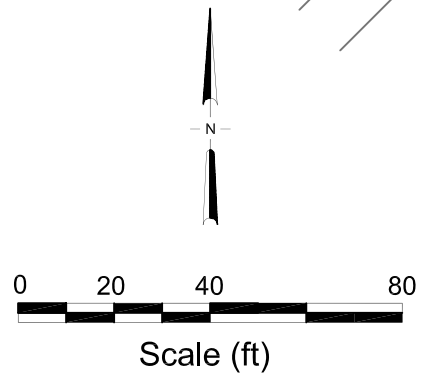
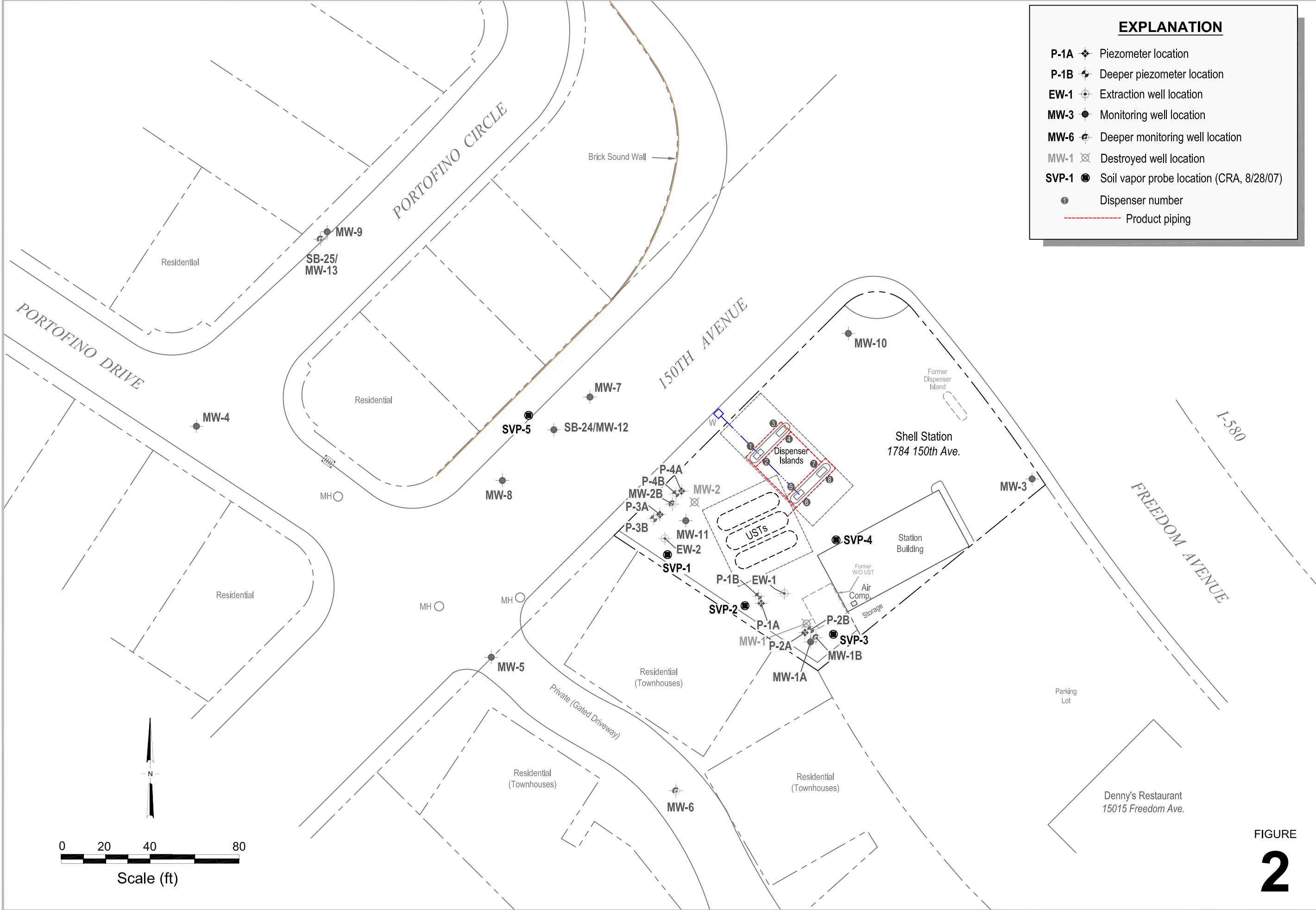


CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

EXPLANATION

- P-1A ◆ Piezometer location
- P-1B ◆ Deeper piezometer location
- EW-1 ◆ Extraction well location
- MW-3 ● Monitoring well location
- MW-6 ● Deeper monitoring well location
- MW-1 ☒ Destroyed well location
- SVP-1 ● Soil vapor probe location (CRA, 8/28/07)
- Dispenser number
- Product piping



I:\Shell\6-chars\2406--240612-San Leandro 1784 150th\240612-FIGURES\240612 SITE PLAN.DWG



Shell-branded Service Station
 1784 150th Avenue
 San Leandro, California

FIGURE
2

TABLES

TABLE 1

**SOIL VAPOR ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1784 150TH AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>TPHg µg/m³</i>	<i>Benzene µg/m³</i>	<i>Toluene µg/m³</i>	<i>Ethylbenzene µg/m³</i>	<i>Total Xylenes µg/m³</i>	<i>MTBE µg/m³</i>	<i>Butane^a µg/m³</i>	<i>Isobutane^a µg/m³</i>	<i>Propane^a µg/m³</i>
SVP-1	9/25/2007	12,000	<17	7,000	120	300	<19	67	ND	ND
SVP-1	3/5/2008	<17,000	8.2	1,300	41	95	<10	ND	70.12	ND
SVP-1 DUP ^c	3/5/2008	<18,000	7.9	400	32	65	<11	ND	62.99	ND
SVP-1	5/20/2008	620	<3.9	<4.6	<5.2	<5.2	<4.4	ND	ND	ND
SVP-1	9/17/2008	<270	<4.2	5.7	<5.7	<5.7	<4.8	ND	ND	ND
SVP-1	1/17/2009	<9,800	<2.7	<3.2	<3.7	<15	<12	<20	<20	<46
SVP-2	9/25/2007	760	11	90	14	56	24	ND	ND	ND
SVP-2	3/5/2008	<19,000	<2.7	<3.1	<3.6	<7.3	<12	ND	ND	ND
SVP-2	5/20/2008	830	<6.4	<7.6	<8.8	<8.8	<7.3	ND	ND	ND
SVP-2	9/17/2008	<240	<3.8	<4.5	<5.2	<5.2	<4.3	ND	ND	ND
SVP-2 DUP ^c	9/17/2008	<230	<3.6	<4.3	<5.0	<5.0	<4.1	ND	ND	ND
SVP-2	1/17/2009	<9,400	<2.6	<3.1	<3.6	<14	<12	<19	25	<44
SVP-3	9/25/2007	300	<4.4	<5.2	<6.0	<6.0	<5.0	ND	ND	ND
SVP-3 DUP ^c	9/25/2007	<260	<4.1	<4.9	<5.6	<5.6	<4.6	ND	ND	ND
SVP-3	3/5/2008	<20,000	3.9	32	7.8	38	13	ND	ND	ND
SVP-3	5/20/2008	380	<3.9	<4.6	<5.4	<5.4	<4.4	ND	ND	ND
SVP-3	9/17/2008	<340	<5.4	<6.3	<7.3	<7.3	<6.1	ND	ND	ND
SVP-3	1/17/2009	<9,200	<2.6	<3.0	<3.5	<14	<12	<19	60	<43
SVP-4	9/25/2007	12,000	<3.9	13	6.3	31	<4.4	713	ND	ND
SVP-5	9/25/2007	70,000	<56	<66	<76	<76	<63	ND	ND	ND
SVP-5	3/5/2008	<17,000	<2.3	2.7	<3.1	<6.3	<10	ND	22.11	ND
SVP-5	9/17/2008	280,000	260	780	14,000	48,000	290	8,600 ^b	880 ^b	ND
SVP-5 (200 ml/min flow)	1/17/2009	<9,100	<2.5	<3.0	<3.4	<14	36	<19	<19	<43
SVP-5 (100 ml/min flow)	1/17/2009	<9,100	<2.5	<3.0	<3.4	<14	51	<19	<19	<43
SVP-5 DUP ^c (200 ml/min flow)	1/17/2009	<9,000	<2.5	<3.0	<3.4	<14	59	<19	<19	<42
Residential Land Use ESL^d:		10,000	84	63,000	980	21,000	9,400	---	---	---
Commercial/Industrial Land Use ESL^d:		29,000	280	180,000	3,300	58,000	31,000	---	---	---

TABLE 1

**SOIL VAPOR ANALYTICAL DATA
SHELL-BRANDED SERVICE STATION
1784 150TH AVENUE, SAN LEANDRO, CALIFORNIA**

Notes:

TPH_g = Total petroleum hydrocarbons as gasoline by modified EPA Method TO-3 GC/FID

Benzene, toluene, ethylbenzene and total xylenes by modified EPA Method TO-15 GC/FID Full Scan

MTBE = Methyl tertiary-butyl ether by modified EPA Method TO-15 GC/FID Full Scan

Butane, isobutane, and propane by modified EPA Method TO-15 GC/FID Full Scan

µg/m³ = Micrograms per cubic meter

ND = Not detected; no reporting limit provided.

--- = No applicable ESL

ESL = Environmental screening level

a = Compounds not listed in Regional Water Quality Control Board (RWQCB) ESLs; detected quantities estimated by laboratory for 2007 and 2008 samples.

b = The identification is based on presumptive evidence; estimated value

c = Field duplicate

d = San Francisco Bay RWQCB ESLs for shallow soil gas (Table E)