CONESTOGA-ROVERS & ASSOCIATES

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TRANSMITTAL

DATE: May 8, 2012

REFERENCE NO.: 240523

PROJECT NAME: 4212 First Street, Pleasanton

TO: Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RECEIVED
8:35 am, May 15, 2012
Alameda County
Environmental Health

Please find enclosed:
- ☐ Draft
- ☐ Originals
- ☐ Prints
- ☒ Final
- ☐ Other

Sent via:
- ☐ Mail
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- ☒ Other GeoTracker and Alameda County FTP

QUANTITY	DESCRIPTION
1	Subsurface Investigation Work Plan

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐

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

Copy to: Denis Brown, Shell Oil Products US (electronic copy)
Douglas E. & Mary M. Safreno (property owners), 1627 Vineyard Avenue, Pleasanton, CA 94566-6389
Danielle Stefani, Livermore-Pleasanton Fire Department, 3560 Nevada Street, Pleasanton, CA 94566-6267
Cheryl Dizon, Zone 7 Water Agency, 100 North Canyons Parkway, Livermore, CA 94551
Clint Mercer (lessee), SC Fuels, 1800 West Katella Avenue, Orange, CA 92867
Aaron O'Brien, Tamalpais Environmental Consultants (electronic copy)

Completed by: Peter Schaefer Signed:

Filing: **Correspondence File**

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

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

Re: Shell-branded Service Station
4212 First Street
Pleasanton, California
SAP Code 135782
Incident No. 98995840
ACEH Case No. RO0000360

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,

Denis L. Brown
Senior Program Manager

SUBSURFACE INVESTIGATION WORK PLAN

SHELL-BRANDED SERVICE STATION
4212 FIRST STREET
PLEASANTON, CALIFORNIA

SAP CODE	135782
INCIDENT NO.	98995840
AGENCY NO.	RO0000360

Prepared by:
Conestoga-Rovers & Associates

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

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MAY 8, 2012
REF. NO. 240523 (6)
This report is printed on recycled paper.

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(Following Text)

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this work plan on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to assess potential for soil vapor intrusion at the subject site as requested in Alameda County Environmental Health's (ACEH's) January 5, 2012 letter. Per CRA's April 11, 2012 telephone conversation with ACEH, the due date for this work plan was extended to May 9, 2012.

The subject site is an active Shell-branded Service Station located on the southeastern corner of the First Street and Vineyard Avenue intersection in a mixed residential and commercial area of Pleasanton, California (Figure 1). The site layout includes three current fuel underground storage tanks (USTs), a former fuel UST complex, two fuel dispenser islands, a former waste oil UST, and a station building (Figure 2).

A summary of previous work performed at the site and additional background information is contained in CRA's April 12, 2012 *Dual-Phase Extraction Pilot Test Work Plan* and is not repeated herein.

2.0 WORK TASKS

CRA proposes to install seven soil vapor probes on site at the locations shown on Figure 2. Specific tasks are described below.

2.1 PERMITS

CRA will obtain the appropriate permits to install the soil vapor probes from Zone 7 Water Agency.

2.2 HEALTH AND SAFETY PLAN (HASP)

CRA will prepare a HASP to protect site workers. The plan will be kept on site during field activities and will be reviewed and signed by each site worker.

2.3 UTILITY CLEARANCE

CRA will mark the proposed probe locations, and the locations will be cleared by Underground Service Alert and a private utility locator service prior to probe installation.

2.4 SOIL VAPOR PROBE INSTALLATION

CRA proposes to install seven soil vapor probes (SV-1 through SV-7) into the subsurface beneath the site at the locations shown on Figure 2.

Assuming the absence of subsurface obstructions, CRA will advance the soil borings to 5.5 feet below grade (fbg) using an air-knife rig. The soil vapor probes will be screened at 5 fbg.

A CRA geologist will supervise the installation and describe the encountered soils using the Unified Soil Classification System and Munsell Soil Color Charts. Soil cuttings will be field screened for organic vapors using a photo-ionization detector (PID). CRA will prepare a boring log for each soil vapor probe boring, and PID measurements will be recorded on the boring logs.

After the borings are advanced, fixed vapor-sampling points will be installed in each boring using ¼-inch diameter Teflon® tubing. Each point will use a 1-inch screen interval attached to the Teflon® tubing. To ensure the tubing does not curl or kink during installation, CRA will first straighten out each length of tubing prior to installation, and then use a small-diameter PVC guide pipe to hold the tubing in place within the boring while packing the annulus with sand. A clean, fine-grained silica sand filter pack will be installed approximately 6 inches below and above the sampling point (5 fbg), and the guide pipe will be lifted as the sand pack is installed to ensure the pack stabilizes the tubing within each boring. The annulus will then be sealed to the surface using hydrated granular bentonite, set atop a 1-foot base of dry granular bentonite. Each soil vapor probe will be completed at the surface using a traffic-rated well box at grade.

CRA will perform this work under the supervision of a professional geologist or engineer.

2.5 SOIL VAPOR PROBE SAMPLING

At least 2 weeks following probe installation, CRA will collect soil vapor samples from each sampling point. Sampling is affected by rain. CRA's standard procedure is to allow 2 days or more after a heavy rain event prior to collecting soil vapor samples.

CRA will sample all soil vapor probes (SV-1 through SV-7) using a vacuum pump and Tedlar® bags. Prior to sampling, CRA will purge at least three tubing volumes of air from the probes using a vacuum pump. Then CRA will attach a sealed "lung sampler" containing a 1-liter Tedlar® bag to the probe and attach the vacuum pump to the box. The vacuum pump will lower the pressure in the "lung sampler" and draw air from the probe into the Tedlar® bag. To avoid breakage, CRA will fill the bags no more than two-thirds full. Each sample will be labeled, entered onto a chain-of-custody, and placed into a protective box at room temperature for transport to a State of California-certified laboratory for analysis within 72 hours.

2.6 LEAK TESTING

To check the system for leaks, CRA will cover the soil gas probe surface casing and sampling equipment with a containment unit (or shroud). Prior to soil gas probe purging, CRA will introduce helium into the containment unit to obtain a minimum 50 percent (%) helium content level. CRA will confirm the helium content within the containment unit using a helium meter and will record the helium meter readings in our field notes. Helium will continue to be introduced to the containment unit during soil gas probe purging and sampling.

All samples will be analyzed in a laboratory for helium. In the event that a soil vapor sample contains a helium content of greater than 10% of the source concentration (i.e., 10% of the helium content measured within the containment unit), the soil gas sample will be considered invalid.

2.7 CHEMICAL ANALYSES

Vapor samples will be analyzed for total petroleum hydrocarbons as gasoline by EPA Method TO-3; for benzene, toluene, ethylbenzene, total xylenes, and methyl tertiary-butyl ether by EPA Method 8260B; and for oxygen and argon, carbon dioxide, methane, and helium by ASTM Method D1946 (M).

2.8 REPORT PREPARATION

Following receipt of analytical results from the laboratory, CRA will prepare a written report, which will include field procedures, tabulated analytical data, boring logs, and analytical laboratory reports.

3.0 SCHEDULE

CRA will implement the soil vapor probe installations upon receiving ACEH's written approval of this work plan and the drilling permits from Zone 7 Water Agency.

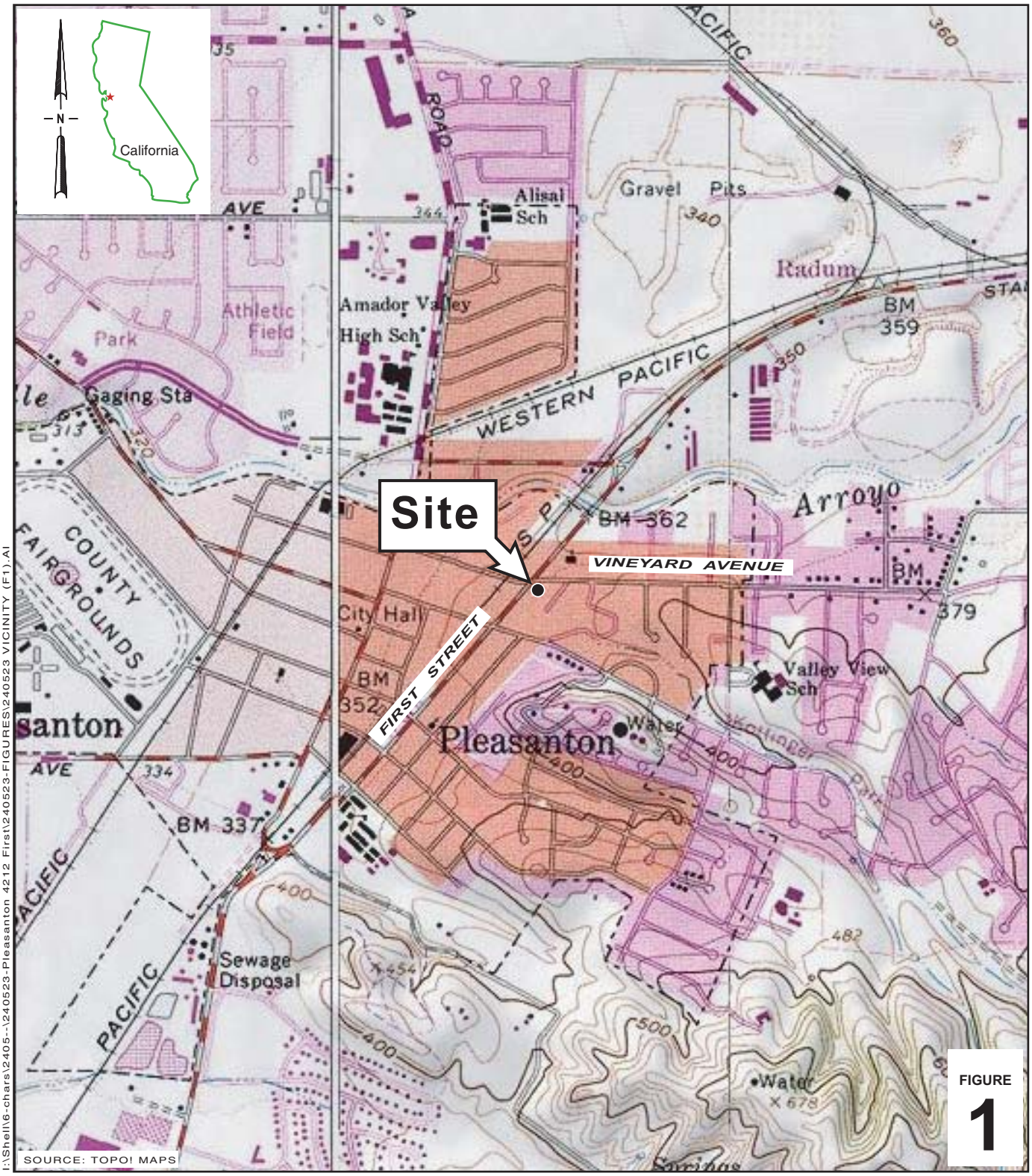
All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES

Peter Schaefer, CEG, CHG

Aubrey K. Cool, PG

FIGURES

01/18/2011



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0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

FIGURE 1

Shell-branded Service Station

4212 First Street

Pleasanton, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

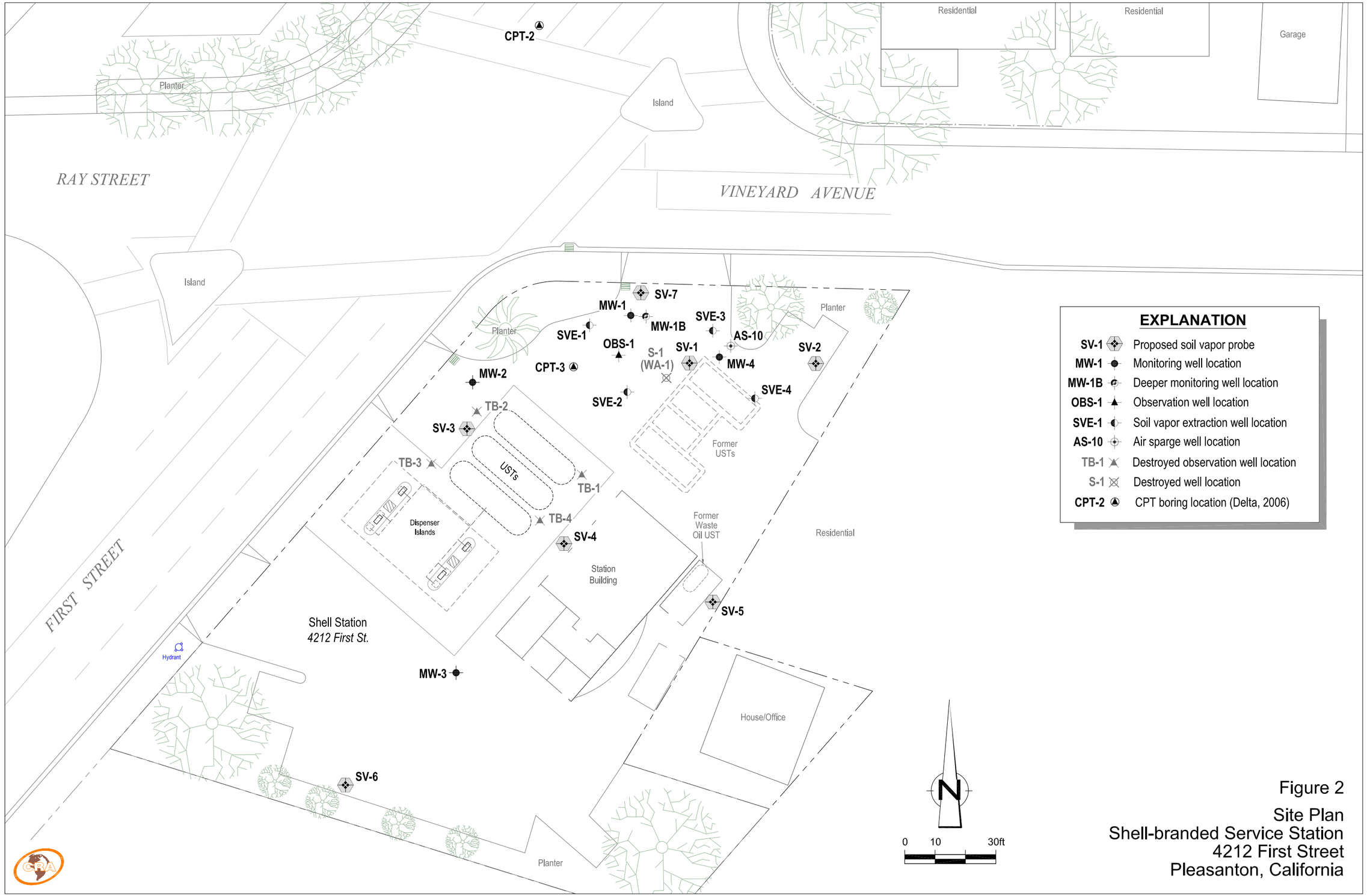

Figure 2

Site Plan
Shell-branded Service Station
4212 First Street
Pleasanton, California

I:\Shell\6-chars\2405--\240523-Pleasanton 4212 First\240523-FIGURES\240523 SITE PLAN (prop SVs.DWG (05/04/2012)