CONESTOGA-ROVERS & ASSOCIATES

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Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
www.CRAworld.com

TRANSMITTAL

DATE: April 9, 2013

REFERENCE NO.: 240366

PROJECT NAME: 999 San Pablo Avenue, Albany

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

RECEIVED
By Alameda County Environmental Health at 10:23 am, Apr 11, 2013

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 content of this document, please contact Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown, Shell Oil Products US, (electronic copy)
Gregg Biggs (property owner), 3640 Valley Road, Casper, WY 82604
Sam Anabi (lessee), CAR Enterprises, 1040 North Benson Avenue, Upland, CA 91786-2157
Larry Turner, CAR Enterprises (electronic copy)

Completed by: Peter Schaefer Signed: Peter Schaefer

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
999 San Pablo Avenue
Albany, California
SAP Code 135037
Incident No. 98995143
ACEH Case No. RO0000121

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
999 SAN PABLO AVENUE
ALBANY, CALIFORNIA

SAP CODE 135037
INCIDENT NO. 98995143
AGENCY NO. RO0000121

Prepared by:
Conestoga-Rovers & Associates

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APRIL 9, 2013
REF. NO. 240366 (13)
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LIST OF APPENDICES

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this work plan on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), as requested in Alameda County Environmental Health's (ACEH's) January 28, 2013 letter.

The site is an active Shell-branded service station located on the northeastern corner of San Pablo Avenue and Marin Avenue in a mixed commercial and residential area of Albany, California (Figure 1). The site layout includes a car wash and kiosk, two gasoline underground storage tanks, and two dispenser islands (Figure 2).

A summary of previous work performed at the site and additional background information is contained in Appendix A.

2.0 WORK TASKS

2.1 PERMITS

CRA will obtain a drilling permit from the Alameda County Public Works Agency (ACPWA) and an encroachment permit from the City of Albany.

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 drilling location, and the location will be cleared through Underground Service Alert and a private line locator service prior to drilling.

2.4 SUBSURFACE INVESTIGATION

To further investigate the horizontal extent of petroleum hydrocarbon and fuel oxygenate impact to groundwater southwest of the site, CRA will drill one exploratory soil boring (B-9) adjacent to University of California, Berkeley's Gill Tract property near the southwest corner of San Pablo Avenue and Marin Avenue (Figure 2).

The boring will be advanced using a Geoprobe® rig until groundwater is encountered. Based on the fourth quarter 2012 data, depth to water is likely between 6 and 11 feet below grade (fbg) in this area.

A CRA geologist will supervise the drilling and describe encountered soils using the Unified Soil Classification System and Munsell Soil Color Charts. After clearing the borings to 5 fbg with an air- or water-knife, soil samples will be collected continuously for soil description. Soil samples will be collected at 5-foot intervals, starting at 5 fbg, for possible chemical analyses and screening in the field for organic vapors using a photo-ionization detector (PID). Soil sample selection will be based on field observations, including PID readings and soil types. At least two soil samples and a grab groundwater sample will be submitted for analysis. CRA will prepare a boring log for the boring, and PID measurements will be recorded on the boring log.

Soil samples designated for chemical analyses will be retained in stainless-steel sample tubes, brass sample tubes, or plastic sleeves. If plastic sleeves are used, they will be cut into 6-inch lengths. The tubes or sleeves will be covered on both ends with Teflon® sheets and plastic end caps. CRA will collect a grab groundwater sample from the boring at first-encountered groundwater (estimated at 6 to 11 fbg). The grab groundwater sample will be collected using a Hydropunch® and a Teflon® bailer. The sample will be transferred into vials containing hydrochloric acid preservative with no headspace. Soil and grab groundwater samples will be labeled, entered onto a chain-of-custody record, and placed into a cooler with ice for transport to a State of California certified laboratory for analyses. CRA will request a standard 2-week turnaround time for laboratory results.

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

2.5 CHEMICAL ANALYSES

Selected soil samples and the grab groundwater sample will be analyzed for total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene, total xylenes, methyl-tertiary butyl ether, and tertiary-butyl alcohol using EPA Method 8260B.

2.6 REPORT PREPARATION

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

3.0 SCHEDULE

CRA will begin work upon receiving ACEH's written approval of this work plan, receiving the appropriate drilling permits from ACPWA, and receiving an encroachment permit from the City of Albany.

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

Peter Schaefer, CEG, CHG

Aubrey K. Cool, PG

FIGURES

01/28/10

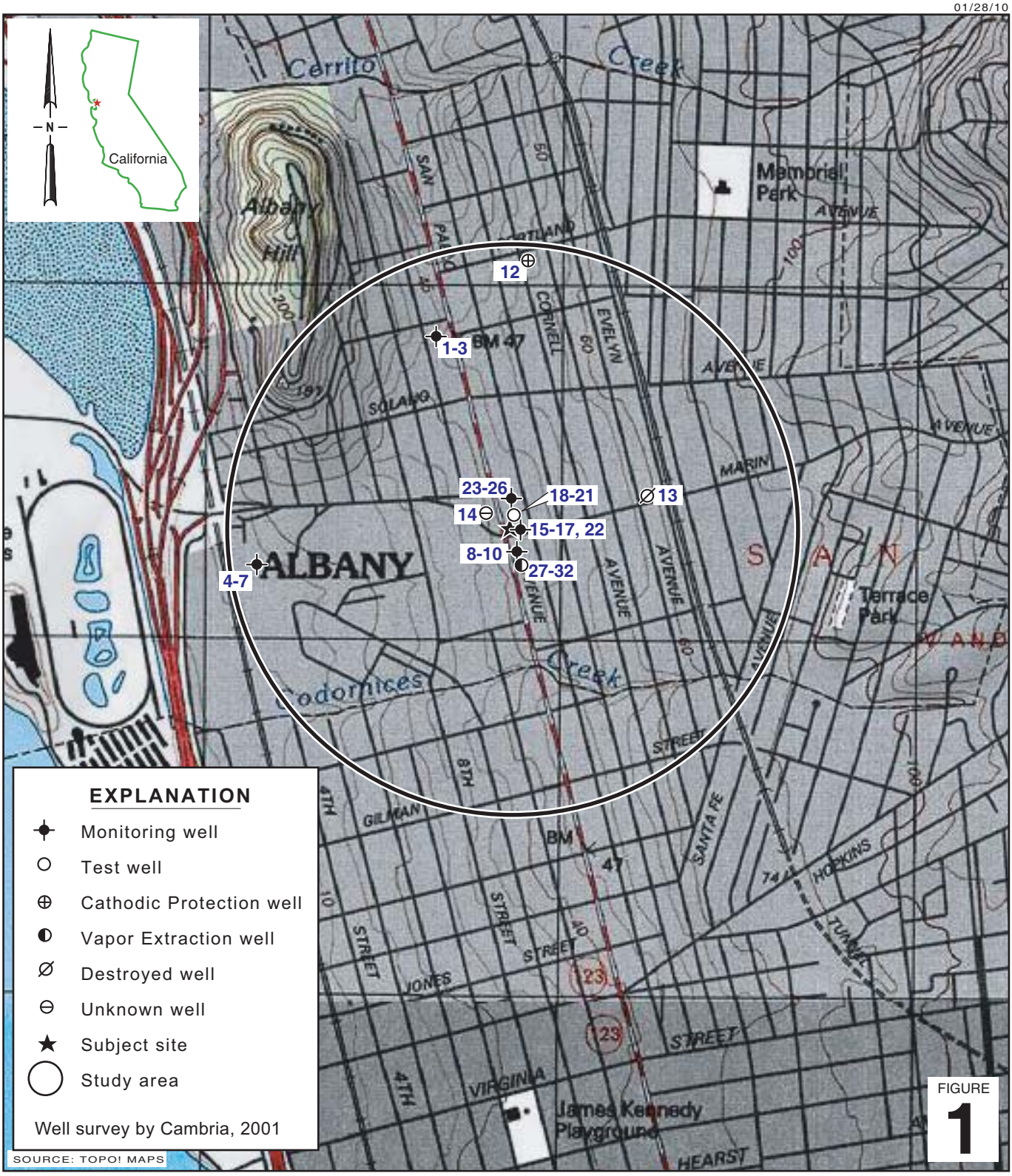

FIGURE
1

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SCALE (MILES)

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Shell-branded Service Station
999 San Pablo Avenue
Albany, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

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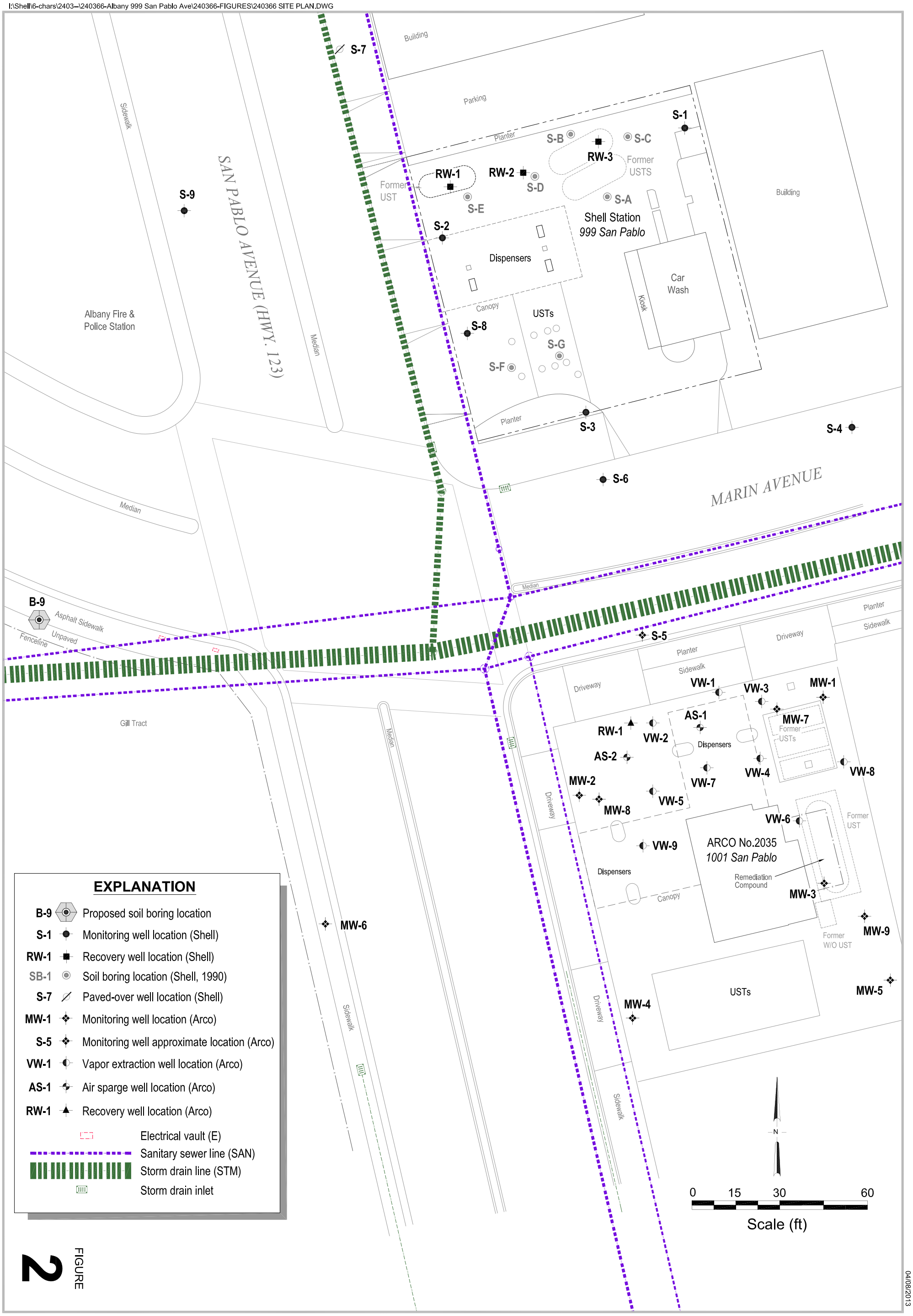

EXPLANATION

- B-9 — Proposed soil boring location
- S-1 — Monitoring well location (Shell)
- RW-1 — Recovery well location (Shell)
- SB-1 — Soil boring location (Shell, 1990)
- S-7 — Paved-over well location (Shell)
- MW-1 — Monitoring well location (Arco)
- S-5 — Monitoring well approximate location (Arco)
- VW-1 — Vapor extraction well location (Arco)
- AS-1 — Air sparge well location (Arco)
- RW-1 — Recovery well location (Arco)
- Electrical vault (E)
- Sanitary sewer line (SAN)
- Storm drain line (STM)
- Storm drain inlet

FIGURE 2

04/08/2013

Shell-branded Service Station
999 San Pablo Avenue
Albany, California

CONESTOGA-ROVERS & ASSOCIATES

Site Plan

APPENDIX A

SITE HISTORY

SITE HISTORY

1990 Subsurface Investigations: In January 1990, GeoStrategies Inc. (GSI) of Hayward, California drilled seven soil borings (S-A through S-G) and installed three groundwater monitoring wells (S-1 through S-3). Soil samples contained up to 1,900 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) and 9.8 mg/kg benzene. Results of this investigation are summarized in GSI's March 23, 1990 *Well Installation and Soil Boring Report.*

In April 1990, GSI installed two additional groundwater monitoring wells (S-4 and S-5). No TPHg or benzene was detected in soil samples from well boring S-4. Soil samples from well boring S-5 contained up to 130 mg/kg TPHg and 1.9 mg/kg benzene. In addition, S-5 contained 0.62 feet of separate phase hydrocarbons (SPHs). GSI's June 28, 1990 *Well Installation Report* presents these investigation results.

In August 1990, GSI installed two groundwater monitoring wells (S-6 and S-7). No TPHg or benzene was detected in soil samples from well boring S-7. Soil samples from well boring S-6 contained up to 770 mg/kg TPHg and 2.2 mg/kg benzene. GSI's October 10, 1990 *Well Installation Report* provides well installation details.

1996 Subsurface Investigation: In July 1996, Weiss Associates (WA) drilled eight soil borings (B1 through B8) in preparation for relocating the underground storage tank (UST) complex. Soil samples collected from the borings contained up to 280 mg/kg TPHg and 0.62 mg/kg benzene. Cambria Environmental Technology, Inc.'s (Cambria's) October 3, 1997 *Underground Storage Tank Removal and Soil Sampling Report* provides investigation details.

1996 UST Removal: In October 1996, Paradiso Mechanical (Paradiso) of San Leandro, California removed three USTs, five product dispensers, and associated product piping. Cambria collected 12 soil samples from the UST excavation and 11 soil samples from beneath the product dispensers, vent lines, and product lines. Soil samples from beneath the former fuel system contained up to 1,900 mg/kg TPHg, 44 mg/kg benzene, and 30 mg/kg methyl tertiary-butyl ether (MTBE). Cambria also collected 22 soil samples from the new UST excavation which contained up to 1,500 mg/kg TPHg, 0.32 mg/kg benzene, and 8.9 mg/kg MTBE. In addition, three backfill wells (RW-1, RW-2 and RW-3) were installed in the former UST excavation for potential use as remediation wells in the future. Approximately 672 tons of soil were transported off site for disposal during the UST removal activities. Investigation results are summarized in Cambria's October 3, 1997 *Underground Storage Tank Removal and Soil Sampling Report.*

2000 Sensitive Receptor Survey (SRS) and Preferential Pathway Analysis: In January 2000, Cambria conducted an SRS which identified Village Creek, located 400 feet south (cross gradient) of the site as the closest surface water body. Cambria reviewed City of Albany engineering maps and identified a sanitary sewer and storm drain along the east side of San Pablo Avenue and on the south side of Marin Avenue which could potential intercept groundwater. Cambria stated that there was a potential for groundwater migration within the utility trenches; however, impact to sensitive receptors is unlikely due to the distance from the source area to the discharge area of the sanitary sewer and storm drain systems. Cambria's February 3, 2000 *Letter Response and Work Plan* provides SRS and preferential pathway analysis details.

2001 Well Survey: In July 2001, Cambria conducted a one-half-mile radius California Department of Water Resources well-record survey to locate water-producing wells. The survey did not identify any water-producing wells within a one-half-mile radius of the site. Cambia's July 31, 2001 *Second Quarter 2001 Monitoring and Well Survey Report* presents the well survey results.

2004 Subsurface Investigation: In May 2004, Cambria installed two groundwater monitoring wells (S-8 and S-9). No TPHg, benzene, or MTBE was detected in soil samples from well boring S-9. Soil samples from well boring S-8 contained up to 6.1 mg/kg TPHg and 0.10 mg/kg MTBE. No benzene was detected in soil samples collected from well boring S-8. Cambria's July 23, 2004 *Site Investigation Report/Second Quarter 2004 Groundwater Monitoring Report* provides well installation details.

2007 Dispenser Upgrades: In December 2007, Paradiso upgraded under-dispenser containment on three dispensers. Conestoga-Rovers & Associates (CRA) collected six soil samples from beneath the dispensers which contained up to 1,200 mg/kg TPHg, 0.063 mg/kg benzene, and 0.31 mg/kg MTBE. The west dispenser was over-excavated, and approximately 20 tons of soil were transported off site for disposal. CRA's April 10, 2008 *Dispenser Replacement Soil Sampling Report* details these activities.

Groundwater Monitoring and SPH Removal: Groundwater monitoring has been conducted since 1991. Groundwater monitoring is currently coordinated with ARCO station No. 2035, located to the south across Marin Avenue. Up to 6.48 feet of SPHs have been observed in well S-5, and wells S-2 and S-8 have also contained SPHs. No SPHs have been measured since August 2011. Since May 1990, approximately 19.3 pounds of SPHs have been removed by hand bailing and with SPH-absorbent canisters. Groundwater flow direction is generally westerly.