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November 4, 2011

Mr. Paresh Khatri
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Freedom Gas and Food (Formerly Freedom ARCO Mini-Mart)
Site Address: 15101 Freedom Avenue, San Leandro, California
STID 4473/RO0000473

Dear Mr. Khatri:

SOMA's "Soil and Water Investigation Summary and Site Evaluation Workplan" for the subject property has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 734-6400, if you have questions or comments.

Sincerely,

Mansour Sepehr, Ph.D.,PE
Principal Hydrogeologist

cc: Mr. Mohammad Pazdel w/enclosure

Soil and Water Investigation Summary and Site Evaluation Workplan

Freedom Gas and Food
15101 Freedom Avenue
San Leandro, California

November 4, 2011

Project 2550

Prepared for

Mohammad Pazdel
1770 Pistacia Court
Fairfield, California

SOMA ENVIRONMENTAL ENGINEERING, INC.
6620 Owens Drive Suite A Pleasanton CA 94588 Ph: 925.734.6400 F: 925.734-6401 www.somaenv.com

PERJURY STATEMENT

Site Location: 15101 Freedom Avenue, San Leandro, California

"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".

M. R. Pazdel

Mohammad Pazdel
1770 Pistacia Court
Fairfield, California 94533
Responsible Party

CERTIFICATION

SOMA Environmental Engineering, Inc. submits this workplan on behalf of Mr. Mohammad Pazdel, owner of the property located at 15101 Freedom Avenue, San Leandro, California. This workplan has been prepared pursuant to the request of Alameda County Health Care Services – Environmental Health Services contained in correspondence dated September 21, 2011.

Mansour Sepehr, PhD, PE
Principal Hydrogeologist

TABLE OF CONTENTS

CERTIFICATION i
TABLE OF CONTENTS ii
LIST OF TABLES ii
LIST OF FIGURES ii
LIST OF APPENDICES iii
1. INTRODUCTION 1
1.1 Overview 1
1.2 Site Location and Description 1
2. SCOPE OF WORK 1
2.1 Evaluation of Well MW-6 with Respect to Existing Site Geology 2
2.2 Evaluation of Well MW-6 with Respect to Existing Contamination 3
2.3 Projected Radius of Influence Evaluation 4
2.4 Proposed Aquifer Test and Modeling 5
2.5 Work Schedule 6

LIST OF TABLES

Table 1: Grab Groundwater Analytical Results

Table 2: Historical Groundwater Elevation Data and Analytical Results

LIST OF FIGURES

Figure 1: Site Vicinity Map

Figure 2: Site Map Showing Locations of USTs, Fuel Dispensers, Soil Borings, and Groundwater Monitoring Wells and Off-Site Soil Borings

Figure 3: Site Map Showing Location of Geologic Cross-Section

Figure 4: Geologic Cross-Section AA'

Figure 5: Contour Map Showing TPH-g Concentrations in Groundwater showing the existing (averaged) groundwater elevation

Figure 5A: Contour Map Showing TPH-g Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at MW-6

Figure 5B: Contour Map Showing TPH-g Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at MW-6 and potential well EX-3

Figure 5C: Contour Map Showing TPH-g Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at EX wells only

Figure 6: Contour Map Showing Benzene Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at MW-6

Figure 7: Contour Map Showing MtBE Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at MW-6

LIST OF APPENDICES

Appendix A: Previous Activities

Appendix B: Historical Boring Logs and Geologic Cross-Sections

1. INTRODUCTION

1.1 Overview

SOMA Environmental Engineering, Inc. (SOMA) has prepared this workplan for the site located at 15101 Freedom Avenue, San Leandro, California. Alameda County Health Care Services – Environmental Health Services (ACHCS) requested a workplan for evaluating a possible groundwater treatment system extension into the vicinity of well MW-6, in correspondence of September 21, 2011 to Mr. Mohammad Pazdel, the responsible party.

SOMA's proposal, documented in the soil and groundwater investigation report dated August 25, 2011, suggested connecting existing monitoring well MW-6 to the on-site groundwater extraction and treatment system. This proposed expansion was recommended in response to an evident need to remediate significantly impacted groundwater remaining in the downgradient area of the site. This impacted area appears to be at least partially outside of the capture zone of the on-site treatment system. Therefore, this workplan evaluates construction of well MW-6 and its probable radius of influence (under pumping conditions), discusses alternatives for the treatment system expansion, and presents SOMA's conclusions and recommendations.

1.2 Site Location and Description

The site is located at the foot of the San Leandro Hills, along the west side of San Leandro Valley (Figure 1). It is bounded on the north by Freedom Avenue, on the east by Fairmont Avenue, on the south by residential properties and on the west by 151st Avenue. It currently operates as a Texaco gasoline service station with mini-mart, and retails Texaco-branded gasoline and diesel fuel. No automotive repair facility is on the site. There are three canopied product dispenser islands and three underground storage tanks (USTs) on-site: one 6,000-gallon diesel UST, one 8,000-gallon gasoline UST, and one 10,000-gallon gasoline UST. Figure 2 illustrates site features.

The site has operated as a gasoline service station since the 1960s. Mr. Pazdel, the responsible party, sold the property to Farrokh Hosseinyoun in 2010. Mr. Hosseinyoun subsequently sold the property to Mohammad Mashhoon in 2010. The station currently operates under the business name Freedom Gas and Food (formerly Freedom ARCO Mini-Mart). Previous site activities are summarized in Appendix A.

2. SCOPE OF WORK

The scope of work includes the following:

1. Evaluation of well MW-6 with respect to existing site geology
2. Evaluation of well MW-6 with respect to existing site contamination

3. Projected radius of influence evaluation
4. Conclusions and recommendations

2.1 Evaluation of Well MW-6 with Respect to Existing Site Geology

Historical cone penetrometer test (CPT) and membrane interface probe (MIP) investigation identified two main water-bearing zones (WBZs) within the depths explored by CPT (up to 60 feet bgs). These two zones were designated the First and Second WBZs. Based on CPT data, both WBZs appear to be laterally continuous and separated by a laterally continuous aquitard.

Based on the most recent off-site soil and groundwater investigation, conducted in 2011, the First WBZ in the downgradient areas occurs as an approximately 4- to 20-foot-thick interbedded sequence of sand, clayey sand to sandy clay, silty sand to sandy silt, and silt to clayey silt clay from approximately 5 to 30 feet below ground surface (bgs). All existing groundwater monitoring and extraction wells in this off-site area are completed within the First WBZ. The location of geologic cross section AA' is shown in Figure 3, and geological cross-section AA' is shown in Figure 4. The reported groundwater flow direction in the First WBZ is toward the south/southwest. From approximately 40 to 50 feet bgs, the Second WBZ occurs as an approximately 5- to at least 35-foot-thick interbedded sequence of the same lithologic type as seen in the First WBZ. The off-site boring investigation of 2011 did not explore depths beyond 30 feet bgs. The following table shows construction details for existing groundwater monitoring/extraction wells installed at the site and its downgradient areas.

Well ID	Diameter	Screen Intervals
FIRST WBZ		
MW-1	4"	13'-30'
MW-2	4"	13'-30'
MW-3	4"	13'-30'
MW-4	4"	13'-30'
MW-5	4"	13'-30'
MW-6	4"	12'-28'
MW-7	2"	16'-20.5'
EX-1	4"	15'-30'
EX-2	4"	15'-30'
MPE-1	4"	15'-30'
MPE-2	4"	15'-30'
SECOND WBZ		
MW-1D	2"	45'-60'
MW-3D	2"	45'-60'
MW-4D	2"	40'-60'

During installation of well MW-6, groundwater was encountered at 20 feet bgs and later stabilized to 16 feet bgs. In wells EX-1 and EX-2, groundwater was encountered at 23 to 26 feet bgs and stabilized around 17 feet bgs. Based on the fact that groundwater levels stabilized at higher elevations than where encountered, it is possible that artesian conditions are likely present in the vicinity of these wells. Therefore, it could be said that First WBZ exhibits confined to semi-confined characteristics. Also, it appears that the First WBZ is less confined near well MW-6 and more confined near well EX-1.

As seen from the table above and Figure 4 (geological cross-section AA'), all three wells (EX-1, EX-2 and MW-6) are screened in a similar manner. Historical boring logs and geologic cross sections are included in Appendix B. Well MW-6 was screened through some of the shallow sands, which were saturated at the time of its installation. These shallow sands were also targeted for screening during installation of wells EX-1 and EX-2; however, they did not show presence of groundwater. Also, during installation of well MW-6, the encountered lithology exhibited coarser composition than for wells EX-1 and EX-2. This coarser lithology at well MW-6 and the observed larger zone of saturated deposits could indicate that the well has more potential to be groundwater-producing, and that if pumped will create a larger capture zone and than those observed in wells EX-1 and EX-2.

2.2 Evaluation of Well MW-6 with Respect to Existing Contamination

Results of recent soil and groundwater investigation and groundwater monitoring at the site indicate that significant groundwater contamination still exists downgradient of the site. Soil contamination did not exhibit the same level of significance.

Table 1 presents analysis results for the current and historical groundwater monitoring events of the following: total petroleum hydrocarbons as gasoline (TPH-g); benzene, toluene, ethylbenzene and xylenes (collectively termed BTEX); and methyl tertiary-butyl ether (MtBE). During the latest groundwater monitoring event (September 2011), TPH-g concentrations ranged from 110 µg/L in EX-1 to 62,000 µg/L in MPE-1. Figure 5 displays a contour map of TPH-g concentrations in groundwater. High TPH-g concentrations were observed in the vicinity of the dispenser islands and former USTs around MPE-2 and off-site well MW-6. The following chemical concentrations were observed in MW-6 during the most recent monitoring event:

- TPH-g at 23,000 µg/L
- Benzene at 28 µg/L
- MtBE at 3.4 µg/L

Figures 6 and 7 display contour maps of benzene and MtBE concentrations in groundwater.

Results of the most recent off-site investigation (Table 1) show TPH-g concentrations in advanced soil borings ranging from 1,500 µg/L (DP-3) to 84,000 µg/L (DP-1). Maximum benzene was detected in DP-5 at 290 µg/L. Maximum MtBE and tertiary-butyl ether (TBA) were detected in DP-3 at 150 µg/L and 40 µg/L, respectively. These relatively high levels of contaminants of concern (COCs) indicate that impacted groundwater still exists in the area of MW-6. As indicated by relatively low COC levels in groundwater extraction wells EX-1 and EX-2 (Table 2), the existing groundwater treatment system is effectively controlling the petroleum hydrocarbon plume as well as reducing COCs in groundwater. Grab groundwater sampling indicates that elevated COCs are found near, and downgradient of, MW-6. No free product was noted during boring advancement.

2.3 Projected Radius of Influence Evaluation

In order to determine whether pumping from well MW-6 would create a sizable capture zone necessary for control of the off-site contaminant plume, SOMA evaluated historical groundwater elevations at the site. In order to account for any seasonal groundwater fluctuations, two-year average values for groundwater elevations at the site were utilized in this assessment. Figure 5 shows the contour map of TPH-g concentrations along with the average groundwater elevations (12/2/2009 - present). As seen from this figure, although pumping at wells EX-1 and EX-2 creates a sizable capture zone, it is not sufficient to capture the current plume in its entirety or to prevent it from migrating farther to downgradient areas. Figure 5A shows the TPH-g contour map along with projected drawdown during hypothetical pumping at MW-6; during this evaluation an assumption was made that due to similarity in lithologies, a drawdown similar to that reported in well EX-2, could be achieved in well MW-6. As seen from Figure 5A, an increased capture zone could be created if well MW-6 is added into the existing treatment system, however this increased capture zone will not recall groundwater contamination already migrated to the area of boring DP-5.

Figure 5B shows the TPH-g contour map and hypothetical drawdown for well MW-6 and an optional extraction well EX-3, installed near boring DP-5. During this evaluation, a similar assumption was made that due to similarities in lithologies and groundwater levels (observed and stabilized) in well MW-6 and boring DP-5, a drawdown similar to that reported in well EX-2, could also be achieved in well EX-3. As seen from this figure, much more effective plume control can be expected when all four extraction wells (existing EX-1 and EX-2 and hypothetical extraction well MW-6 and EX-3) are in operation.

Figure 5C illustrates projected pumping conditions from wells EX-1 through EX-3 only, excluding well MW-6. As seen from this figure, these pumping conditions resemble those shown in Figure 5B, except that configuration depicted in Figure 5B produce a wider and more inclusive capture zone in the vicinity of well MW-6 and hypothetical well EX-3.

It should be noted that no hydrogeological modeling was conducted during this evaluation; therefore, impact on the First WBZ of increased collective pumping from additional extraction wells was not evaluated at this time. Additional assumptions utilized in this evaluation are disclosed elsewhere in this report.

Based on above findings, the connection of well MW-6 into the existing treatment system will likely be effective in enlarging the existing capture zone and will be more economical than installation of an additional well (EX-3) and its connection via underground piping across 152nd Avenue and to the existing on-site treatment system.

Installation of additional well EX-3 at DP-5 boring location could facilitate at least partial retrieval and future control of the existing site plume that migrated past the zone of projected influence of the existing treatment system. Based on preliminary inquiries to Alameda County Public Works, a plan for street closure during utility trenching and piping installation must be submitted for review before determination of whether such activity will be approved by the agency.

2.4 Proposed Aquifer Test and Modeling

Although above evaluation indicated that pumping from well MW-6 may create an effective capture zone, this conclusion was based on assumptions that under pumping conditions MW-6 will exhibit similar response as EX-2. Therefore, in order to verify these assumptions and fine-tune the projected impact of converting MW-6 into an extraction well on the First WBZ, SOMA proposes conducting a field aquifer testing and numerical modeling. Aquifer testing results will be utilized to evaluate the hydraulic conductivity/ transmissivity of First WBZ.

SOMA will conduct the proposed aquifer pump test using MW-6 as the pumping well, and wells EX-1, EX-2, and MW-7 as observation wells. Groundwater pumped from MW-6 will be conveyed to the on-site groundwater treatment system for treatment and disposal. Well locations are illustrated on Figure 2.

Prior to conducting the proposed test, SOMA will turn the existing pump-and-treat system off and allow wells to recover. The well recovery data will ve recorded in order to estimate the hydraulic conductivity of the First WBZ around EX-1. Once recovered, ambient water level elevations in all surrounding wells will be recorded. Then the system will be turned on and water level elevation data recorded. This pre-test data will be utilized in calibration and verification of calibration of the proposed groundwater flow modeling.

The proposed aquifer test will consist of a step drawdown and constant rate discharge tests. The step drawdown test will be conducted on MW-6 in order to define the optimum pumping rate for the constant rate test. During step drawdown test, the well will be pumped at successively greater discharge rates for relatively short periods. The observed drawdown and discharge rates at the end of each pumping period will be measured and recorded. Well MW-6 will be

allowed to recover for at least one hour prior to starting the next step of increased pumping rate (for example, 1 gpm, 1.5 gpm, 2 gpm, etc.) Upon completion of the step draw-down test, an optimum pumping rate will be chosen for the constant rate test based on the drawdown achieved by the step drawdown testing. Prior to starting the constant-rate test, well MW-6 will be allowed to recover.

The constant discharge test will be terminated if the water becomes drawn down below the top of the submersible pump motor. Drawdowns in observation wells will be measured. A recovery period of 1 hour will follow once the pump has been turned off. Water levels in MW-6 and its respective observation wells will be recorded during the recovery. Field notes and water level drawdown and recovery measurements taken during the step drawdown and constant rate test, and will be used to evaluate aquifer parameters (hydraulic conductivity, transmissivity, and storativity).

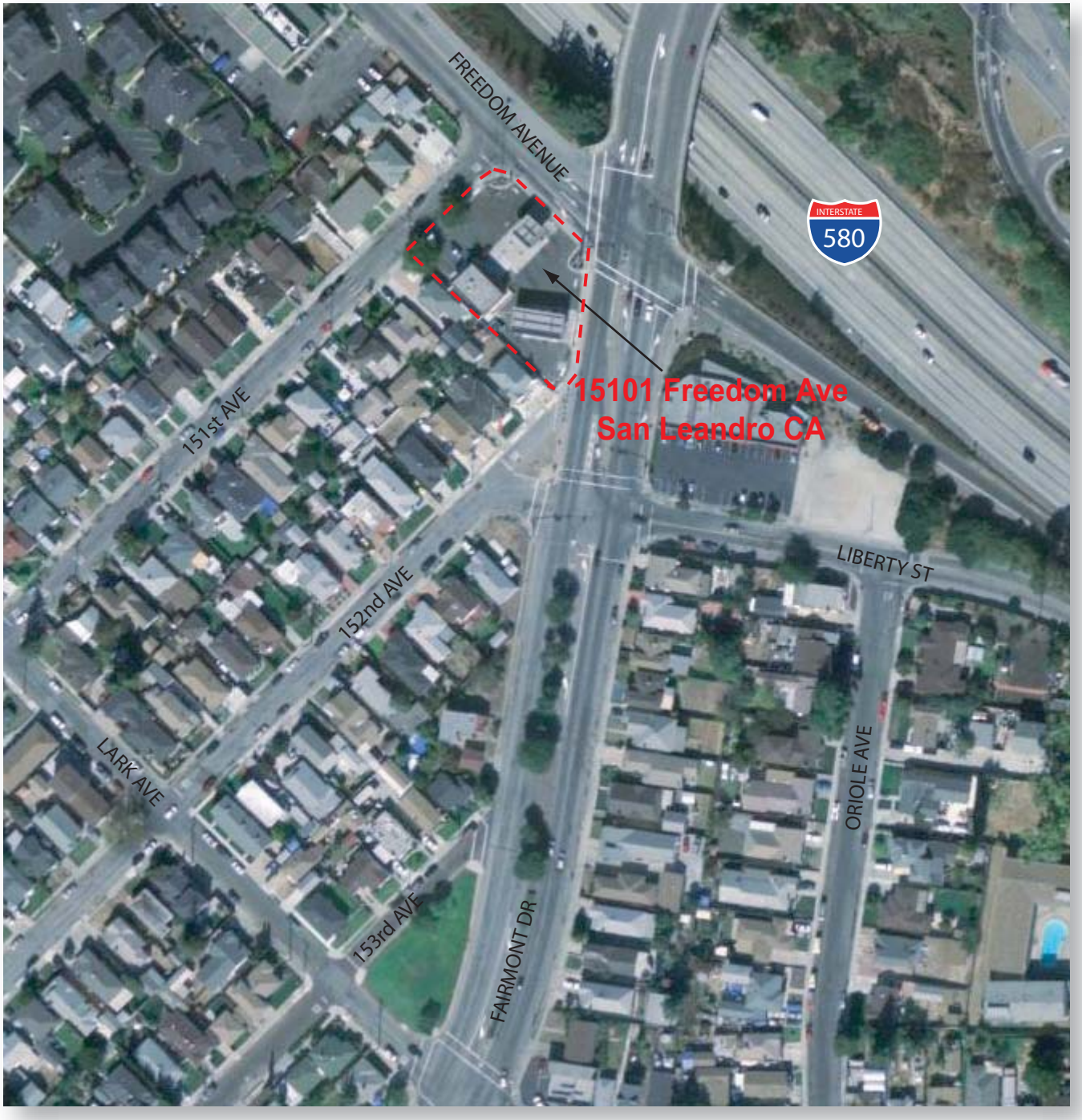
Groundwater flow modeling will be conducted to evaluate the groundwater flow condition and to design an effective extension of groundwater extraction system at the site. During groundwater flow modeling, SOMA will utilize a USGS Modular Three Dimensional Groundwater Flow Model (MODFLOW). Groundwater flow modeling will be used to determine the groundwater extraction rate for evaluating an effective expansion for existing groundwater capture zone. The simulated groundwater extraction rate and capture zone will be used to evaluate the cost of extending the treatment system and evaluating effective capture zone and extraction well placements.

Before a final determination regarding feasibility and cost effectiveness of connecting well MW-6 or the installation of additional well EX-3, SOMA will submit a formal inquiry to Alameda County Public Works and obtain a conditional preapproval of the proposed utility trenching work across the 152nd avenue. If and when such approval is granted, or indication is given that such approval is imminent, SOMA will prepare a cost analysis for the two possible treatment system configurations. The first will address conversion of well MW-6 into a pumping well; the second will address necessary permitting and installation labor of the new well EX-3 in the vicinity of boring DP-5, and cost for subsequent trenching.

2.5 Work Schedule

This workplan will be implemented upon receipt of written authorization from ACHCS. SOMA anticipates that the scope of work described in this workplan will be completed within 6 weeks, under normal conditions, from the date of obtaining necessary approvals and authorizations from the regulatory agency and UST Fund. Field activities will be scheduled according to availability of necessary equipment and personnel.

FIGURES



N

approximate scale in feet

0 150 300

Figure 1: Site vicinity map.

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

MW-1

SB-4

DISPENSER ISLANDS

Former USTs

SB-1

MW-2

MW-3D

MW-3

SB-2

SB-3

MPE-2

Existing USTs

STATION BUILDING

151 st AVENUE

MW-4

DISPENSER ISLANDS

SB-5

MW-4D

MPE-1

MW-5

RESIDENTIAL AREA

rail

EX-1

~19'

DP-1

EX-2

MW-6

DP-2

DP-3

~5.5'

DP-4

DP-5

parking lane

152 nd AVENUE

parking lane

TWB-2

LIBERTY ST

MW-7

TWB-5

MW-9

parking lane

MW-8

RESIDENTIAL AREA

TWB-3

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole Drilled by SOMA September 2003

approximate scale in feet

0 50 100

Figure 2: Site Map Showing Locations of USTs, Fuel Dispensers, Soil Borings, and Groundwater Monitoring Wells and Off-Site Soil Borings

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

MW-1

SB-4

DISPENSER ISLANDS

Former USTs

SB-1

MW-2

MW-3D

MW-3

SB-2

SB-3

MPE-2

Existing USTs

STATION BUILDING

151 st AVENUE

MW-4

DISPENSER ISLANDS

SB-5

MW-4D

MPE-1

MW-5

RESIDENTIAL AREA

A'

rail

EX-1

~19'

DP-1

EX-2

MW-6

DP-2

DP-3

~5.5'

DP-4

parking lane

152 nd AVENUE

parking lane

DP-5

A

TWB-2

LIBERTY ST

MW-7

TWB-5

MW-9

parking lane

MW-8

RESIDENTIAL AREA

TWB-3

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole
Drilled by SOMA September 2003

approximate scale in feet

0 50 100

Figure 3: Site Map Showing Location of Geologic Cross-Section

SOMA ENVIRONMENTAL ENGINEERING, INC.

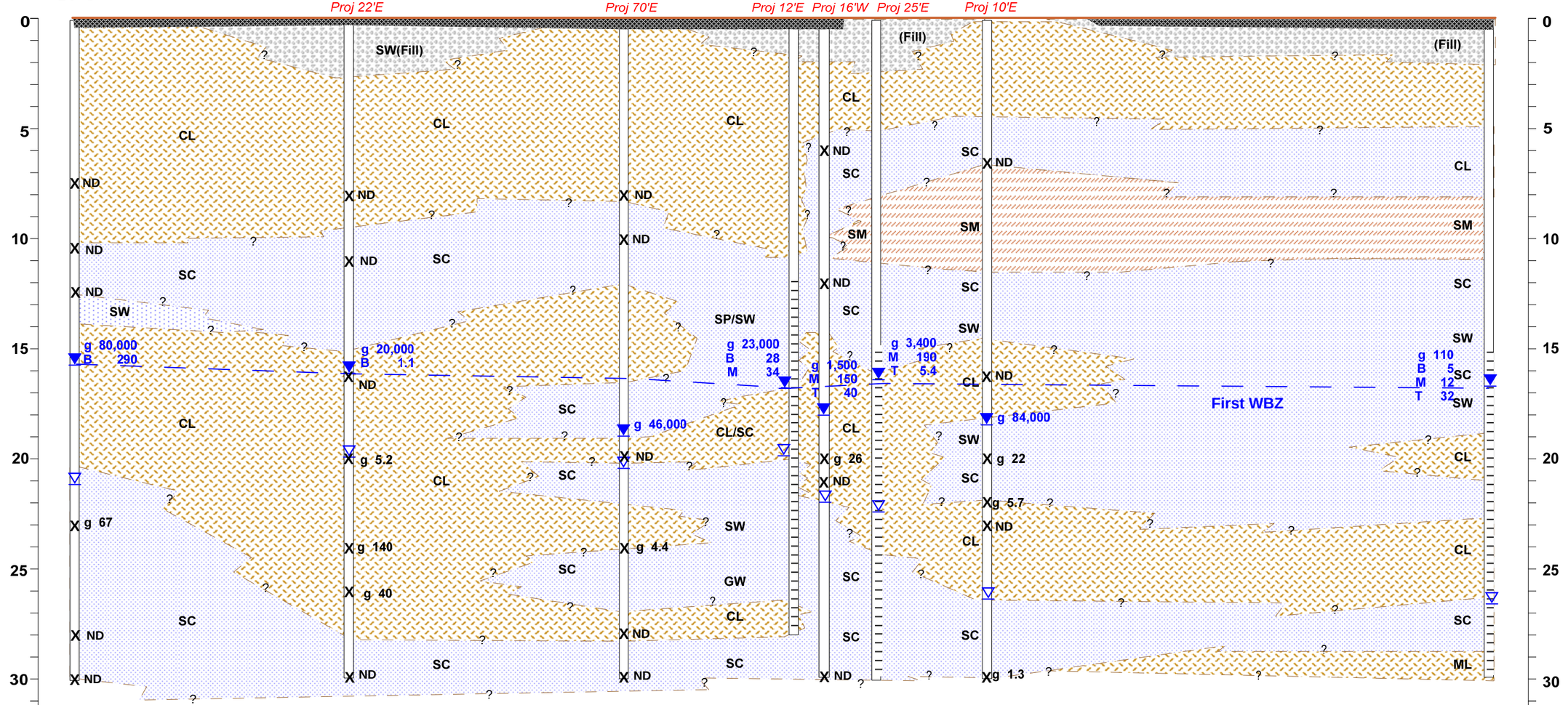
A

N 7.5°E

approximate GW flow direction

A'

DP-5 | DP-4 Proj 22'E | DP-2 Proj 70'E | MW-6 Proj 12'E | DP-3 Proj 16'W | EX-2 Proj 25'E | DP-1 Proj 10'E | EX-1



EXPLANATION

- Groundwater encountered during well borehole drilling
- Groundwater encountered during First Quarter 2008
- Monitoring well screen interval
- ? Inferred contact

Fill material

GW - Groundwater (ug/L)

Soil (ug/kg)

- g - TPH-g
- B - Benzene
- M - MtBE
- T - TBA

Unified Soil Classification System

CL	Sandy Clay / Silty Clay
SP	Sand, Poorly Graded
SW	Sand, Well Graded
GW	Gravel, Well Graded
ML	Sandy Silt
SM	Silty Sand
SC	Clayey Sand

Figure 4: Geologic Cross-Section AA'

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

31.63

MW-1

9,500

SB-4

0

DISPENSER ISLANDS

Former USTs

SB-1

31.53

MW-2

310

MW-3D

SB-2

SB-3

MW-3

12,000

31.5

MPE-2

46,000

31.34

Existing USTs

STATION BUILDING

30.95

151 st AVENUE

31.34

MW-4

1,800

DISPENSER ISLANDS

SB-5

MW-4D

31.14

MPE-1

49,000

31.18

MW-5

3,000

30.2

30.95

RESIDENTIAL AREA

rail

30.19

EX-1

30.2

29.45

40,000

DP-1

84,000

28.68

EX-2

7,500

MW-6

14,000

29.93

DP-2

46,000

DP-3

1,500

DP-4

20,000

parking lane

152 nd AVENUE

DP-5

80,000

TWB-2

30.73

MW-7

810

LIBERTY ST

TPH-g ug/L

80,000

72,000

64,000

56,000

48,000

40,000

32,000

24,000

16,000

8,000

0

TWB-5

MW-9

28.73

MW-8

28.94

RESIDENTIAL AREA

TWB-3

0.00 Averaged Groundwater Elevation (ft)

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole Drilled by SOMA September 2003

< Less than laboratory reporting limit

Note: Concentrations from May 2011 through Sept 2011 sampling events

approximate scale in feet

0 50 100

Figure 5: Contour Map Showing TPH-g Concentrations in Groundwater showing the existing (averaged) groundwater elevation

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

31.63

MW-1

6,400

SB-4

0

DISPENSER ISLANDS

31.6

Former USTs

SB-1

31.53

MW-2

1,000

MW-3D

SB-2

SB-3

MW-3

MPE-2

37,000

31.5

31.34

Existing USTs

STATION BUILDING

30.85

31.34

MW-4

3,600

DISPENSER ISLANDS

SB-5

151 st AVENUE

MW-4D

31.14

MPE-1

62,000

31.18

MW-5

4,200

30.85

30.1

RESIDENTIAL AREA

rail

30.19

EX-1

110

30.1

29.35

40,000

DP-1

84,000

28.68

3,400

EX-2

MW-6

23,000

28.68

DP-2

46,000

DP-3

1,500

DP-4

20,000

parking lane

parking lane

152 nd AVENUE

DP-5

80,000

TWB-2

30.73

MW-7

1,000

LIBERTY ST

TPH-g
ug/L

80,000
72,000
64,000
56,000
48,000
40,000
32,000
24,000
16,000
8,000
0

TWB-5

MW-9

28.73

MW-8

28.94

RESIDENTIAL AREA

TWB-3

0.00 Averaged Groundwater Elevation (ft)

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole Drilled by SOMA September 2003

< Less than laboratory reporting limit

Note: Concentrations from May 2011 through Sept 2011 sampling events

approximate scale in feet

0 50 100

Figure 5A: Contour Map Showing TPH-g Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at MW-6

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

31.63

MW-1
9,500

SB-4

0

DISPENSER ISLANDS

Former USTs

SB-1

31.53

MW-2
310

MW-3D

SB-2

SB-3

31.4

MW-3
12,000

MPE-2
46,000

31.5

31.34

Existing USTs

STATION BUILDING

31.34

MW-4
1,800

DISPENSER ISLANDS

SB-5

151 st AVENUE

30.65

MW-4D

31.14

MPE-1
49,000

31.18

MW-5
3,000

RESIDENTIAL AREA

29.9

rail

30.19

EX-1
370

40000

DP-1
84,000

28.68

7,500

EX-2

MW-6
14,000

28.68

DP-2
46,000

DP-3
1,500

29.15

DP-4
20,000

28.68

EX-3

DP-5
80,000

TWB-2

30.73

MW-7
810

LIBERTY ST

parking lane

152 nd AVENUE

TWB-5

MW-9

28.73

MW-8

28.94

RESIDENTIAL AREA

TWB-3

TPH-g
ug/L

80,000
72,000
64,000
56,000
48,000
40,000
32,000
24,000
16,000
8,000
0

0.00 Averaged Groundwater Elevation (ft)

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole Drilled by SOMA September 2003

< Less than laboratory reporting limit

Possible Location for EX-3 Well

Note: Concentrations from May 2011 through Sept 2011 sampling events

approximate scale in feet

0 50 100

Figure 5B: Contour Map Showing TPH-g Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at MW-6 and potential well EX-3

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

31.63

MW-1

6,400

SB-4

0

DISPENSER ISLANDS

Former USTs

SB-1

31.53

MW-2

1,000

31.6

MW-3D

SB-2

SB-3

MW-3

MPE-2

37,000

31.5

31.34

Existing USTs

STATION BUILDING

31.34

MW-4

3,600

DISPENSER ISLANDS

SB-5

MW-4D

31.14

MPE-1

62,000

31.18

MW-5

4,200

151 st AVENUE

30.6

RESIDENTIAL AREA

rail

30.19

EX-1

110

29.6

40000

DP-1

84,000

28.68

3,400

EX-2

MW-6

23,000

DP-3

1,500

DP-2

46,000

DP-4

20,000

28.68

DP-5

80,000

TWB-2

30.73

MW-7

1,000

LIBERTY ST

parking lane

152 nd AVENUE

TWB-5

MW-9

MW-8

RESIDENTIAL AREA

TWB-3

TPH-g ug/L

80,000

72,000

64,000

56,000

48,000

40,000

32,000

24,000

16,000

8,000

0

0.00 Averaged Groundwater Elevation (ft)

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole Drilled by SOMA September 2003

< Less than laboratory reporting limit

Note: Concentrations from May 2011 through Sept 2011 sampling events

approximate scale in feet

0 50 100

Figure 5C: Contour Map Showing TPH-g Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at EX wells only

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

MW-1
220

SB-4

DISPENSER ISLANDS

Former USTs

SB-1

MW-2
<0.5

MW-3D

SB-2

SB-3

MW-3

MPE-2
1,800

Existing USTs

STATION BUILDING

MW-4
300

DISPENSER ISLANDS

SB-5

151 st AVENUE

MW-4D

MPE-1
6,300

MW-5
120

RESIDENTIAL AREA

rail

EX-1
5

DP-1
<17

EX-2
790

MW-6
28

DP-3
<1.0

DP-2
<5.0

DP-4
1.1

DP-5
290

parking lane

parking lane

152 nd AVENUE

TWB-2

MW-7
<0.5

LIBERTY ST

TWB-5

MW-9

parking lane

MW-8

RESIDENTIAL AREA

TWB-3

Benzene ug/L

6,000
5,400
4,800
4,200
3,600
3,000
2,400
1,800
1,200
600
0

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole Drilled by SOMA September 2003

< Less than laboratory reporting limit

Note: Concentrations from May 2011 through Aug 2011 sampling events

approximate scale in feet

0 50 100

Figure 6: Contour Map Showing Benzene Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at MW-6

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

MW-1
2.3

SB-4

DISPENSER ISLANDS

Former USTs

SB-1

MW-2
<0.5

MW-3D

SB-2

SB-3

MW-3

MPE-2
<17

Existing USTs

STATION BUILDING

MW-4
59

DISPENSER ISLANDS

SB-5

MW-4D

MPE-1
1,200

MW-5
22

151 st AVENUE

RESIDENTIAL AREA

rail

EX-1
12

DP-1
<17

EX-2
5.4

MW-6
3.4

DP-3
150

DP-2
<5.0

DP-4
<0.5

DP-5
<25

parking lane

parking lane

152 nd AVENUE

TWB-2

MW-7
5.4

LIBERTY ST

TWB-5

MW-9

MW-8

RESIDENTIAL AREA

TWB-3

MtBE ug/L

1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole Drilled by SOMA September 2003

< Less than laboratory reporting limit

Note: Concentrations from May 2011 through Aug 2011 sampling events

approximate scale in feet

0 50 100

Figure 7: Contour Map Showing MtBE Concentrations in Groundwater showing the existing (averaged) groundwater elevation with projected pumping conditions at MW-6

SOMA ENVIRONMENTAL ENGINEERING, INC.

TABLES

Table 1
Grab Groundwater Analytical Results
15101 Freedom Avenue
San Leandro, California

Sample ID	Date	GW Encountered ft bgs	GW Stabilized ft bgs	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MtBE (ug/L)	TBA (ug/L)	TAME (ug/L)	DIPE (ug/L)	ETBE (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)
DP-1	7/20/2011	26.5	18.0	**84,000**	<17	**250**	**3,600**	**15,300**	<17	<330	<17	<17	<17	<17	<17
DP-2	7/20/2011	24.0	19.0	**46,000**	<5.0	<5.0	**540**	**1,130**	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0
DP-3	7/21/2011	22.0	18.0	**1,500**	<1.0	<1.0	**42**	**120**	**150**	**40**	8.9	<1.0	<1.0	<1.0	<1.0
DP-4	7/21/2011	20.0	15.9	**20,000**	**1.1**	0.98	**1,100**	**1,670**	<0.5	<10	<0.5	<0.5	<0.5	**0.65**	<0.5
DP-5	7/20/2011	21.0	16.0	**80,000**	**290**	**140**	**4,300**	**16,800**	<25	<500	<25	<25	<25	<25	<25
ESLs		-	-	**100**	**1**	**40**	**30**	**20**	**5**	**12.0**	**NA**	**NA**	**NA**	**0.5**	**0.05**

Notes:

ESLs Environmental Screening levels as per SF Bay Region RWQCB-Interim Final November 2007, revised May 2008
(Table F1a. Groundwater is a Current or Potential Source of Drinking Water)

NA Not listed on the ESL Tables

<: Below laboratory detection limits

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
1st WBZ										
MW-1	5/10/2002	51.71	22.85	28.86	5,700	360	4.5	340	450	2
	8/8/2002	51.71	23.31	28.40	9,100	590	2.6	830	362	<1.3
	11/8/2002	51.71	23.58	28.13	7,900	570	3.1	680	392	< 1.0
	2/21/2003	51.71	22.62	29.09	2,900	160	1.6 C	170	211	<0.5
	5/28/2003	51.71	22.43	29.28	1,700	55	<0.5	90	115	2.00
	8/12/2003	51.71	21.30	30.41	2,600	2.5	<0.5	190	130	<0.5
	10/9/2003	51.71	23.49	28.22	9,200	560.0	2.7 C	670	648	<1.0
	1/15/2004	51.71	22.43	29.28	5,500	190	<1.0	220	124.4	<0.5
	5/25/2004	51.71	22.94	28.77	8,000	400	1.50	420	393	3.40
	9/21/2004	54.46	23.49	30.97	9,300	580	9.30	690	683	4.60
	12/14/2004	54.46	23.01	31.45	7,360	337	<4.3	731	633	<4.3
	3/11/2005	54.46	21.48	32.98	2,510	45.2	<0.5	23.2	39.63	2.80
	6/15/2005	54.46	22.42	32.04	1,690	36.3	<2.0	59.5	28.73	2.01
	8/26/2005	54.46	23.00	31.46	7,310	318	<8.60	475	316	5.15
	11/11/2005	54.46	21.40	33.06	9,640	341	<8.6	467	329.7	6.04
	2/9/2006	54.46	21.81	32.65	775	14	<2.0	12.6	10.32	4.01
	5/9/2006	54.46	21.68	32.78	444	7.80	<2.0	12.1	6.31	1.75
	8/10/2006	54.46	22.79	31.67	5,090	324	<8.60	108	59.9	8.24
	10/26/2006	54.46	23.19	31.27	6,950	556	<4.0	190	136.09	8.61
	1/25/2007	54.46	22.82	31.64	2,640	196	<2.0	105	25.5	7.92
	4/26/2007	54.46	22.67	31.79	861	95.5	<2.0	17	6.36	4.00
	7/25/2007	54.46	23.25	31.21	4,520	412	<4.0	182	77.9	7.48
	10/23/2007	54.46	23.42	31.04	3,900	117	<2.0	87.1	23.87	4.54

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-1 cont	1/22/2008	54.46	22.59	31.87	2,260	81.3	<2.0	17.5	<2.0	4.23
	4/16/2008	54.46	22.89	31.57	2,320	248	<2.0	54.1	37.3	<0.5
	7/3/2008	54.46	23.33	31.13	5,240	414	<2.0	168	94	6.56
	10/15/2008	54.46	23.76	30.70	4,500 Y	260	<1.0	150	130	3.40
	1/7/2009	54.46	23.25	31.21	4,800	140	<1.3	48	32	1.70
	4/14/2009	54.46	22.52	31.94	1,800 Y	78	<0.5	35	18	2.50
	8/27/2009	54.46	23.6	30.86	4,500	330	<2.0	97	42	4.60
	12/2/2009	54.46	23.43	31.03	3,800 Y	250	<2.0	110	25	2.50
	3/17/2010	54.46	22.32	32.14	1,100	33	<0.50	46	18	1.70
	6/3/2010	54.46	22.88	31.58	10,000	330	4.3	680	841.5	5.20
	9/2/2010	54.46	23.28	31.18	8,900	440	<5.0	510	310	<5.0
	12/2/2010	54.46	23.21	31.25	7,400	250	<3.1	390	180	<3.1
	3/4/2011	54.46	21.95	32.51	2,400	67	<0.5	45	8.4	2.20
	5/20/2011	54.46	22.8	31.66	9,500	260	6.2	970	480	<3.6
	9/9/2011	**54.46**	**22.81**	**31.65**	**6,400**	**220**	**<1.3**	**380**	**160**	**2.30**
Average (12/2/2009-present)		**54.46**	**22.84**	**31.63**	**-**	**-**	**-**	**-**	**-**	**-**
MW-2	5/10/2002	49.66	22.83	26.83 *	3,100	67	8	250	215	56
	8/8/2002	49.66	21.41	28.25	2,700	4.6	<0.5	310	140	<0.5
	11/8/2002	49.66	21.79	27.87	3,400	4.6	< 0.5	310	160	< 0.5
	2/21/2003	49.66	20.51	29.15	890	1.7 C	0.80 C	68	38.92 C	<0.5
	5/28/2003	49.66	20.33	29.33	2,700	5.2 C	<0.5	120	140	1.2
	8/12/2003	49.66	23.18	26.48*	8,500	640	<2.5	560	659	<0.8
	10/9/2003	49.66	21.71	27.95	3100 H	4.3 C	<0.5	210	160	<0.5
	1/15/2004	49.66	20.31	29.35	660 H	1.5 C	<0.5	8.9	25	<0.5
	5/25/2004	49.66	21.09	28.57	4,500	5.1 C	<0.5	190	230	0.70
	9/21/2004	52.41	21.71	30.70	370	0.76 C	<0.5	25	16	0.50
	12/14/2004	52.41	21.20	31.21	880	1.0	<0.5	66	52	<0.5

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-2 cont.	3/11/2005	52.41	19.15	33.26	564	<0.5	<0.5	21	11.9	<0.5
	6/15/2005	52.41	20.30	32.11	2,040	1.2	<2.0	78.2	22	<0.5
	8/26/2005	52.41	20.97	31.44	1,500	0.930	<2.00	87.6	21	0.86
	11/11/2005	52.41	25.30	27.11	2,140	1.08	<2.0	104	29	0.79
	2/9/2006	52.41	19.41	33.00	1,410	<0.5	<2.0	99.6	21.4	0.72
	5/9/2006	52.41	19.41	33.00	1,100	<0.5	<2.0	86.5	17	<0.5
	8/10/2006	52.41	20.8	31.61	3,180	2.87	<2.0	88.9	24.8	<0.50
	10/26/2006	52.41	21.22	31.19	1,200	<0.5	<2.0	23.5	4.79	0.6
	1/25/2007	52.41	20.89	31.52	623	0.64	<2.0	42.4	4.37	0.66
	4/26/2007	52.41	20.65	31.76	169	<0.5	<2.0	15.2	2.3	<0.5
	7/25/2007	52.41	21.43	30.98	276	0.78	<2.0	22.1	4.04	<0.5
	10/23/2007	52.41	21.59	30.82	535	<0.5	<2.0	18	5.11	<0.5
	1/22/2008	52.31	20.45	31.86	132	<0.5	<2.0	12.2	<2.0	<0.5
	4/15/2008	52.41	20.89	31.52	852	<0.5	<2.0	27.2	4.78	<0.5
	7/2/2008	52.41	21.5	30.91	98.3	<0.5	<2.0	2.76	<2.0	<0.5
	10/15/2008	52.41	22.06	30.35	1,400 [Y]	<0.5	<0.5	60	17	<0.5
	1/7/2009	52.41	21.35	31.06	93	<0.5	<0.5	2.1	0.74	<0.5
	4/13/2009	52.41	20.52	31.89	480 [Y]	<0.5	<0.5	20	5.5	<0.5
	8/27/2009	52.41	21.85	30.56	130	<0.5	<0.5	2.5	0.61	<0.5
	12/1/2009	52.41	21.59	30.82	760 [Y]	<0.5	<0.5	14	1.5	<0.5
	3/17/2010	52.41	20.11	32.30	480	<0.5	<0.5	30	6.9	<0.5
	6/3/2010	52.41	21	31.41	690	<0.5	<0.5	14	2.6	<0.5
	9/2/2010	52.41	21.42	30.99	470	<0.5	<0.5	7.6	1	<0.5
	12/2/2010	52.41	21.44	30.97	470	<0.5	<0.5	7.6	3.3	<0.5
	3/4/2011	52.41	19.65	32.76	240	<0.5	<0.5	6.6	0.8	<0.5
	5/20/2011	52.41	20.75	31.66	310	<0.5	<0.5	4.8	<0.5	<0.5
	9/9/2011	**52.41**	**21.05**	**31.36**	**1,000**	**<0.5**	**<0.5**	**12**	**0.76**	**<0.5**
Average (12/1/2009-present)		**52.41**	**20.88**	**31.53**	**-**	**-**	**-**	**-**	**-**	**-**

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-3	5/10/2002	51.16	22.28	28.88	44,000	6,000	900	1,500	6,200	2,400
	8/8/2002	51.16	22.88	28.28	40,000	5,800	1,100	1,600	6,500	1,300
	11/8/2002	51.16	23.19	27.97	47,000	5,300	1,200	2,200	8,600	1,000
	2/21/2003	51.16	22.02	29.14	39,000	5,500	1,500	2,000	8,600	1,300
	5/28/2003	51.16	21.89	29.27	52,000	7,300	3,000	2,800	12,700	2,100
	8/12/2003	51.16	22.66	28.50	31,000	6,100	860	1,500	6,900	1,200
	10/9/2003	51.16	23.06	28.10	41,000	6,100	1,100	2,200	10,200	960
	1/15/2004	51.16	21.85	29.31	51,000	4,100	1,100	2,000	8,400	590
	5/25/2004	51.16	22.55	28.61	65,000	4,300	1,300	2,500	10,500	720
	9/21/2004	53.91	23.08	30.83	42,000	4,900	890	2,200	8,700	480
	12/14/2004	53.91	22.52	31.39	35,151	4,066	972	2,942	13,032	491
	3/11/2005	53.91	20.90	33.01	42,600	3,040	1,100	1,530	6,670	968
	6/15/2005	53.91	21.85	32.06	84,100	5,110	2,160	3,030	8,800	2,670
	8/26/2005	53.91	22.49	31.42	43,500	3,630	1,080	2,500	6,830	1,440
	11/11/2005	53.91	22.81	31.10	47,700	4,240	520	2,170	6,320	1,390
	2/9/2006	53.91	21.12	32.79	44,500	5,070	1360	1,920	4,840	3,280
	5/9/2006	53.91	21.09	32.82	48,100	2,510	1,140	1,950	5,030	2,210
	8/10/2006	53.91	22.26	31.65	42,100	3,450	869	1,760	5,650	3,570
	10/26/2006	53.91	22.73	31.18	33,400	4,800	331	1,170	3,510	4,790
	1/25/2007	53.91	22.34	31.57	19,300	4,820	167	1,540	3,740	3,430
	4/26/2007	53.91	22.24	31.67	30,700	2,350	158	1,470	4,320	1,330
	7/25/2007	53.91	22.83	31.08	34,900	5,400	364	2,080	6,360	1,980
	10/23/2007	53.91	23.01	30.9	22,600	4,070	<86	1,120	3,095	970

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-3 cont.	1/22/2008	53.96	22.04	31.92	22,100	1,280	453	1,330	3,520	490
	4/16/2008	53.91	22.4	31.51	20,700	2,790	182	860	3,389	263
	7/3/2008	53.91	22.9	31.01	48,500	3,760	346	3,130	12,980	573
	10/16/2008	53.91	23.36	30.55	50,000	3,900	300	3,100	11,000	460
	1/8/2009	53.91	22.82	31.09	54,000	2,600	180	2,500	8,800	220
	4/13/2009	53.91	22.06	31.85	49,000	2,900	170	2,100	8,100	490
	8/27/2009	53.91	23.11	30.80	43,000	2,500	160	1,900	7,000	210
	12/2/2009	53.91	23.00	30.91	30,000	2,100	180	1,600	5,600	91
	3/17/2010	53.91	21.90	32.01	24,000	970	81	1,100	3,700	38
	6/3/2010	53.91	22.49	31.42	31,000	1,200	110	1,300	4,400	34
	9/2/2010	53.91	22.76	31.15	26,000	1,100	81	1,200	3,810	26
	12/2/2010	53.91	22.86	31.05	18,000	830	47	780	2,360	14
	3/4/2011	53.91	21.44	32.47	18,000	410	32	850	2,480	16
	5/20/21011	53.91	22.36	31.55	12,000	710	24	620	1,460	11
	9/9/2011	**53.91**	**22.44**	**31.47**	**11,000**	**1,100**	**26**	**580**	**1,430**	**7.8**
Average (12/2/2009-present)		**53.91**	**22.41**	**31.50**	**-**	**-**	**-**	**-**	**-**	**-**
MW-4	5/10/2002	50.54	21.78	28.76	880	25	1.0C	110	52	12,000
	8/8/2002	50.54	22.50	28.04	3,800	70	<5.0	300	115	4,800
	11/8/2002	50.54	22.81	27.73	5,100	150	10	460	258	2,400
	2/21/2003	50.54	21.48	29.06	3,200	98	66	220	360	6,600
	5/28/2003	50.54	21.24	29.30	6,200	140	46	200	790	2,300
	8/12/2003	50.54	22.32	28.22	7,500	180	57	220	1450	1,900
	10/9/2003	50.54	22.74	27.80	5,800	250	32	300	970	7,800
	1/15/2004	50.54	21.19	29.35	5,900	270	17 C	150	640	7,300
	5/25/2004	50.54	22.03	28.51	9,100	210	51	200	1190	1800
	9/21/2004	53.31	22.76	30.55	5,200	290	12	370	600	7300
	12/14/2004	53.31	21.99	31.32	8,937	538	114	416	2379	5021

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-4 cont.	3/11/2005	53.31	20.01	33.30	12,300	225	39.6	80.1	1465	3870
	6/15/2005	53.31	21.25	32.06	7,690	114	32.6	77.1	555	1150
	8/26/2005	53.31	22.03	31.28	8,850	175	24.6	150	851	1380
	11/11/2005	53.31	22.43	30.88	9,990	356	<43	196	700	3,640
	2/9/2006	53.31	20.31	33.00	6,850	205	<43	67.2	255.2	5,120
	5/9/2006	53.31	20.33	32.98	1,290	18.1	<8.6	12.9	25.87	799
	8/10/2006	53.31	21.74	31.57	7,830	118	<8.60	25.3	174.6	919
	10/26/2006	53.31	22.29	31.02	1,540	81.9	<43	96	46.4	3,610
	1/25/2007	53.31	21.86	31.45	4,370	163	<8.6	85.1	269.1	1,050
	4/26/2007	53.31	21.63	31.68	4,380	140	<8.6	67	276.8	576
	7/25/2007	53.31	22.49	30.82	4,970	220	<8.60	198	241.5	1,040
	10/23/2007	53.31	22.69	30.62	4,200	267	<8.6	147	155.5	1,220
	1/22/2008	53.36	21.39	31.97	2,180	133	<22.0	43.1	32.2	1,800
	4/15/2008	53.31	21.9	31.41	4,240	90.4	<22.0	107	380	674
	7/2/2008	53.31	22.55	30.76	2,300	193	<22.0	212	183	4,050
	10/16/2008	53.31	23.13	30.18	8,900	320	3.7	430	1,160	450
	1/8/2009	53.31	22.42	30.89	19,000	430	44	590	3,380	440
	4/13/2009	53.31	21.51	31.80	21,000	400	38	450	2,880	330
	8/27/2009	53.31	22.94	30.37	16,000	960	64	560	2,120	290
	12/2/2009	53.31	22.36	30.95	4,400	480	6	170	640	110
	3/17/2010	53.31	21.39	31.92	14,000	260	6	230	1,220	93
	6/3/2010	53.31	22.23	31.08	18,000	240	4	310	770	41
	9/2/2010	53.31	22.51	30.80	1,800	800	<3.6	150	25	33
	12/2/2010	53.31	22.71	30.60	3,800	1,500	<10	200	115	29
	3/3/2011	53.31	20.64	32.67	2,400	28	<0.71	28	17	3
	5/19/2011	53.31	21.84	31.47	1,800	27	<0.5	29	11.2	4.8
	9/8/2011	**53.31**	**22.11**	**31.20**	**3,600**	**300**	**2.6**	**270**	**68.5**	**59**
Average (12/2/2009-present)		**53.31**	**21.97**	**31.34**	**-**	**-**	**-**	**-**	**-**	**-**

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-5	5/10/2002	47.79	19.02	28.77	25,000	1,000	1200	1,100	3,060	1,800
	8/8/2002	47.79	19.80	27.99	18,000	1,000	660	950	1,720	1,500
	11/8/2002	47.79	20.14	27.65	16,000	1,300	380	930	1,550	1,200
	2/21/2003	47.79	18.70	29.09	12,000	390	71	770	1,100	860
	5/28/2003	47.79	18.52	29.27	9,100	210	31	560	790	600
	8/12/2003	47.79	19.54	28.25	12,000	660	75	660	1,110	1,000
	10/9/2003	47.79	20.06	27.73	15,000	1,000	130	1,000	1,430	1,700
	1/15/2004	47.79	18.42	29.37	9,900	450 C	16	500	431	1,100
	5/25/2004	47.79	19.30	28.49	9,200	380	24	490	536	720
	9/21/2004	50.53	20.15	30.38	10,000	980	71	560	770	1200
	12/14/2004	50.53	19.30	31.23	10,502	587	64	1040	1133	1015
	3/11/2005	50.53	17.20	33.33	8,390	407	<5.5	83	42.5	1530
	6/15/2005	50.53	18.54	31.99	9,350	147	18.3	435	146.2	573
	8/26/2005	50.53	19.31	31.22	9,500	261	<22	726	321.3	749
	11/11/2005	50.53	19.75	30.78	10,000	443	41.5	527	278.5	1,430
	2/9/2006	50.53	17.58	32.95	7,640	237	<22	187	50.2	2,050
	5/9/2006	50.53	17.54	32.99	8,360	111	<8.6	300	75.84	566
	8/10/2006	50.53	19.02	31.51	16,100	250	<22	455	187.4	1,590
	10/26/2006	50.53	19.61	30.92	10,100	430	<22	375	192.6	3,060
	1/25/2007	50.53	19.19	31.34	3,960	340	<22	323	150.1	1,740
	4/26/2007	50.53	18.89	31.64	4,590	187	<8.6	307	116.5	861
	7/25/2007	50.53	19.81	30.72	6,490	419	21.8	413	223.2	913
	10/23/2007	50.53	19.98	30.55	6,120	550	11	284	141.4	433

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-5 cont.	1/22/2008	50.18	18.69	31.49	9,810	572	22	574	184.1	126
	4/15/2008	50.18	19.16	31.02	8,890	335	15.1	477	397.5	136
	7/3/2008	50.53	19.88	30.65	13,100	949	34.4	875	825.5	176
	10/16/2008	50.53	20.45	30.08	11,000	870	25	820	668	160
	1/8/2009	50.53	19.72	30.81	12,000	490	21	690	456	76
	4/13/2009	50.53	18.81	31.72	9,000 [Y]	200	11	390	198	44
	8/27/2009	50.53	21.30	29.23	7,400	610	15	320	185	66
	12/2/2009	50.53	20.00	30.53	8,400 [Y]	400	12	540	296	45
	3/17/2010	50.53	18.73	31.80	4,800	120	8.7	120	107	14
	6/4/2010	50.53	19.60	30.93	7,200	160	5.7	190	149.2	24
	9/2/2010	50.53	19.82	30.71	9,200	110	12	270	318	35
	12/2/2010	50.53	20.10	30.43	9,100	170	6.7	350	442	23
	3/4/2011	50.53	18.00	32.53	2,600	18	0.62	54	18.1	3
	5/20/2011	50.53	19.18	31.35	4,000	91	8.5	110	106	33
Pre-MPE	8/4/2011	50.53	NM	NC	3,000	23	0.95	92	43.7	5.4
	9/9/2011	**50.53**	**19.41**	**31.12**	**4,200**	**120**	**2.8**	**140**	**61.1**	**22**
Average (12/2/2009-present)		**50.53**	**19.36**	**31.18**	**-**	**-**	**-**	**-**	**-**	**-**
MW-6	9/21/2004	45.82	17.64	28.18	34,000	150	130	2200	8100	0.6
	12/14/2004	45.82	15.75	30.07	5,161	137	7	436	1136	<5.5
	3/11/2005	45.82	13.80	32.02	6,040	125	3.22	260	722.1	4.94
	6/15/2005	45.82	14.78	31.04	5,590	44.3	6.60	272	382	5.85
	8/26/2005	45.82	15.91	29.91	6,130	99	<8.6	378	492.9	5.66
	11/11/2005	45.82	16.55	29.27	11,400	101	<8.6	645	834.7	4.33
	2/9/2006	45.82	13.92	31.90	2,790	32.3	<8.6	131	131.22	7.30
	5/9/2006	45.82	13.95	31.87	3,730	25	<2.0	213	207.82	5.87
	8/10/2006	45.82	15.28	30.54	4,800	41.9	<2.0	201	189	10.4
	10/26/2006	45.82	16.11	29.71	6,080	37.4	<2.0	116	183	9.78

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-6 cont.	1/25/2007	45.82	15.76	30.06	3,220	25.2	<2.0	219	174	14.7
	4/26/2007	45.82	15.18	30.64	3,110	28	<2.0	165	138.47	14.6
	7/25/2007	45.82	16.82	29.00	4,960	54.1	<2.0	199	255.87	8.05
	10/23/2007	45.82	16.91	28.91	9,610	64.3	<2.0	188	302.6	5.81
	1/21/2008	45.82	15.36	30.46	3,290	33	<2.0	149	131.31	3.86
	4/15/2008	45.82	15.73	30.09	2,070	10.8	<2.0	51.1	67	<0.5
	7/2/2008	45.82	16.9	28.92	7,900	42.4	<2.0	194	296	3.58
	10/15/2008	45.82	17.21	28.61	18,000 [Y]	42	1.4	320	673	1.7
	1/7/2009	45.82	17.08	28.74	13,000	47	<3.1	210	425	<3.1
	4/13/2009	45.82	15.52	30.30	7,200 [Y]	26	<1.3	170	312.6	2.6
	8/26/2009	45.82	17.82	28.00	10,000 [Y]	25	<2.0	130	294	2.2
	12/1/2009	45.82	17.34	28.48	11,000 [Y]	31	6.1	220	539	<2.0
	3/16/2010	45.82	14.81	31.01	31,000	63	140	970	4,200	64
	6/3/2010	45.82	15.72	30.10	27,000	22	67	840	3,100	32
	9/1/2010	45.82	16.86	28.96	33,000	24	34	1,100	3,780	12
	12/2/2010	45.82	16.98	28.84	70,000	32	55	1,700	5,670	18
	3/3/2011	45.82	14.35	31.47	7,000	18	<2.5	97	237	11
	5/20/2011	45.82	14.95	30.87	14,000	14	<2.5	300	823	7.2
	9/8/2011	**45.82**	**16.14**	**29.68**	**23,000**	**28**	**<2.5**	**360**	**812**	**3.4**
Average (12/2/2009-present)		**45.82**	**15.89**	**29.93**	**-**	**-**	**-**	**-**	**-**	**-**
MW-7	9/21/2004	44.74	15.21	29.53	2,900	<0.5	<0.5	52	61	8.1
	12/14/2004	44.74	13.90	30.84	<50	1.6	<0.5	29	58	6.0
	3/11/2005	44.74	11.46	33.28	2,230	<2.5	<2.5	39.4	51.4	12.4
	6/15/2005	44.74	12.97	31.77	2,940	0.85	<2.0	50.6	31.9	13.7
	8/26/2005	44.74	14.10	30.64	2,310	<0.50	<2.0	55.7	29.6	4.01
	11/11/2005	44.74	14.59	30.15	3,030	<0.5	<2.0	66.5	42.3	9.76

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-7 cont.	2/9/2006	44.74	NM	NM	NA	NA	NA	NA	NA	NA
	5/9/2006	44.74	12.02	32.72	1,400	<0.5	<2.0	19.8	12.4	2.30
	8/10/2006	44.74	13.72	31.02	604	<0.50	<2.0	6.2	4.63	1.42
	10/26/2006	44.74	14.38	30.36	1350	<0.50	<2.0	16.6	10.8	1.87
	1/25/2007	44.74	13.93	30.81	340	<0.5	<2.0	6.84	2.44	1.63
	4/26/2007	44.74	14.44	30.30	552	<0.5	<2.0	11.4	6.11	4.12
	7/25/2007	44.74	14.79	29.95	1,230	<0.5	<2.0	27	19.24	3.2
	10/23/2007	44.74	14.88	29.86	1,730	0.67	<2.0	20.7	17.31	8.44
	1/21/2008	44.74	13.34	31.40	610	1.15	<2.0	8.4	4.34	17.2
	4/15/2008	44.74	13.91	30.83	1,460	<0.5	<2.0	15.9	19.7	17.3
	7/2/2008	44.74	14.87	29.87	1,450	<0.5	<2.0	11	6.8	22.1
	10/15/2008	44.74	15.68	29.06	1,900 [Y]	0.56	1.2	27	39.5	55
	1/7/2009	44.74	14.72	30.02	2,700	1.2	2.9	11	25	39
	4/13/2009	44.74	13.54	31.20	2,300 [Y]	<0.5	<0.5	15	6.3	63
	8/26/2009	44.74	15.84	28.90	2,700 [Y]	<0.5	<0.5	48	53	140
	12/1/2009	44.74	15.03	29.71	1,800 [Y]	<0.5	<0.5	22	15	120
	3/16/2010	44.74	12.56	32.18	1,100	<0.5	<0.5	3.2	1.4	65
	6/3/2010	44.74	13.80	30.94	740	<0.5	<0.5	1.8	0.62	28
	9/1/2010	44.74	14.84	29.90	1,200	<0.5	<0.5	10	3.2	29
	12/2/2010	44.74	14.74	30.00	1,400	<0.5	<0.5	8	0.74	21
	3/3/2011	44.74	13.31	31.43	1,000	<0.5	<0.5	1.8	<0.5	16
	5/19/2011	44.74	13.43	31.31	810	<0.5	<0.5	2.2	0.79	7.8
	9/8/2011	**44.74**	**14.38**	**30.36**	**1,000**	**<0.5**	**<0.5**	**8.3**	**2.9**	**5.4**
Average (12/2/2009-present)		**44.74**	**14.01**	**30.73**	**-**	**-**	**-**	**-**	**-**	**-**
MW-8	9/21/2004	41.14	12.98	28.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	41.14	11.22	29.92	<50	<0.5	<0.5	<0.5	<1.0	<0.5

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-8 cont.	3/11/2005	41.14	NM	NM	NA	NA	NA	NA	NA	NA
	6/15/2005	41.14	10.46	30.68	<200	0.53	<2.0	<0.5	<1.0	<0.5
	8/26/2005	41.14	11.53	29.61	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	41.14	11.92	29.22	<50	<0.5	<2.0	1.36	1.8	<0.5
	2/9/2006	41.14	9.74	31.40	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	5/9/2006	41.14	9.90	31.24	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	8/10/2006	41.14	10.9	30.24	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	10/26/2006	41.14	11.68	29.46	<50	<0.50	<2.0	3.37	<1.0	<0.50
	1/25/2007	41.14	11.44	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/26/2007	41.14	10.81	30.33	<50	<0.5	<2.0	4.29	<2.0	<0.5
	7/25/2007	41.14	12.31	28.83	<50	<0.5	<2.0	4.39	<2.0	<0.5
	10/23/2007	41.14	12.37	28.77	<50	<0.5	<2.0	4.31	<2.0	<0.5
	1/21/2008	41.14	11.02	30.12	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/15/2008	41.14	11.44	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/2/2008	41.14	12.39	28.75	94.8	<0.5	<2.0	1	<2.0	<0.5
	10/15/2008	41.14	13.42	27.72	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	41.14	12.50	28.64	<50	<0.5	<0.5	<0.5	0.6	<0.5
	4/13/2009	41.14	11.23	29.91	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	41.14	13.24	27.90	<50	<0.5	<0.5	<0.5	<0.5	<0.5
Average (10/23/2007-8/27/2009)		**41.14**	**12.20**	**28.94**	**-**	**-**	**-**	**-**	**-**	**-**
	Well Decommissioned 11/13/2009									
MW-9	9/21/2004	40.26	12.18	28.08	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	40.26	10.91	29.35	<50	<0.5	<0.5	<0.5	<1.0	<0.5

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-9 cont.	3/11/2005	40.26	10.52	29.74	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	6/15/2005	40.26	14.73	25.53	<200	<0.5	<2.0	<0.5	<1.0	<0.5
	8/26/2005	40.26	10.59	29.67	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	40.26	11.25	29.01	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	2/9/2006	40.26	10.05	30.21	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	5/9/2006	40.26	9.06	31.20	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	8/10/2006	40.26	10.01	30.25	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	10/26/2006	40.26	10.81	29.45	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	1/25/2007	40.26	10.67	29.59	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/26/2007	40.26	10.05	30.21	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/25/2007	40.26	11.44	28.82	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/23/2007	40.26	11.59	28.67	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	1/21/2008	40.26	10.37	29.89	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/15/2008	40.26	10.56	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/2/2008	40.26	11.95	28.31	161	<0.5	<2.0	2.15	<2.0	<0.5
	10/15/2008	40.26	12.64	27.62	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	40.26	11.75	28.51	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/13/2009	40.26	10.89	29.37	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/26/2009	40.26	12.50	27.76	<50	<0.5	<0.5	<0.5	<0.5	<0.5
Average (10/23/2007-8/26/2009)		**40.26**	**11.53**	**28.73**	**-**	**-**	**-**	**-**	**-**	**-**

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
Extraction Wells										
EX-1	12/2/2009	47.36	17.02	30.34	2,900	120	4	64	410	25
	3/16/2010	47.36	19.08	28.28	2,200	150	18	94	326	210
	6/3/2010	47.36	17.02	30.34	3,600	180	6.3	150	428	83
	9/1/2010	47.36	16.88	30.48	550	6.5	0.5	6.9	31.7	38
	12/2/2010	47.36	19.84	27.52	<200	3.1	<2.0	<2.0	<2.0	210
	3/3/2011	47.36	14.96	32.4	530	51	0.94	15	31.3	110
	5/19/2011	47.36	16.12	31.24	370	42	<0.71	7.6	17.2	110
	9/8/2011	**47.36**	**16.47**	**30.89**	**110**	**5**	**<0.5**	**2.2**	**6.4**	**12**
Average (12/2/2009-present)		**47.36**	**17.17**	**30.19**	**-**	**-**	**-**	**-**	**-**	**-**
EX-2	12/2/2009	45.96	17.56	28.4	7,100 [Y]	9.3	3.2	440	770	<3.1
	3/16/2010	45.96	19.65	26.31	13,000	600	360	770	2,250	15
	6/3/2010	45.96	17.10	28.86	16,000	590	400	700	2,500	9.5
	9/1/2010	45.96	16.99	28.97	6,100	230	74	200	890	11
	12/2/2010	45.96	20.87	25.09	14,000	510	270	640	2,170	15
	3/3/2011	45.96	14.61	31.35	8,600	340	52	460	1,350	13
	5/19/2011	45.96	15.08	30.88	7,500	260	65	390	1,080	11
	9/8/2011	**45.96**	**16.34**	**29.62**	**3,400**	**190**	**28**	**160**	**451**	**5.4**
Average (12/2/2009-present)		**45.96**	**17.28**	**28.69**	**-**	**-**	**-**	**-**	**-**	**-**
MPE Wells										
MPE-1	12/1/2009	51.96	21.41	30.55	NA	NA	NA	NA	NA	NA
	3/16/2010	51.96	20.22	31.74	NA	NA	NA	NA	NA	NA
	6/3/2010	51.96	21.18	30.78	NA	NA	NA	NA	NA	NA
	9/1/2010	51.96	21.25	30.71	NA	NA	NA	NA	NA	NA
	12/2/2010	51.96	21.64	30.32	NA	NA	NA	NA	NA	NA

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MPE-1 cont.	3/3/2011	51.96	19.33	32.63	NA	NA	NA	NA	NA	NA
	5/19/2011	51.96	20.6	31.36	NA	NA	NA	NA	NA	NA
Pre-MPE	8/4/2011	51.96	NM	NC	49,000	210	100	840	7,070	45
	9/8/2011	**51.96**	**20.83**	**31.13**	NA	NA	NA	NA	NA	NA
Post-MPE	**9/26/2011**	**51.96**	**20.94**	**31.02**	**62,000**	**6,300**	**3,700**	**1,800**	**9,400**	**1,200**
Average (12/2/2009-present)		**51.96**	**20.82**	**31.14**	**-**	**-**	**-**	**-**	**-**	**-**
MPE-2	12/1/2009	53.72	22.87	30.85	NA	NA	NA	NA	NA	NA
	3/16/2010	53.72	21.7	32.02	NA	NA	NA	NA	NA	NA
	6/3/2010	53.72	22.35	31.37	NA	NA	NA	NA	NA	NA
	9/1/2010	53.72	23.7	30.02	NA	NA	NA	NA	NA	NA
	12/2/2010	53.72	22.7	31.02	NA	NA	NA	NA	NA	NA
	3/3/2011	53.72	21.25	32.47	NA	NA	NA	NA	NA	NA
	5/19/2011	53.72	22.19	31.53	NA	NA	NA	NA	NA	NA
Pre-MPE	8/4/2011	53.72	NM	NC	46,000	2,100	80	1,900	5,300	75
	9/8/2011	**53.72**	**22.31**	**31.41**	NA	NA	NA	NA	NA	NA
Post-MPE	**9/26/2011**	**53.72**	**22.38**	**31.34**	**37,000**	**1,800**	**33**	**1,700**	**2,760**	**<17**
Average (12/2/2009-present)		**53.72**	**22.38**	**31.34**	**-**	**-**	**-**	**-**	**-**	**-**
2nd WBZ										
MW-1D	1/3/2008	54.42		-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	1/22/2008	54.42	22.85	31.57	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	4/16/2008	54.42	23.10	31.32	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/3/2008	54.42	23.44	30.98	75.9	<0.5	<2.0	0.54	<2.0	<0.5
	10/15/2008	54.42	23.82	30.60	120	1.6	<0.5	2.8	3.6	<0.5
	1/8/2009	54.42	23.44	30.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2009	54.42	23.06	31.36	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/26/2009	54.42	23.73	30.69	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	54.42	23.59	30.83	330 [Y]	<0.5	<0.5	1.3	2.2	<0.5

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-1D cont.	3/16/2010	54.42	22.60	31.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/2010	54.42	23.10	31.32	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/1/2010	54.42	23.51	30.91	<50	<0.5	<0.5	0.52	1.8	<0.5
	12/3/2010	54.42	23.41	31.01	61	<0.5	<0.5	1.0	3.73	<0.5
	3/3/2011	54.42	22.27	32.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	5/19/2011	54.42	22.89	31.53	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	**54.42**	**23.08**	**31.34**	**220**	**<0.5**	**<0.5**	**0.6**	**1.4**	**<0.5**
MW-3D	1/3/2008	54.10		-	<50	<0.50	<2.0	<0.50	<2.0	87.6
	1/22/2008	54.10	22.31	31.79	<50	<0.50	<2.0	<0.50	<2.0	88.3
	4/16/2008	54.10	22.64	31.46	<50	<0.5	<2.0	<0.5	<2.0	71.1
	7/3/2008	54.10	23.17	30.93	<50	<0.5	<2.0	<0.5	<2.0	67.4
	10/16/2008	54.10	23.62	30.48	<50	<0.5	<0.5	<0.5	<0.5	37
	1/8/2009	54.10	23.07	31.03	<50	<0.5	<0.5	<0.5	<0.5	29
	4/14/2009	54.10	22.36	31.74	<50	<0.5	<0.5	<0.5	<0.5	44
	8/26/2009	54.10	23.41	30.69	<50	<0.5	<0.5	<0.5	<0.5	20
	12/1/2009	54.10	23.27	30.83	110 Y	<0.5	<0.5	<0.5	0.52	24
	3/16/2010	54.10	22.10	32.00	<50	<0.5	<0.5	<0.5	<0.5	7.1
	6/4/2010	54.10	22.70	31.40	<50	<0.5	<0.5	<0.5	<0.5	17
	9/1/2010	54.10	23.09	31.01	78	<0.5	<0.5	1.1	4.71	24
	12/3/2010	54.10	22.90	31.20	<50	<0.5	<0.5	0.56	1.4	13
	3/3/2011	54.10	21.66	32.44	<50	1.3	<0.5	<0.5	0.59	14
	5/19/2011	54.10	22.61	31.49	<50	<0.5	<0.5	<0.5	<0.5	5.2
	9/8/2011	**54.10**	**22.68**	**31.42**	**69**	**<0.5**	**<0.5**	**<0.5**	**0.62**	**4.8**

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-4D	1/4/2008	53.12		-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	1/22/2008	53.12	21.11	32.01	91.5	18.7	<2.0	7.08	11.42	219
	4/15/2008	53.12	21.67	31.45	<50	<0.5	<2.0	<0.5	<2.0	27
	7/3/2008	53.12	22.39	30.73	<50	<0.5	<2.0	<0.5	<2.0	6.27
	10/16/2008	53.12	22.98	30.14	<50	<0.5	<0.5	<0.5	<0.5	1.9
	1/8/2009	53.12	22.25	30.87	<50	<0.5	<0.5	<0.5	<0.5	2
	4/14/2009	53.12	21.34	31.78	<50	<0.5	<0.5	<0.5	<0.5	2.2
	8/27/2009	53.12	22.79	30.33	<50	<0.5	<0.5	<0.5	<0.5	2.2
	12/1/2009	53.12	22.49	30.63	120 [Y]	<0.5	<0.5	1.4	2.3	2.3
	3/16/2010	53.12	21.02	32.10	<50	<0.5	<0.5	<0.5	<0.5	0.65
	6/4/2010	53.12	21.93	31.19	<50	<0.5	<0.5	<0.5	<0.5	1.1
	9/1/2010	53.12	23.32	29.80	<50	<0.5	<0.5	0.85	3.76	2.2
	12/3/2010	53.12	22.46	30.66	<50	<0.5	<0.5	<0.5	0.67	<0.5
	3/3/2011	53.12	20.45	32.67	<50	<0.5	<0.5	<0.5	<0.5	0.58
	5/19/2011	53.12	21.57	31.55	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	**53.12**	**21.92**	**31.20**	**59**	**<0.5**	**<0.5**	**<0.5**	**0.51**	**1.7**
1573 153 RD	7/2/2008	NS	NM	NC	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/16/2008	NS	NM	NC	<50	<0.5	<0.5	<0.5	<0.5	<0.5
Equipment Blanks										
EB-PMP	1/21/2008	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PRB	1/21/2008	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PMP2	1/22/2008	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PRB2	1/22/2008	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
ESL (ug/L)	-	-	-	-	**100**	**1**	**40**	**30**	**20**	**5**

Table 2

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)

Notes:

The first time SOMA monitored this Site was in May 2002.

*: Due to minimal recharge rates in well MW-2, the groundwater elevation recorded on these dates did not match the overall site conditions, May 2002 & August 2003.

NC: Not Calculated

1 : Top of casing elevations were surveyed to a datum of 67.07 M.S.L by Kier & Wright Civil Engineers & Land Surveyors on May 7, 2002. On October 11, 2004, the site was re-surveyed by Harrington Surveys, Inc. of Walnut Creek, CA to a datum of California Coordinate System, Zone 3, NAD 83.

2 MtBE analyzed by EPA Method 8021B, and confirmed by EPA Method 8260B.

<: Not detected above the laboratory reporting limit.

Y: Sample exhibits chromatographic pattern which does not resemble standard

C Presence confirmed, but confirmation concentration differed by more than a factor of two.

C: Presence confirmed, but RPD between columns exceeds 40%.

H: Heavier hydrocarbons contributed to the quantitation.

NA: Not Analyzed. Well MW-8 was inaccessible during the First Quarter 2005, car was parked over well.
Not Analyzed. Well MW-7 was inaccessible during the First Quarter 2006, car was parked over well.

NM: Not Measured. Well MW-8 was inaccessible during the First Quarter 2005, car was parked over well.
Not Measured. Well MW-7 was inaccessible during the First Quarter 2006, car was parked over well.

The first time SOMA monitored wells MW-6 to MW-9 was in September 2004.

EB-PMP/EB-PRB: Equipment Blanks for Pump and Probe

ESL: Environmental Screening Levels per CRWQCB SFBay Region Interim Final Nov. 2007 (Revised May 2008); Table F-1a,Groundwater Screening Levels (groundwater is a current or potential drinking water resource)

MW-8 and MW-9 were decommissioned November 13, 2009

APPENDIX A
Previous Activities

In May 1999, three 10,000-gallon USTs, approximately 250 feet of product piping, and six product dispensers were removed from the site (Geo-Logic, 1999). A total of 21 soil samples were collected for laboratory analyses from the removal areas, including seven from the east and west sides of the UST removal excavation, at depths ranging from 12 to 14 feet below ground surface (bgs), and 14 from beneath the fuel dispensers and product delivery piping ranging in depth from 2.5 to 3.5 feet bgs. Samples were analyzed for the following: total petroleum hydrocarbons as gasoline (TPH-g); benzene, toluene, ethylbenzene, xylenes (BTEX); and methyl tertiary-butyl ether (MtBE). Analysis results indicated the need for removal of additional soil from product piping areas and the UST removal excavation. Concentrations of TPH-g, BTEX and MtBE in soil samples from the UST removal excavation were elevated relative to those from the product piping and dispenser areas, where concentrations were relatively low. Following overexcavation, three soil samples were collected for laboratory analysis from the enlarged UST removal excavation ranging in depth from 16.5 to 24.5 feet bgs, and one from the product delivery piping at 5 feet bgs. Laboratory analysis detected elevated concentrations in soil samples at 24.5 feet bgs from the UST removal excavation relative to those at 16.5 and 19.5 feet bgs. Low concentrations of petroleum hydrocarbons were detected in the soil sample from the product delivery piping.

In July 1999, one 14,000-gallon UST divided into a 6,000-gallon unit for diesel and an 8,000-gallon unit for gasoline, and one 20,000-gallon UST for gasoline were installed at the site (Geo-Logic, 1999).

On January 3, 2000, ACHCS notified the property owner, Mr. Pazdel, of an unauthorized release that had occurred during removal of old USTs in May 1999. ACHCS requested a preliminary site assessment.

On July 5, 2001, a soil and groundwater investigation was conducted at the site to delineate the extent of soil and groundwater impact discovered during removal of the USTs, product delivery piping and product dispensers in May 1999 (CSS Environmental Services, 2001). Five soil borings, SB-1 through SB-5, were advanced using direct-push methods, to a maximum depth of 31 feet bgs. Groundwater was encountered in borings at depths ranging from 29 to 30 feet bgs, and stabilized at depths ranging from 17 to 20 feet bgs. Ten soil samples were collected from borings for laboratory analysis of TPH-g, BTEX and MtBE. Analytical results revealed elevated concentrations between 19 and 25.5 feet bgs. Maximum concentrations of TPH-g and BTEX in samples were 470,000 µg/kg, 2,600 µg/kg, 16,000 µg/kg, 12,000 µg/kg, and 73,000 µg/kg, respectively. MtBE was not detected in any soil samples. Grab groundwater samples were collected from each boring for laboratory analysis of TPH-g, BTEX and MtBE. Maximum concentrations of TPH-g and benzene in boring samples were 83,000 µg/L and 19,000 µg/L, respectively. MtBE was detected in four of five grab groundwater samples, at a maximum concentration of 87,000 µg/L.

In April 2002, groundwater monitoring wells MW-1 through MW-5 were installed on the site to a total depth of 30 feet bgs, and competed with well screens installed between 15 and 30 feet bgs. The wells were installed to evaluate the groundwater flow gradient and the extent of dissolved-phase fuel hydrocarbons in groundwater (SOMA, 2002). Groundwater was first encountered at depths ranging from approximately 25 to 29 feet bgs, and stabilized at depths ranging from 21 to 23 feet bgs. Five soil samples were collected from borings for laboratory analyses of TPH-g, BTEX and MtBE. Results revealed elevated concentrations of TPH-g and BTEX between 21 and 26 feet bgs, coincident with the depth at which groundwater was first encountered in the boreholes. No MtBE was detected in soil samples. Groundwater samples were initially collected from each monitoring well during Second Quarter 2002 (May 2002) for laboratory analyses of TPH-g, BTEX and MtBE (SOMA, 2002a). Maximum concentrations of TPH-g, benzene and MtBE in groundwater samples were 44,000 µg/L, 6,000 µg/L and 12,000 µg/L, respectively. Groundwater was determined to flow south across the site. Elevated levels of dissolved-phase hydrocarbons in the farthest downgradient monitoring well indicated off-site migration.

Between August and October 2003, a soil and groundwater investigation was conducted to evaluate off-site extent of dissolved-phase hydrocarbon migration with groundwater (SOMA, 2003). The investigation included a sensitive receptor survey to locate water supply wells and/or water bodies within a 2,000-foot radius of the site, and a conduit study to identify underground utilities adjacent to the site beneath Freedom Avenue, Fairmont Drive and 153rd Avenue. Soil borings TWB-1 through TWB-6 were advanced to depths ranging from 30 to 44 feet bgs, at locations ranging from 125 to 750 feet hydraulically downgradient from the site. Fourteen soil samples were collected at depths ranging from 16 to 39 feet bgs for laboratory analysis of TPH-g, BTEX, MtBE and 1,2-dichloroethene (1,2-DCE). Results revealed soil impact off-site to a maximum distance of 265 feet hydraulically downgradient of the site, at depths ranging from 18 to 31.5 feet bgs. Elevated concentrations were detected at depths ranging from 21.5 to 24.5 feet bgs, approximately 125 feet hydraulically downgradient from the site. Concentrations of benzene, MtBE and 1,2 DCE were not detected in soil samples. Grab groundwater samples were collected from each boring for laboratory analysis of TPH-g, BTEX, MtBE and 1,2-dichloroethane (1,2-DCA). Maximum concentrations of TPH-g and benzene were 410,000 µg/L and 2,200 µg/L, respectively, detected in a boring 125 feet hydraulically downgradient of the site. Maximum concentration of MtBE was 34 µg/L, detected in a boring 265 feet hydraulically downgradient of the site. The investigation resulted in preliminary identification of two water-bearing zones beneath the site and proximity. The sensitive receptor survey identified 10 wells within 2,000 feet of the site. Three are located hydraulically downgradient of the site: one irrigation well and two wells of unknown use. The remaining wells are either hydraulically upgradient or crossgradient of the site. No water body was identified within a 0.5-mile distance from the site. The conduit study revealed two sewer lines beneath Fairmont Drive

and 153rd Avenue; it was determined that neither was submerged by groundwater.

In September 2004, an additional soil and groundwater investigation was conducted to further evaluate the extent of dissolved-phase hydrocarbon migration with groundwater off-site (SOMA 2004). Groundwater monitoring wells MW-6 thru MW-9 were installed downgradient from the site to total depths ranging from 21 to 33 feet bgs, and completed with well screens ranging from 4 to 15 feet long installed at the base of each well. Groundwater was first encountered at depths ranging from approximately 15 to 20 feet bgs, and stabilized at depths ranging from 12 to 17 feet bgs. Four soil samples were collected from one monitoring well borehole. Soil samples were not collected from other boreholes because of extensive and unexpected lateral lithologic changes encountered between the well boreholes during drilling, necessitating continuous coring that precluded soil sample collection. Collected samples were analyzed for TPH-g and BTEX; neither was detected.

During this investigation, an attempt was made to collect a groundwater sample from an irrigation well hydraulically downgradient from the site, identified by the sensitive receptor survey conducted between August and October 2003. The irrigation well had been unused for some time and, subsequently, no groundwater sample could be collected.

An attempt was made to locate another well of unknown use hydraulically downgradient from the site, also identified by the sensitive receptor survey. This well could not be located despite canvassing of the surrounding residential neighborhood with written requests for information. Based on results of this investigation and the previous investigation conducted between August and October 2003, one water-bearing zone was identified to consist of discontinuous water-bearing layers and stringers separated by discontinuous clay lenses of varying thickness. Additionally, a preferential flow pathway study was proposed consisting of a possible buried stream channel trending north to south beneath the eastern portion of the site, and extending off-site to the south, beneath the intersection of 153rd Avenue, Fairmont Drive and Liberty Avenue, which is hydraulically downgradient from the site.

On November 21, 2005, ACHCS requested that the property owner submit a workplan for a soil and water investigation by January 21, 2006. It was submitted on December 28, 2005 (SOMA, 2005) and proposed installation of eight cone penetrometer test (CPT), membrane interface probe (MIP) borings to refine hydrogeologic conditions using CPT technology on- and off-site. The purpose of this investigation was to define the horizontal and vertical extent of the soil and groundwater impact on- and off-site using MIP technology, and to collect soil and groundwater samples for laboratory analyses to support MIP findings.

Based on a telephone conversation between SOMA and ACHCS, an addendum to SOMA's December 2005 workplan was prepared and submitted on March 3, 2006. The workplan provided further clarification for advancing the CPT/MIP as requested by ACHCS.

On April 10, 2006, SOMA oversaw drilling of CPT/MIP boreholes. Fisch Environmental, SOMA's subcontractor, used a Geoprobe 6600. Because of unforeseen subsurface drilling conditions, and the fact that Fisch's drilling rig was not strong enough to drill through the hard subsurface materials, drilling could not advance beyond 35 feet bgs in any of the CPT/MIP locations despite three days effort. An ACHCS representative was present during this operation. On April 26, using a hollow stem auger, a CPT calibration borehole was drilled to 47 feet bgs. Because CPT/MIP boreholes could not be advanced to targeted depths, Gregg Drilling was selected to drill CPT/MIP boreholes at a later date, and Fisch's compensation was to be appropriately reduced.

In a letter dated May 29, 2006, ACHCS reduced the quantity of on-site CPT/MIP borings from six to five, altered some boring locations, adjusted depths at which to collect groundwater samples, and requested development of a site conceptual model (SCM) and corrective action plan (CAP) along with an interim remediation and migration control evaluation. ACHCS established a November 30, 2006 deadline for report submittal.

On September 7, 2006, SOMA resumed the field investigation. To characterize site lithology and hydrogeology, and evaluate lateral and vertical distribution of soil and groundwater impact on- and off-site, SOMA supervised advancement of eight CPT/MIP borings by Gregg, using a 25-ton CPT rig. The MIP portion of the study was performed by Fisch utilizing an MIP probe attached to Gregg's CPT probe. After completion of the CPT/MIP program, eight borings were advanced using direct-push drilling methods, in the immediate proximity of the CPT/MIP borings. These borings were advanced to collect soil and groundwater samples for laboratory analyses to support MIP findings.

Investigation results were presented by SOMA in "Additional Soil and Groundwater Investigation Report and Initial Conceptual Site Model, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California," dated November 27, 2006. The report also included an interim remediation and migration control evaluation.

In summary, the report described two main water-bearing zones designated as the First and Second water-bearing zones (WBZs). Both WBZs appear to be laterally continuous across the site and hydraulically downgradient of the site, and are separated by a laterally continuous aquitard. Moderately weathered fuel hydrocarbons are adsorbed to soil or dissolved in groundwater within the First and Second WBZs. The source area in the First WBZ appears to be in proximity to the location of the former USTs and the existing fuel dispensers in both the

north and southeast portions of the site. A source area for the Second WBZ is indeterminate because limited data for the Second WBZ was generated by the investigation. The site is located in an area of primarily residential properties with a commercial property to the east. Population/receptors exposed to fuel hydrocarbons in soil and groundwater of the First WBZ on- and off-site include current and future on-site workers and current off-site commercial workers and residents. Sources are fuel hydrocarbons adsorbed to soil, and dissolved-phase hydrocarbons in groundwater, of the First WBZ. Exposure pathways for on-site receptors are inhalation of volatile emissions from impacted soil and groundwater of the First WBZ. The only exposure pathway for off-site residents appears to be incidental ingestion of groundwater from the First and Second WBZs. The soil interim remediation alternatives evaluated included soil excavation, soil vapor extraction (SVE), and multi-phase extraction (MPE). Groundwater interim remediation alternatives included groundwater extraction, ozone sparging and hydrogen peroxide injection.

ACHCS correspondence dated March 14, 2007 directed that a workplan be prepared to address ACHCS comments contained therein and SOMA's recommendations in the November 27, 2006 report.

A workplan detailing proposed monitoring well installation, soil gas survey and remediation feasibility study was submitted to ACHCS on April 11, 2007 and approved in ACHCS correspondence dated October 18, 2007.

SOMA submitted "Additional Soil and Groundwater Investigation for Remedial Investigation and Feasibility Study" on March 14, 2008. ACHCS comments included in correspondence dated April 25, 2008 were addressed by SOMA's correspondence dated June 9, 2008.

In December 2007 SOMA installed three groundwater monitoring wells within the Second WBZ (MW-1D, MW-2D, and MW-3D) to approximately 60 feet bgs. A soil vapor study was conducted utilizing four soil gas sampling probes (SGS-1 through SGS-4, advanced to 5 feet bgs). Based on results of the soil gas sampling, concentrations of COCs in soil gas at the site are not considered a significant risk to human health.

In March 2009, ACHCS approved SOMA's CAP and initiated a public comment period for affected stakeholders to comment on SOMA's remedial action plan. On April 27, 2009, SOMA installed extraction wells MPE-1 and MPE-2 onsite. In their May 2009 correspondence, ACHCS approved SOMA's recommendation to decommission MW-8 and MW-9, off site wells that have consistently demonstrated COCs below ESLs and laboratory detection limits. November 2009, SOMA installed EX-1 and EX-2 off-site, within the downgradient plume and installed a groundwater extraction and treatment system at the site.

Quarterly and now Semi-Annual groundwater monitoring/sampling has been regularly conducted at the site since Second Quarter 2002. Currently there are 12 groundwater monitoring wells, eight on-site and four off-site.

SOMA conducted MPE pilot testing between November 13 and 16, 2007. An estimated VOC mass of 106 lbs was removed during testing, at a mass removal rate of 35 lbs/day over 72 hours. Week long MPE events have been conducted at the site with a total of 576 lbs of VOCs being removed as of June 2010.

The groundwater extraction system was initiated on December 9, 2009 and has removed and treated 621,180 gallons of groundwater as of April 2010 and approximately 10.89 lbs of hydrocarbons.

APPENDIX B

Historical Boring Logs and Cross-Sections

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-1

PROJECT: 2552

DATE DRILLED: July 20, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 26.5 ft
Stablized GW: 18 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
3.4			CL	Hand Auger to 5 ft SANDY LEAN CLAY: Dark brown, moist, ~30% fine- to medium-grained sand, ~70% clay with high dry strength, no dilatancy, medium toughness, medium plasticity, soft, no HCl reaction, no Petroleum Hydrocarbon (PHC) odor				
2.1	5		SC	CLAYEY SAND: Brown, moist, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, soft, no HCl reaction, no PHC odor				
0.5			SM	SILTY SAND with gravel: Brown, moist, ~60% fine- to medium-grained sand, ~15% subangular to subrounded gravel up to 1-inch, ~25% silty with low dry strength, slow dilatancy, low toughness, CaCO3 nodules with strong HCl reaction, nonplastic, no PHC odor.				
0.7	10		SC	CLAYEY SAND: Brown, moist, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, soft, no HCl reaction, no PHC odor				
			SW	WELL-GRADED SAND with gravel: Brownish-gray, moist, fine- to coarse-grained sand, ~10% subangular to subrounded gravel, strong HCl reaction, no PHC odor				
2.7	15		CL	SANDY LEAN CLAY: Brown, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, strong HCl reaction, no PHC odor.				
1.3			SW	WELL-GRADED SAND: Greenish-gray, moist to very moist, fine- to coarse-grained sand, strong PHC odor at 20 ft.				
176	20		SC	CLAYEY SAND: Greenish-gray, moist to very moist, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, soft, no HCl reaction, strong PHC odor				
220			CL	SANDY LEAN CLAY: Greenish-gray with some brown mottling, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, strong HCl reaction, slight PHC odor.				
143	25							

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-1

PROJECT: 2552

DATE DRILLED: July 20, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 26.5 ft
Stablized GW: 18 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
1.7			CL	SANDY LEAN CLAY: Greenish-gray with some brown mottling, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, strong HCl reaction, slight PHC odor.		▽		
5.9	30		SC	CLAYEY SAND: Greenish-gray, wet to saturated, ~70% fine- to coarse-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, soft, no HCl reaction, no PHC odor	X			
	35							
	40							
	45							
	50							

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-2

PROJECT: 2552

DATE DRILLED: July 20, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 24 ft
Stablized GW: 19 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
			A/C	3 inches asphalt				
0.0			CL	Hand Auger to 5 ft SANDY LEAN CLAY: Black, moist, ~30% fine- to medium-grained sand, ~70% clay with high dry strength, no dilatancy, medium toughness, medium to high plasticity, soft, no HCl reaction, no Petroleum Hydrocarbon (PHC) odor				
	5			As above: Dark brown, moist, some gravel, no PHC odor.				
0.0			SC	CLAYEY SAND: Greenish-brown, moist, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, no HCl reaction, no PHC odor	X			
	10				X			
0.0			CL	SANDY LEAN CLAY: Brown, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, hard, no HCl reaction, no PHC odor.				
	15							
0.0			SC	CLAYEY SAND: Greyish-brown, moist, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, no HCl reaction, no PHC odor, some gravel (<5%)		▼		
0.0			CL	SANDY LEAN CLAY: Brown, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, no HCl reaction, no PHC odor.				
	20		SC	CLAYEY SAND: Brown, moist, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, no HCl reaction, no PHC odor	X			
60.6			CL	SANDY LEAN CLAY: Brown, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, no HCl reaction, becomes green with PHC odor at 23 ft				
156.5			SC	CLAYEY SAND: Brown, saturated, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, no HCl reaction, PHC odor	X	▽		
	25							

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-2

PROJECT: 2552

DATE DRILLED: July 20, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 24 ft
Stablized GW: 19 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
4.8			SC	CLAYEY SAND: Brown, saturated to 25.5 ft, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, no HCl reaction, slight PHC odor					
			CL	SANDY LEAN CLAY: Brown, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, no HCl reaction, slight PHC odor		X			
43.1			SC	CLAYEY SAND: Greyish-brown, wet to saturated, ~70% fine- to coarse-grained sand, ~30% clay with medium dry stregth, no dilatancy, medium toughness, soft, no HCl reaction, slight PHC odor		X			
	30								
	35								
	40								
	45								
	50								

COMMENTS: TD @ 30 ft

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-3

PROJECT: 2552

DATE DRILLED: July 21, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 22 ft
Stablized GW: 18 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
			A/C	6 inches asphalt				
1.7			CL	Hand Auger to 5 ft (~2 ft base rock - sandy gravel) SANDY LEAN CLAY: Black, moist, ~30% fine- to medium-grained sand, ~70% clay with high dry strength, no dilatancy, medium toughness, medium to high plasticity, soft, no HCl reaction, no Petroleum Hydrocarbon (PHC) odor				
0.0	5		SC	CLAYEY SAND: Brown, moist, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, strong HCl reaction, no PHC odor	X			
				As above: moist, no PHC odor, some subangular to subrounded gravel up to 1/2-inch				
0.0	10			As above: moist, HCl reaction	X			
5.5	15		CL	SANDY LEAN CLAY: Brown, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, soft, slight HCl reaction, no PHC odor.				
				No Recovery- sample liner stuck in tube		▼		
7.7	20		CL	SANDY LEAN CLAY: Greenish-brown, moist (very moist @ 22 ft), ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, strong HCl reaction, slight PHC odor	X X	▽		
0.0			SC	CLAYEY SAND: Greenish-brown, saturated, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, soft, slight HCl reaction, slight PHC odor				
0.0	25			As above: very moist to wet, slight PHC odor				

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-3

PROJECT: 2552

DATE DRILLED: July 21, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 22 ft
Stablized GW: 18 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
0.0 0.5	30		SC	CLAYEY SAND: Brown, moist to wet, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, soft, slight HCl reaction, slight PHC odor As above: moist to wet, large $CaCO_3$ nodules		X			

35

40

45

50

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-4

PROJECT: 2552

DATE DRILLED: July 21, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 20 ft
Stablized GW: 15.90 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
0.4			A/C	4 inches concrete					
			SW	Hand Auger to 5 ft WELL-GRADED SAND (fill): Brown, moist, fine- to coarse-grained sand, no Petroleum Hydrocarbon (PHC) odor					
0.0	5		CL	SANDY LEAN CLAY: Black, moist, ~30% fine- to medium-grained sand, ~70% clay with high dry strength, no dilatancy, medium toughness, medium to high plasticity, soft, no HCl reaction, no PHC odor					
0.0				As above: moist, slight HCl reaction, no PHC odor		X			
	10		SC	CLAYEY SAND: Olive-green, moist, ~70% fine- to coarse-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, no HCl reaction, no PHC odor, some gravel					
0.0				As above: moist, no PHC odor		X			
	15		CL	SANDY LEAN CLAY: Greenish-brown, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, soft, CaCO3 nodules with HCl reaction @ 16 ft, no PHC odor.					
0.0						X	▼		
45.8	20			As above: very moist to wet, slight PHC odor		X	▽		
1.2				As above: very moist to wet, PHC odor					
180.9									
195.5				As above: moist, slight PHC odor		X			
	25								

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-4

PROJECT: 2552

DATE DRILLED: July 21, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 20 ft
Stablized GW: 15.90 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
142.9			CL	SANDY LEAN CLAY: Greenish-brown, very moist to wet, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, soft, no HCl reaction, PHC odor		X			
0.0	30		SC	CLAYEY SAND: Brown, wet to saturated, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, no HCl reaction, slight PHC odor		X			
	35								
	40								
	45								
	50								

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-5

PROJECT: 2552

DATE DRILLED: July 20, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 21 ft
Stablized GW: 16 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
			A/C	6 inches asphalt					
			CL	Hand Auger to 5 ft SANDY LEAN CLAY: Black, moist, ~30% fine- to medium-grained sand, ~70% clay with high dry strength, no dilatancy, medium toughness, medium to high plasticity, soft, no HCl reaction, no PHC odor					
0.0	5			As above: moist, some CaCO3 nodules with strong HCl reaction, no PHC odor					
0.4				As above: olive-green, moist, no PHC odor		X			
0.0	10		SC	CLAYEY SAND: Olive-green, moist, ~70% fine- to coarse-grained sand, ~30% clay with medium dry stregth, no dilatancy, medium toughness, firm, no HCl reaction, no PHC odor, some gravel		X			
1.1			SW	WELL-GRADED SAND: Greenish-brownish, moist, fine- to coarse-grained sand, no HCl reaction, no PHC odor, some gravel		X			
			CL	SANDY LEAN CLAY: Brown, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, very hard, no HCl reaction, no PHC odor, some gravel					
0.0	15						▼		
				As above: moist, hard, slight PHC odor					
0.0	20		SC	CLAYEY SAND: Brown, moist (wet lens from 21-22 ft), ~70% fine- to coarse-grained sand, ~30% clay with medium dry stregth, no dilatancy, medium toughness, firm, no HCl reaction, slight PHC odor begins at 21 ft, some gravel			▽		
26.5						X			
65.7				As above: saturated, PHC odor					
96.2	25								

COMMENTS: TD @ 30 ft

PROJECT: 2552

DATE DRILLED: July 20, 2011

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

First Encountered GW: 21 ft
Stablized GW: 16 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 2-inch

SCREEN LENGTH: NA

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
6.8	30		SC	CLAYEY SAND: Brown, saturated, ~70% fine- to coarse-grained sand, ~30% clay with medium dry strength, no dilatancy, medium toughness, firm, no HCl reaction, slight PHC odor, some gravel (<5%)					
9.9				As above: saturated to wet		X			
						X			
	35								
	40								
	45								
	50								

COMMENTS: TD @ 30 ft

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: EX-1

PROJECT: 2552

DATE DRILLED: 11/12/2009

SITE LOCATION: 15101 Freedom Ave.
San Leandro, CA

CASING ELEVATION:

DRILLER: Gregg Drilling & Testing

DEPTH TO GW: 26.5 ft

DRILLING METHOD: Hollow Stem Auger

T.O.C. TO SCREEN: 15 ft.

BORING DIAMETER: 10-inch

SCREEN LENGTH: 15 ft.

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

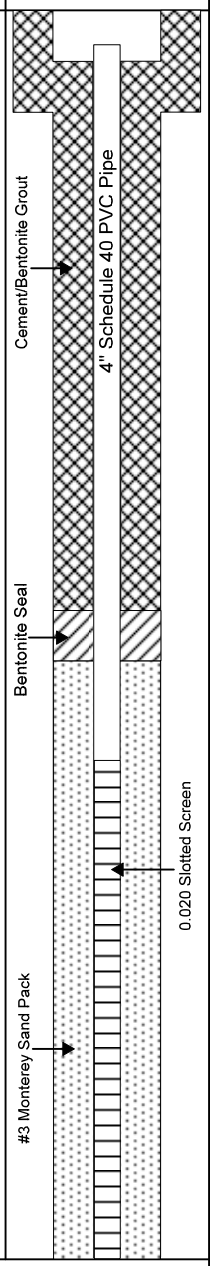
PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
1.0			SW	Hand Auger to 5 ft; ~10" asphalt WELL GRADED SAND w/gravel (Baserock): Brown; dry; ~ 55% fine- to coarse-grained sand; ~45% sub-rounded to subangular gravel up to 1"; no Petroleum Hydrocarbon (PHC) odor, no HCL reaction.
0.5			CL	SANDY LEAN CLAY: Dark brown; moist; ~35% fine- to medium-grained sand; ~ 65% fines with high dry strength, no dilatancy, med. toughness, medium to high plasticity, soft; no HCl reaction; no PHC odor.
0.7	5		SC	CLAYEY SAND: Brown; moist; ~70% fine- to medium-grained sand; ~ 30% fines with medium dry strength, slow dilatancy, medium toughness, soft; no HCl reaction; no PHC odor.
0.4				
0.7			SM	SILTY SAND w/ gravel: Brown; moist; ~60% fine- to medium-grained sand; ~15% subangular to subrounded gravel up to 1"; ~ 25% fines with low dry strength, medium dilatancy, low toughness, nonplastic; CaCO3 nodules present - strong reaction to HCl; no PHC odor.
	10			
0.2			SC	CLAYEY SAND: Brown; moist; ~ 70% fine- to medium-grained sand; ~ 30%fines with medium dry strength, slow dilatancy, medium toughness, soft; CaCO3 nodules present - strong reaction to HCl; no PHC odor.
0.3			SW	WELL GRADED SAND w/gravel: Greenish-gray; moist; ~ 60% fine- to coarse-grained sand; ~40% fine, subangular gravel; CaCO3 nodules present - strong reaction to HCl; no PHC odor.
	15			
0.6			SC	CLAYEY SAND: Brown; moist; ~70% fine- to medium-grained sand; ~ 30%fines with medium dry strength, slow dilatancy, medium toughness, soft; CaCO3 nodules present - strong reaction to HCl; no PHC odor.
4.7			SW	WELL GRADED SAND w/gravel: Greenish-gray; moist; ~ 60% fine- to coarse-grained sand; ~40% fine, subangular gravel; CaCO3 nodules present - strong reaction to HCl; no PHC odor.
24.6	20		CL	SANDY LEAN CLAY: Greenish-gray; moist; ~40% fine- to medium-grained sand; ~ 60% fines with medium dry strength, slow dilatancy, medium toughness, medium plasticity, very hard; CaCO3 nodules present - strong reaction to HCl; slight PHC odor.
453			SW	WELL GRADED SAND w/gravel: Greenish-gray; moist; ~ 60% fine- to coarse-grained sand; ~40% fine, subangular gravel; CaCO3 nodules present - strong reaction to HCl; PHC odor.
7.9			CL	SANDY LEAN CLAY: Greenish-gray; moist; ~40% fine- to medium-grained sand; ~60% fines with medium dry strength, slow dilatancy, medium toughness, medium plasticity, very hard; CaCO3 nodules present - strong reaction to HCl; slight PHC odor.
	25			

SAMPLED: SPLIT SPOON, CORE

GW LEVEL

BLOWCOUNTS

WELL DIAGRAM



COMMENTS: TD @ 30 ft, static groundwater measured 12/1/09 at 17.02 Feet bgs

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: EX-1

PROJECT: 2552

DATE DRILLED: 11/12/2009

SITE LOCATION: 15101 Freedom Ave.
San Leandro, CA

CASING ELEVATION:

DRILLER: Gregg Drilling

DEPTH TO GW: 26.5 ft.

DRILLING METHOD: Hollow Stem Auger

T.O.C. TO SCREEN: 15 ft.

BORING DIAMETER: 10-inch

SCREEN LENGTH: 15 ft.

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
411			CL	SANDY LEAN CLAY: Greenish-gray; moist; ~40% fine- to medium-grained sand; ~ 60% fines with medium dry strength, slow dilatancy, medium toughness, medium plasticity, very hard; CaCO3 nodules present - strong reaction to HCl; slight PHC odor.		▽		#3 Monterey Sand Pack; 0.020 Slotted Screen
7.5			SC	CLAYEY SAND w/gravel: Grayish-green; wet; ~ 60% fine- to coarse-grained sand; ~25% subangular to subrounded gravel up to 1/2"; ~ 15% fines with medium dry strength, medium toughness, no dilatancy, slight HCl reaction; moderate PHC odor.				
0.2			ML	SANDY SILT: Light brown; moist; ~30% fine- to medium-grained sand; ~ 70% fines with low dry strength, low toughness, firm, low plasticity; CaCO3 nodules present - strong reaction to HCl;no PHC odor.				
	30							
	35							
	40							
	45							
	50							

COMMENTS: TD @ 30 ft.

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: EX-2

PROJECT: 2552

DATE DRILLED: 11/12/2009

SITE LOCATION: 15101 Freedom Ave.
San Leandro, CA

CASING ELEVATION:

DRILLER: Gregg Drilling & Testing

DEPTH TO GW: 23 ft.

DRILLING METHOD: Hollow Stem Auger

T.O.C. TO SCREEN: 15 ft.

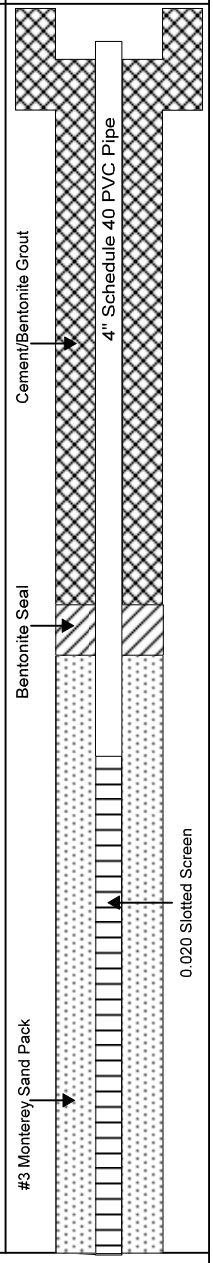
BORING DIAMETER: 10-inch

SCREEN LENGTH: 15 ft.

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
0.2			SW	Hand Auger to 5 ft. WELL GRADED SAND with gravel (Baserock): Brown; dry; ~ 70% fine- to coarse-grained sand; ~ 30% sub-rounded to subangular gravel up to 1"; no Petroleum Hydrocarbon (PHC) odor, no HCl reaction.				
0.4			CL	LEAN CLAY: Dark brown; moist; high dry strength; medium toughness; no dilatancy; no HCl reaction; high plasticity; no PHC odor.				
0.9	5		SC	CLAYEY SAND: Brown; moist; ~60% fine- to medium-grained sand; ~40% fines with medium dry strength, slow dilatancy, medium toughness, no HCl reaction, firm; no PHC odor.				
3.5	10		SM	SILTY SAND: Brown; moist; ~55% fine- to medium-grained sand; ~45% fines with low dry strength, medium dilatancy, low toughness, non-plastic; CaCO3 nodules present - strong reaction to HCl; no PHC odor.				
2.1			SC	CLAYEY SAND: Brown; moist; ~60% fine- to medium-grained sand; ~ 40% fines with medium dry strength, slow dilatancy, medium toughness, firm; CaCO3 nodules present - strong reaction to HCl; no PHC odor.				
0.7	15			Slight PHC odor begins at 15.5 ft.				
0.8			CL	SANDY LEAN CLAY: Brown; moist; ~35% fine- to medium-grained sand; ~65% fines with medium dry strength, slow dilatancy, medium toughness, medium plasticity; CaCO3 nodules present - strong reaction to HCl; slight PHC odor.		▼		
	20			Greenish-brown at 18.5 ft.				
393				Very moist to wet at 23 ft.		▽		
0.4	25		SC	CLAYEY SAND w/gravel: Greenish-brown; very moist to wet; ~ 60% fine- to medium-grained sand; ~ 15% subangular to subrounded gravel up to 1/2"; ~ 25% clayey fines with medium dry strength, medium toughness, no dilatancy, firm; CaCO3 nodules present - strong reaction to HCl; slight PHC odor.				



COMMENTS: TD @ 30 Ft., Static grounddwater measured 12/1/09 at 17.56 feet bgs.

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: EX-2

PROJECT: 2552

DATE DRILLED: 11/12/2009

SITE LOCATION: 15101 Freedom Ave.
San Leandro, CA

CASING ELEVATION:

DRILLER: Gregg Drilling & Testing

DEPTH TO GW: 23 ft.

DRILLING METHOD: Hollow Stem Auger

T.O.C. TO SCREEN: 15 ft.

BORING DIAMETER: 10-inch

SCREEN LENGTH: 15 ft.

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
			SC	CLAYEY SAND w/gravel: Greenish-brown; very moist to wet; ~ 60% fine- to medium-grained sand; ~ 15% subangular to subrounded gravel up to 1/2"; ~ 25% clayey fines with medium dry strength, medium toughness, no dilatancy, firm; CaCO3 nodules present - strong reaction to HCl; slight PHC odor.				#3 Monterey Sand Pack; 0.020 Slotted Screen
			SW	WELL-GRADED SAND w/gravel: Green; very moist to wet; very firm; ~ 70% fine- to coarse-grained sand; ~30% subrounded to subangular gravel up to 1/2"; CaCO3 nodules present - strong reaction to HCl; no PHC odor.				
	30							
	35							
	40							
	45							
	50							

COMMENTS: TD @ 30 ft.

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE MW-6

BORING LOCATION

SEE SITE MAP

PROJECT: 2552

SITE LOCATION: Intersection of 152-nd and Liberty St.

DRILLING METHOD: HSA

DRILLER: Gregg Drilling & Testing. (Jason)

LOGGED BY: E Jennings

DATE DRILLED: August 25, 2004

CASING ELEVATION: NA

DEPTH TO 1ST GW: 16 ft bgs

APPROVED BY: R. Papler R.G.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	SAMPLED (core / split spoon)	BLOWCOUNTS	GW LEVEL	WELL DIAGRAM
				6-7" Asphalt over 15" Baserock	HAND AUGERED TO 5'			CEMENT GROUT
			CL	SILTY CLAY: dark gray becoming medium dark brownish gray w/ depth, med. stiff to stiff, moist, high plasticity; Low estimated permeability (LEK). Slight petroleum hydrocarbon (PHC) odor.				
0	5		CL	SILTY CLAY with some Sand and Gravel: light gray brown becoming gray brown below 8', stiff, damp, becoming moist below 8'; <15% very fine sand and gravel with some caliche; Low estimated permeability (LEK). No petroleum hydrocarbon (PHC) odor.	No recov.			BENTONITE SEAL
0	10		SP/SW	SAND interbedded with GRAVELLY SAND: olive gray, med dense; moist to very moist becoming wet below 16'; fine to coarse sand with < 20% subangular to subrounded gravel to 1"; High estimated permeability (HEK). No PHC odor.				4" SCHEDULE 40 PVC WELL CASING
10	15			As above with moderate PHC odor.				0.02 SLOTTED SCREEN
307			CL/SC	SANDY CLAY/ CLAYEY SAND w/ some Gravel: olive gray, med. stiff, very moist; 40-60% very fine to fine sand w/ <15% subangular to subrounded gravel to 1 1/2"; MEK-HEK. Moderate to strong PHC odor.			▽	2/12 SAND
442	20		SW	SAND w/ some Gravel: olive gray, med. dense, moist becoming wet, fine to coarse sand w/ < 10% subrounded gravel to 3/4"; HEK. Strong PHC odor.			▽	
255	25							

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE MW-6

BORING LOCATION

SEE SITE MAP

PROJECT: 2552

SITE LOCATION: Intersection of 152-nd and Liberty St.

DRILLING METHOD: HSA

DRILLER: Gregg Drilling & Testing. (Jason)

LOGGED BY: E Jennings

DATE DRILLED: August 25, 2004

CASING ELEVATION: NA

DEPTH TO 1ST GW: 16 ft bgs

APPROVED BY: R. Papler R.G.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	SAMPLED (core / split spoon)	BLOWCOUNTS	GW LEVEL	WELL DIAGRAM
653			GW	SANDY GRAVEL: gray, med. dense, wet, fine to coarse; HEK. Strong PHC odor.				0.02 SLOTTED SCREEN / BENTONITE PLUG
			CL	SILTY CLAY: olive gray and gray brown, very stiff to hard, damp to moist, high plasticity; LEK. Slight PHC odor.				
				Total depth: 28 ft bgs Borehole plugged to 27'				
	30			Groundwater first encountered at 16 ft bgs then 20 ft bgs and later stabilized at 17.64 ft below toc (21 September 2004).				
	35							
	40							
	45							
	50							

N

RESIDENTIAL AREA

151 st AVENUE

CPT/MIP-1
DPS-1
DPW-1

B

HSA

MW-1D

MW-1

FREEDOM AVENUE

SB-4

DISPENSER ISLANDS

CPT/MIP-3
DPS-3
DPW-3

A

CPT/MIP-4
DPS-4
DPW-4

A'

SB-1

USTs

MW-2

MW-3D

MW-3

Site Boundary

SB-2

SB-3

STATION BUILDING

CPT/MIP-2
DPS-2
DPW-2

DISPENSER ISLANDS

MW-4

SB-5

MW-4D

B'

CPT/MIP-5
DPS-5
DPW-5

MW-5

C

CPT/MIP-6
DPS-6
DPW-6

CPT/MIP-8
DPS-8
DPW-8

CPT/MIP-7
DPS-7
DPW-7

INTERSTATE 580 ONRAMP

INTERSTATE 580

COMMERCIAL AREA

RESIDENTIAL AREA

TWB-1

MW-6

FAIRMONT DRIVE

TWB-2

MW-7

LIBERTY ST

152 nd AVENUE

TWB-5

MW-9

MW-8

RESIDENTIAL AREA

TWB-3

RESIDENTIAL AREA

ORIOLE AVENUE

TWB-6

LARK AVENUE

C'

TWB-4

153 rd AVENUE

1573 153rd Street

Monitoring Wells 1st WBZ

Monitoring Wells 2nd WBZ

Irrigation Well

Soil Borings drilled July, 2001

Temporary Well Borehole
Drilled by SOMA September 2003

HSA Borehole

CPT/MIP Borehole

GS Borehole

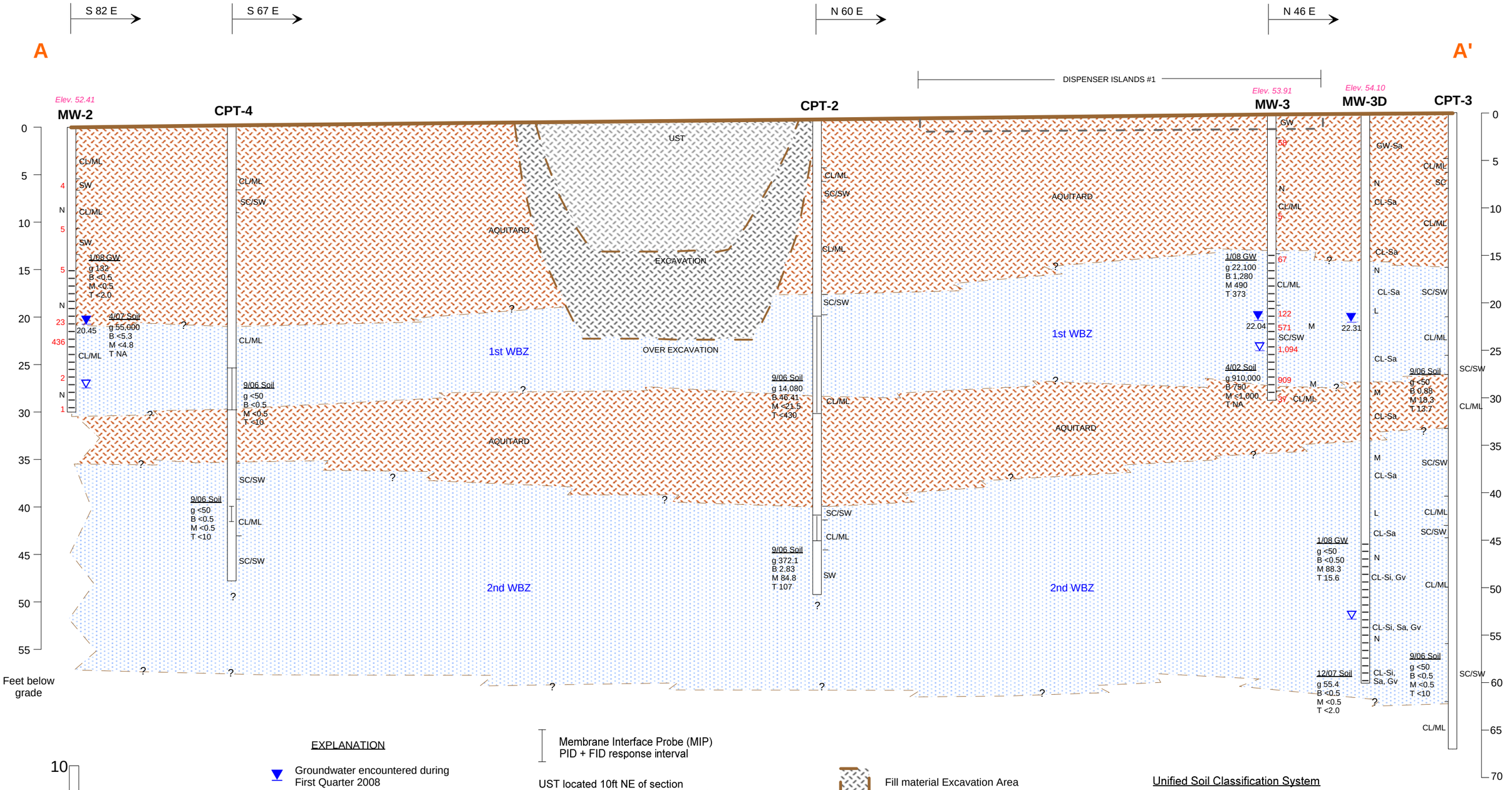
Note: Monitoring wells MW-6 through MW-9 installed in September 2004.

approximate scale in feet

0 70 140

Appendix B1: Locations of geologic cross-sections AA', BB' and CC'

SOMA ENVIRONMENTAL ENGINEERING, INC.



10 0 10

approximate scale in feet

EXPLANATION

- Groundwater encountered during First Quarter 2008
- Groundwater encountered during well borehole drilling
- Monitoring well screen interval
- ? Inferred contact

Note: Analytical Soil and Groundwater Data for CPT borings taken from soil borings (GS)

Membrane Interface Probe (MIP)
PID + FID response interval

UST located 10ft NE of section
Dispenser # 1 located 20ft N of section

1/08 Month/Yr

122 - PID readings ppm VOCs

N, L, M, S: No, Light, Medium, Strong PHC Odor

Fill material Excavation Area

GW - GroundWater (ug/L)
Soil (ug/kg)

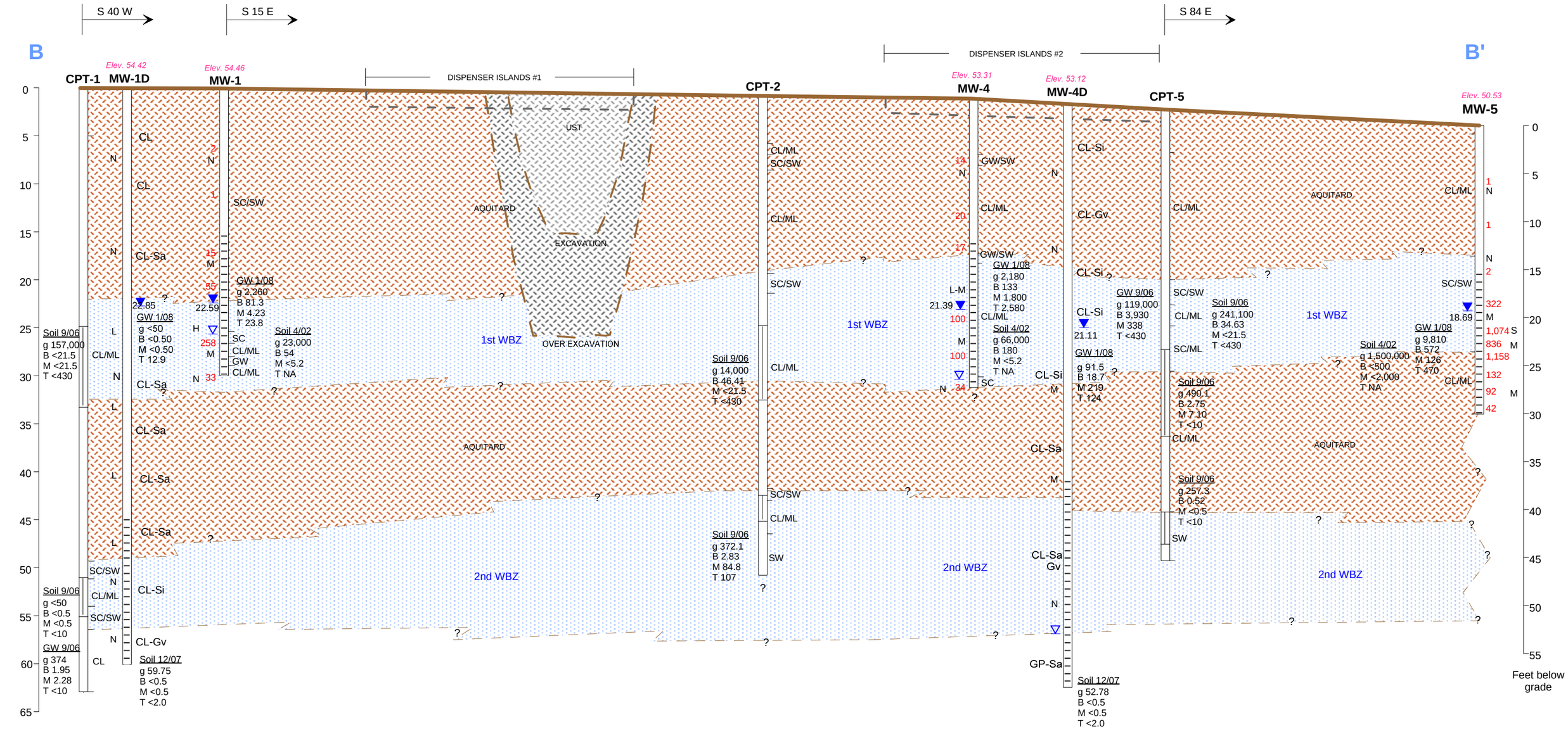
ug/L	g - TPH-g
ug/L	B - Benzene
ug/L	M - MtBE
ug/L	T - TBA

Unified Soil Classification System

CL	Clay	CL-Sa	Sandy Clayey
SP	Sand, Poorly Graded	CL-Si	Silty Clay
SW	Sand, Well Graded	CL-Gv	Gravelly Clay
GW	Gravel, Well Graded	GP-Sa	Sandy Gravel
ML	Silt		
SM	Silty Sand		

Appendix B2: Geologic Cross-Section AA'

ENVIRONMENTAL ENGINEERING, INC.



EXPLANATION

- Groundwater encountered during Quarterly Monitoring Event First Quarter 2008
- Groundwater encountered during well borehole drilling
- Monitoring well screen interval
- ? Inferred contact

Note: Analytical Soil and groundwater Data for CPT borings taken from Soil borings (GS)

Dispenser Island #1 located 10ft N of section

Membrane Interface Probe (MIP) PID + FID Response Interval

122 - PID readings ppm VOCs

N, L, M, S: No, Light, Medium, Strong PHC odor

Fill material Excavation Area

ug/L	g - TPH-g
ug/L	B - Benzene
ug/L	M - MtBE
ug/L	T - TBA

approximate scale in feet (10 / 0 / 15)

Unified Soil Classification System

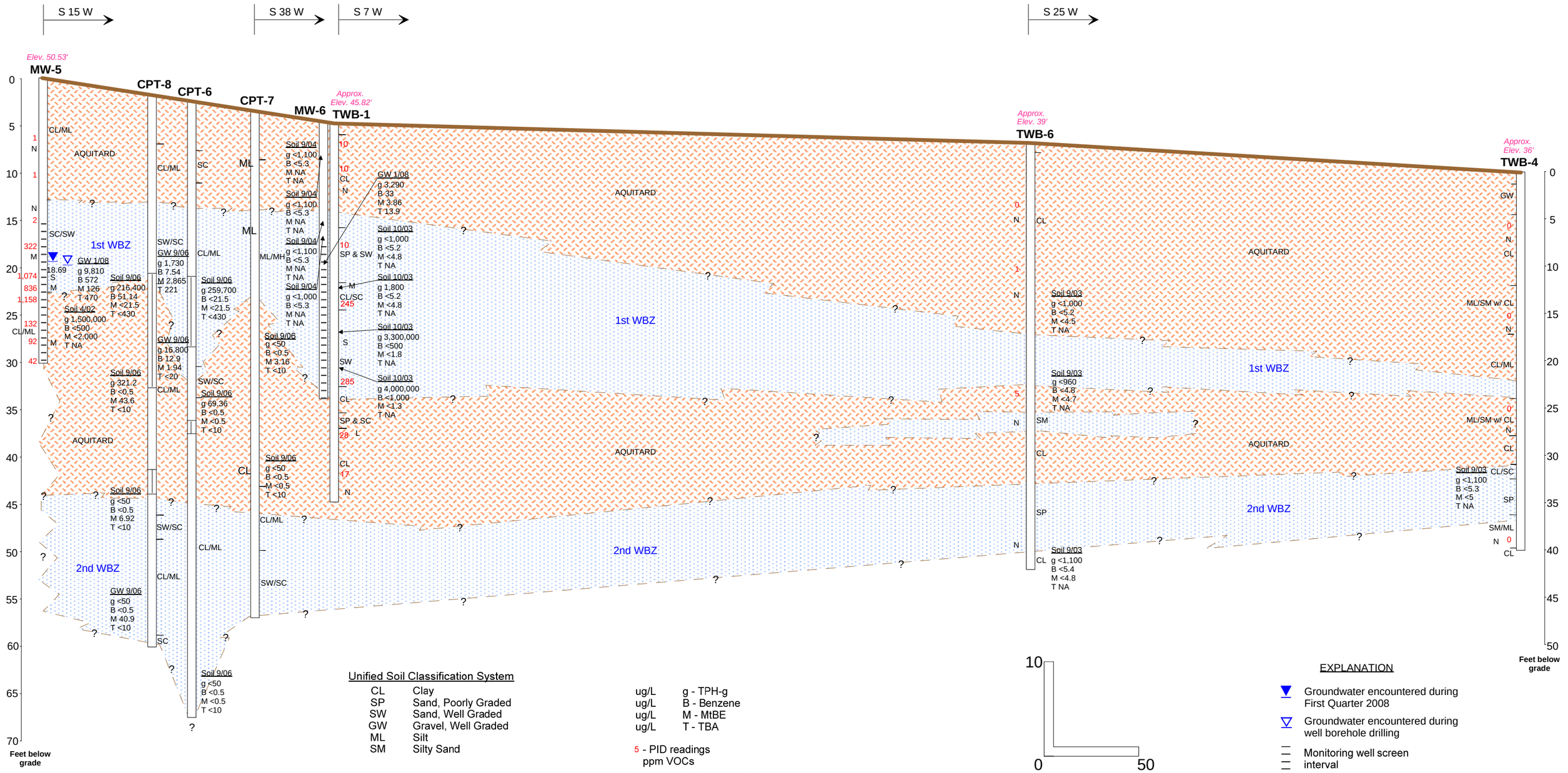
CL	Clay	CL-Sa	Sandy Clay
SP	Sand, Poorly Graded	CL-Si	Silty Clay
SW	Sand, Well Graded	CL-Gv	Gravelly Clay
GW	Gravel, Well Graded	GP-Sa	Sandy Gravel
ML	Silt		
SM	Silty Sand		

Appendix B3: Geologic Cross-Section BB'

ENVIRONMENTAL ENGINEERING, INC.

C

C'



Unified Soil Classification System

CL	Clay
SP	Sand, Poorly Graded
SW	Sand, Well Graded
GW	Gravel, Well Graded
ML	Silt
SM	Silty Sand

ug/L g - TPH-g
ug/L B - Benzene
ug/L M - MtBE
ug/L T - TBA

5 - PID readings ppm VOCs

N, L, M, S: No, Light, Medium, Strong PHC odor

Membrane Interface Probe (MIP) PID + FID Response Interval

approximate scale in feet

EXPLANATION

- Groundwater encountered during First Quarter 2008
- Groundwater encountered during well borehole drilling
- Monitoring well screen interval
- ? Inferred contact

Note: Analytical Soil and groundwater Data for CPT borings taken from Soil borings (GS)

Appendix B4: Geologic Cross-Section CC'

ENVIRONMENTAL ENGINEERING, INC.