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2 August 2016

RECEIVED
By Alameda County Environmental Health 8:01 am, Aug 03, 2016

Mark Detterman, P.G., CEG
Senior Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: Data Gap Investigation Work Plan and Focused Site Conceptual Model
Former Horton Street Underground Storage Tank
In Public Right-of-Way on Horton Street Adjacent to 5679 Horton Street, Emeryville, California

Dear Mr. Detterman:

I declare, under penalty of perjury, the information and/or recommendations contained in the attached document or report is/are true and correct to the best of my knowledge.

If you have any questions or need additional information, please contact me at 510-596-4380.

Sincerely,

Michael A. Guina
City Attorney
City of Emeryville

Attachment: Data Gap Investigation Work Plan and Focused Site Conceptual Model

Erler &
Kalinowski,
Inc.

Consulting Engineers and Scientists

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Burlingame, CA 94010
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29 July 2016

Mark Detterman, P.G., CEG
Senior Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: Data Gap Investigation Work Plan and Focused Site Conceptual Model
Former Horton Street Underground Storage Tank
In Public Right-of-Way on Horton Street Adjacent to 5679 Horton Street, Emeryville, California
(EKI B20006.00 T7)

Dear Mr. Detterman:

Erler & Kalinowski, Inc. ("EKI") is pleased to submit this Data Gap Investigation Work Plan and Focused Site Conceptual Model ("Work Plan") on behalf of our client, the City of Emeryville as the Successor Agency to the Emeryville Redevelopment Agency ("Successor Agency") for the former underground storage tank ("UST"), located in the public right-of-way on Horton Street adjacent to 5679 Horton Street in Emeryville, California ("Horton Street UST", "Site"; see Figure 1).

The Horton Street UST was discovered in May 2015 while retraction grouting a direct-push grab groundwater sampling location for off-site groundwater investigation activities associated with the Former Marchant/Whitney ("FMW") Site, 5679 Horton Street, and the Site B Project Area in Emeryville, California, which are under the regulatory oversight of the Department of Toxic Substances Control ("DTSC") (EKI, 2016a and 2016b). The UST at the Site was removed on 17 June 2015 in accordance with the Alameda County Department of Environmental Health ("ACDEH") approved *Underground Storage Tank Closure Plan, 5679 Horton Street, Emeryville, California,* dated 8 June 2015 ("Closure Plan"; EKI, 2015a). Removal activities and analytical results are summarized in the *Underground Storage Tank Closure Report, In Public Right-of-Way on Horton Street Adjacent to 5679 Horton Street, Emeryville, California,* dated 17 August 2015 ("Closure Report"; EKI, 2015b). In response to the Closure Report, ACDEH issued a letter, dated 7 October 2015, that evaluated the Site in light of the Low Threat Closure Policy ("LTCP") (SWRCB, 2012) criteria and requested a data gap investigation work plan and focused site conceptual model ("SCM").

This Work Plan includes a response to statements in 7 October 2015 ACDEH letter, a focused SCM, and proposed data gap investigation activities. This Site has been claimed by EKI on the State Water Resources Control Board's ("SWRCB's") Geotracker website.

RESPONSE TO 7 OCTOBER 2015 ACDEH LETTER

EKI's response to statements in the 7 October 2015 ACDEH letter is included below. For ease of review, each ACDEH statement is repeated below in *italic typeface*. The response is shown in non-italic font.

Fifth Sentence of First Paragraph: *"The soil sample collected during drilling on May 5, 2015, at a depth of 6.5 to 9.0 feet below surface grade (bgs) documented up to 15,900 milligrams per kilogram (mg/kg) Total Petroleum Hydrocarbons as gasoline (TPHg), 731,000 mg/kg TPH as diesel (TPHd), < 40,000 mg/kg TPH as motor oil (TPHmo), 72.9 mg/kg ethylbenzene, and 1,000 mg/kg naphthalene."*

Response to Statement

As described in the Closure Report, the referenced sample (H-H-6.5-9) is not a soil sample. Sample H-H-6.5-9 is a separate phase liquid sample ("SPL") of the liquid contents of the former Horton Street UST (see Table 1). The reported units by the analytical laboratory are in milligrams per kilogram of SPL.

Third Sentence of Fourth Paragraph: *"At present the case fails General Criteria d, e, and g, and Media-Specific Criteria for Groundwater, Vapor Intrusion to Indoor Air, and the Direct Contact and Outdoor Air Media Specific Criteria."*

Response to Statement

Table 6 evaluates the Site in light of the SWRCB's Low Threat Closure Policy criteria. General Criteria e has been met by the SCM provided in this Work Plan (Table 5). Based on available information and data provided in the Closure Report and from adjacent sites, General Criteria d and g and Media-Specific Criteria for Groundwater and Direct Contact and Outdoor Air Media Specific Criteria have been met (see Table 6 and SCM Elements 8, 9a, 9b, and 11 on Table 5).

SITE CONCEPTUAL MODEL

The SCM is provided in tabular form (Table 5) in accordance with the ACDEH's recommendation. Supporting data tables and figures include Tables 1 to 4, Attachment 3, and Figures 1 to 5d. Tables 1 to 4 include updated screening criteria from 2016 (RWQCB, 2016; US EPA 2016; DTSC, 2016). Based on updated screening criteria, total petroleum hydrocarbons ("TPHs") were not detected at concentrations in soil greater than screening criteria. The SCM provides a description of current land use, Site history, UST removal activities, geologic and hydrogeologic conditions, nature and extent of chemicals of concern ("COCs") in the subsurface, and neighboring sites with known environmental contamination. Based on the SCM, the nature and extent of COCs in soil vapor was identified as a data gap.

EVALUATION OF LOW THREAT CLOSURE POLICY CRTIERIA

The SCM was used to evaluate whether or not the Site meets the LTCP criteria, as summarized on Table 6. The results of this evaluation indicate that the Site does not meet the Media Specific Criterion for Petroleum Vapor Intrusion to Indoor Air, which is consistent with the identified data gap in the SCM.

PROPOSED DATA GAP SCOPE OF WORK

Based on the SCM and evaluation of the LTCP criteria, the proposed data gap scope of work for investigation of soil vapor is outlined below.

- Install one soil vapor probe adjacent to the former Horton Street UST excavation area and the sidewalk to approximately 5.5 feet below ground surface (Figure 6). It is estimated that buildings within the vicinity of the Site have concrete floor slabs that are approximately 6 inches thick, based on field observations at the adjacent FMW Site building that was built during the same time period as other industrial/commercial buildings in the neighborhood (SWRCB, 2012).
- Conduct two rounds of soil vapor sampling. One round to be conducted during the dry season, and another round to be conducted during the wet season.

Field methods and procedures are included in Attachment 1. Fieldwork will be performed in accordance with the site-specific health and safety plan ("HSP") that was prepared for the FMW Site (Attachment 2). The HSP was prepared in accordance with California Occupational Safety and Health Agency ("Cal/OSHA") occupational health and safety standards and currently-available toxicological information for chemicals of concern.

Please call if you have questions or wish to discuss this letter in further detail.

Very truly yours,

ERLER & KALINOWSKI, INC.

Earl James, P.G.
Vice President

Joy Su, P.E.
Project Manager

cc: Michael Guina, City Attorney
Michael G. Biddle, Burke, Williams & Sorrensen, LLP
Karen Toth, DTSC

REFERENCES

EKI, 2012. *Final Subsurface Environmental Investigations Report, 5679 Horton Street, Former Marchant/Whitney Site, Emeryville, California,* Erler & Kalinowski, Inc., August, 2012.

EKI, 2015a. *Underground Storage Tank Closure Plan*, 5679 Horton Street, Emeryville, California, 14 April 2015.

EKI, 2015b. *Underground Storage Tank Closure Report*, In Public Right-of-Way on Horton Street Adjacent to 5679 Horton Street, Emeryville, California, 17 August 2015.

EKI, 2015c. *Results of Soil and Groundwater Investigation,* Schwabacher-Frey Site, 5733 Peladeau Street, Emeryville, California, 5 October 2015.

EKI, 2016a. *Final Additional Groundwater Investigation and Groundwater Monitoring Report*, Site B Project Area, Emeryville, California, June 2016.

EKI, 2016b. *Final Remedial Investigation Report*, Former Marchant/Whitney Site, 5679 Horton Street, Emeryville, California, June 2016.

DTSC, 2016. *Human Health Risk Assessment (HHRA) Note 3*, January 2016.

RWQCB, 2016, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater,* Interim Final, California Regional Water Quality Control Board, San Francisco Bay Region, February 2016.

SWRCB, 2012. *Low-Threat Underground Storage Tank Case Closure Policy*. Adopted in Resolution No. 2012-0016, 1 May 2012.

U.S. EPA, 2015. *Regional Screening Levels*, November 2015, May 2016 Update.

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

TABLE 1
Summary of Analytical Results for UST Liquid Contents Sample
Former Horton Street UST
5679 Horton Street, Emeryville, California

				Analytical Results in mg/kg (a)(b)																
				TPH			VOCs													
Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Type	TPH-g	TPH-d	TPH-mo	Benzene	Ethylbenzene	Isopropylbenzene	MTBE	Naphthalene	N-butylbenzene	N-propylbenzene	Sec-butylbenzene	Toluene	Xylene (m,p)	Xylene (o)	1,2,4-TMB	1,3,5-TMB	4-isopropyltoluene	Other VOCs
H-H-6.5-9	5/5/2015	6.5 - 9.0	Product	15,900	731,000	<40,000	<40	72.9	44.4	<40	1,000	140	83.5	63.8	<40	295	81.5	631	197	77	ND

Abbreviations
<40,000 = not detected at or above indicated laboratory detection limit
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
MTBE = Methyl tert-butyl ether
ND = not detected
TMB = trimethylbenzene
TPH-(g/d/mo) = total petroleum hydrocarbons as (gasoline/diesel/motor oil)
VOCs = volatile organic compounds

Notes
(a) Samples analyzed by K-Prime, Inc., Santa Rosa, CA using EPA Method 8260B for TPH-g and VOCs.
(b) Analytical results are listed in units of milligrams of contaminant per kilogram of product.

TABLE 2
Summary of Analytical Results for TPH and Metals in Soil Samples
Former Horton Street UST
5679 Horton Street, Emeryville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	Analytical Results in mg/kg dry weight (a)(b)							
			TPH			Metals				
			TPH-g	TPH-d	TPH-mo	Cadmium	Chromium	Lead	Nickel	Zinc
Piping-related Samples (c)										
~~HUST-PPNG01-2.5~~	~~6/17/2015~~	~~2.5~~	~~<1.00~~	~~180 (AC)~~	~~252~~	~~<3.14~~	~~27.8~~	~~10.1~~	~~35.6~~	~~43.3~~
~~HUST-PPNG02-2.0~~	~~6/17/2015~~	~~2.0~~	~~4.92~~	~~225 (AC)~~	~~330~~	~~3.16~~	~~31.1~~	~~46.1~~	~~47.6~~	~~971~~
~~HUST-PPNG03-2.0~~	~~6/17/2015~~	~~2.0~~	~~13.1~~	~~1,020~~	~~232~~	~~<2.92~~	~~37.8~~	~~37.2~~	~~53.4~~	~~134~~
HUST-PPNG04-2.5	6/17/2015	2.5	<1.00	350 (AC)	427	6.82	29.1	121	190	2,620
UST Sidewall Samples										
HUST-SW01-7.0	6/17/2015	7.0	2.96	1,080	164	<2.94	32.0	6.13	34.5	35.4
HUST-SW02-7.0	6/17/2015	7.0	4.66	267	53.3	**7.97**	36.0	15.8	38.5	84.2
HUST-SW03-7.0	6/17/2015	7.0	5.70	1,290	120	<2.71	32.2	26.1	37.7	53.1
HUST-SW04-7.0	6/17/2015	7.0	6.31	4,440	534	<2.92	31.3	5.37	25.7	31.2
UST Floor Samples										
HUST-F01-9.5	6/17/2015	9.5	<1.00	<12.0	<12.0	<3.01	42.7	7.39	58.1	66.1
HUST-F02-9.5	6/17/2015	9.5	<1.00	<11.8	<11.8	<2.96	45.6	8.54	56.1	65.3
RWQCB ESL - Comm./Ind. (d)			***500***	***5,670***	***5,670***	***43***	***na***	***160***	***86***	***106,182***
U.S. EPA RSL - Ind. (e)			***na***	***na***	***na***	***980***	***na***	***800***	***22,000***	***350,000***
DTSC HERO HHRA Note 3 - Comm./Ind. (f)			***na***	***na***	***na***	***7.3***	***na***	***320***	***3,100***	***na***

TABLE 2
Summary of Analytical Results for TPH and Metals in Soil Samples
Former Horton Street UST
5679 Horton Street, Emeryville, California

Abbreviations

<2.96 = not detected at or above laboratory detection limit
AC = Heavier hydrocarbons contributing to diesel range quantification
DTSC = Department of Toxic Substances Control
ESL = environmental screening level
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
na = not applicable
RSL = regional screening level
RWQCB = Regional Water Quality Control Board, San Francisco Bay region
TPH-(g/d/mo) = total petroleum hydrocarbons as (gasoline/diesel/motor oil)
U.S. EPA = United States Environmental Protection Agency

Notes

(a) Samples analyzed by K-Prime, Inc., Santa Rosa, CA using EPA Method 8015B for TPH-g/-d/-mo, and EPA Method 6020 for metals.
(b) **Bold** value indicates detected concentration exceeds one or more soil screening criteria.
(c) Grayed out confirmation soil sample locations have been over-excavated during UST demolition activities.
(d) Selected screening levels are the most stringent ESL found in Tables S-1 through S-4 (RWQCB, 2016), excluding ESLs based on residential land use and protection of nondrinking water.
(e) Screening levels based on U.S. EPA's RSLs for industrial land use (TR=1E-6, HQ=1).
(f) Screening levels based on DTSC's Human Health Risk Assessment (HERO HHRA) Guidance for commercial/industrial land use, as listed in Note 3, table 1.

References

(1) DTSC HERO, 2016. Human Health Risk Assessment Note Number: 3, January 2016.
(2) RWQCB, 2016. ESLs from User's Guide: Derivation and Application of Environmental Screening Levels (ESLs), Interim Final 2016, San Francisco Bay Regional Water Quality Control Board, February 2016, Revision 3.
(3) US EPA, 2016. Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites, RSL Table Update, May 2016.

TABLE 3a
Summary of Analytical Results for VOCs and PCBs in Soil Samples
Former Horton Street UST
5679 Horton Street, Emeryville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	Analytical Results in mg/kg dry weight (a)(b)													
			VOCs											PCBs		
			Benzene	cis-1,2-DCE	Ethylbenzene	Toluene	Trichloroethene	MTBE	Naphthalene	Xylene (m,p)	Xylene (o)	1,2,4-TMB	Other VOCs	Aroclor 1254	Aroclor 1260	Other PCBs
Samples (c)																
~~HUST-PPNG01-2.5~~	~~6/17/2015~~	~~2.5~~	~~<0.00188~~	~~<0.00188~~	~~<0.00188~~	~~<0.00188~~	~~0.00188~~	~~<0.00188~~	~~<0.00376~~	~~<0.00188~~	~~<0.00188~~	~~<0.00188~~	~~ND~~	~~0.0278~~	~~0.219~~	~~ND~~
~~HUST-PPNG02-2.0~~	~~6/17/2015~~	~~2.0~~	~~<0.00175~~	~~<0.00175~~	~~<0.00175~~	~~<0.00175~~	~~0.01~~	~~<0.00175~~	~~0.00703~~	~~<0.00175~~	~~<0.00175~~	~~<0.00175~~	~~ND~~	~~<0.0252~~	~~0.0264~~	~~ND~~
~~HUST-PPNG03-2.0~~	~~6/17/2015~~	~~2.0~~	~~<0.235~~	~~<0.235~~	~~<0.235~~	~~<0.235~~	~~<0.235~~	~~<0.235~~	~~<0.471~~	~~<0.235~~	~~<0.235~~	~~0.258~~	~~ND~~	~~<0.0252~~	~~<0.0252~~	~~ND~~
HUST-PPNG04-2.5	6/17/2015	2.5	<0.00148	0.00174	<0.00148	<0.00148	0.00228	<0.00148	0.00404	<0.00148	<0.00148	<0.00148	ND	<0.0252	<0.0252	ND
Samples																
HUST-SW01-7.0	6/17/2015	7.0	<0.236	<0.236	<0.236	<0.236	<0.236	<0.236	<0.471	<0.236	<0.236	<0.236	ND	<0.0252	<0.0252	ND
HUST-SW02-7.0	6/17/2015	7.0	<0.251	<0.251	<0.251	<0.251	<0.251	<0.251	<0.501	<0.251	<0.251	<0.251	ND	<0.0252	0.0332	ND
HUST-SW03-7.0	6/17/2015	7.0	<1.08	<1.08	<1.08	<1.08	<1.08	<1.08	**5.42**	<1.08	<1.08	2.05	ND	<0.0252	<0.0252	ND
HUST-SW04-7.0	6/17/2015	7.0	<0.234	<0.234	<0.234	<0.234	<0.234	<0.234	<0.467	<0.234	<0.234	<0.234	ND	<0.0252	<0.0252	ND
UST Floor Samples																
HUST-F01-9.5	6/17/2015	9.5	<0.00178	<0.00178	<0.00178	<0.00178	<0.00178	<0.00178	<0.00356	<0.00178	<0.00178	<0.00178	ND	<0.0252	<0.0252	ND
HUST-F02-9.5	6/17/2015	9.5	<0.00177	<0.00177	<0.00177	<0.00177	<0.00177	<0.00177	<0.00355	<0.00177	<0.00177	<0.00177	ND	<0.0252	<0.0252	ND
RWQCB ESL - Comm./Ind. (d)			***0.044***	***0.19***	***1.38***	***2.9***	***0.46***	***0.023***	***0.033***	***2.3***	***2.3***	***na***	***--***	***na***	***na***	***--***
U.S. EPA RSL - Ind. (e)			***5.1***	***2,300***	***25***	***47,000***	***6.0***	***210***	***17***	***2,500***	***2,500***	***240***	***--***	***0.97***	***0.99***	***--***
DTSC HERO HHRA Note 3 - Comm./Ind. (f)			***1.4***	***86***	***na***	***5,400***	***na***	***na***	***na***	***na***	***na***	***na***	***--***	***na***	***na***	***--***

TABLE 3a
Summary of Analytical Results for VOCs and PCBs in Soil Samples
Former Horton Street UST
5679 Horton Street, Emeryville, California

Abbreviations

<2.96 = not detected at or above laboratory detection limit
DCE = dichloroethene
DTSC = California Department of Toxic Substances Control
ESL = environmental screening level
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
MTBE = Methyl tert-butyl ether
na = not applicable
PCBs = poly-chlorinated biphenyls
RSL = regional screening level
RWQCB = Regional Water Quality Control Board, San Francisco Bay Region
SVOCs = semi-volatile organic compounds
TMB = trimethylbenzene
VOCs = volatile organic compounds
U.S. EPA = United States Environmental Protection Agency

Notes

(a) Samples analyzed by K-Prime, Inc., Santa Rosa, CA using EPA method 8260B for VOCs, EPA Method 8270 for SVOCs, and EPA Method 8082A for PCBs.
(b) **Bold** value indicates detected concentration exceeds one or more soil screening criteria.
(c) Grayed out confirmation soil sample locations have been over-excavated during UST demolition activities.
(d) Selected screening levels are the most stringent ESL found in Tables S-1 through S-4 (RWQCB, 2016), excluding ESLs based on residential land use and protection of nondrinking water.
(e) Screening levels based on U.S. EPA RSLs for industrial land use (TR=1E-6, HQ=1).
(f) Screening levels based on DTSC's Human Health Risk Assessment (HERO HHRA) Guidance for commercial/industrial land use, as listed in Note 3, table 1.

References

(1) DTSC HERO, 2016. Human Health Risk Assessment Note Number: 3, January 2016.
(2) RWQCB, 2016. ESLs from User's Guide: Derivation and Application of Environmental Screening Levels (ESLs), Interim Final 2016, San Francisco Bay Regional Water Quality Control Board, February 2016, Revision 3.
(3) US EPA, 2016. Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites, RSL Table Update, May 2016.

TABLE 3b
Summary of Analytical Results for SVOCs and PAHs in Soil Samples
Former Horton Street UST
5679 Horton Street, Emeryville, California

Sample ID	Sample Date	Sample Depth (ft bgs)	Analytical Results in mg/kg dry weight (a)(b)														
			SVOCs														
								PAHs									
			Anthracene	Fluorene	Naphthalene	Phenanthrene	2-methylnaphthalene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-c,d)pyrene	BaPe	Other SVOCs
Samples (c)																	
~~HUST-PPNG01-2.5~~	~~6/17/2015~~	~~2.5~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~<0.333~~	~~ND~~	~~ND~~
~~HUST-PPNG02-2.0~~	~~6/17/2015~~	~~2.0~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~ND~~	~~ND~~
~~HUST-PPNG03-2.0~~	~~6/17/2015~~	~~2.0~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~<1.66~~	~~ND~~	~~ND~~
HUST-PPNG04-2.5	6/17/2015	2.5	<1.66	<1.66	<1.66	<1.66	<1.66	<1.66	<1.66	<1.66	<1.66	<1.66	<1.66	<1.66	ND	ND
Samples																	
HUST-SW01-7.0	6/17/2015	7.0	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	ND	ND
HUST-SW02-7.0	6/17/2015	7.0	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	ND	ND
HUST-SW03-7.0	6/17/2015	7.0	<0.333	1.39	**2.15**	2.07	**8.28**	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	ND	ND
HUST-SW04-7.0	6/17/2015	7.0	2.04	1.35	<0.333	1.24	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	ND	ND
UST Floor Samples																	
HUST-F01-9.5	6/17/2015	9.5	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	ND	ND
HUST-F02-9.5	6/17/2015	9.5	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	<0.333	ND	ND
RWQCB ESL - Comm./Ind. (d)			***2.8***	***8.9***	***0.033***	***10.7***	***0.25***	***2.9***	***0.29***	***2.9***	***2.6***	***3.8***	***0.29***	***2.9***	--	--
U.S. EPA RSL - Ind. (e)			***230,000***	***30,000***	***17***	***na***	***3,000***	***2.9***	***0.29***	***2.9***	***29***	***290***	***0.29***	***2.9***	--	--
DTSC HERO HHRA Note 3 - Comm./Ind. (f)			***na***	***na***	***na***	***na***	***na***	***na***	***na***	***na***	***na***	***na***	***na***	***na***	--	--

TABLE 3b
Summary of Analytical Results for SVOCs and PAHs in Soil Samples
Former Horton Street UST
5679 Horton Street, Emeryville, California

Abbreviations

<2.96 = not detected at or above laboratory detection limit
BaPe = benzo(a)pyrene toxicity equivalent
DTSC = California Department of Toxic Substances Control
ESL = environmental screening level
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
na = not applicable
PAHs = polycyclic aromatic hydrocarbons
RSL = regional screening level
RWQCB = Regional Water Quality Control Board, San Francisco Bay Region
SVOCs = semi-volatile organic compounds
U.S. EPA = United States Environmental Protection Agency

Notes

(a) Samples analyzed by K-Prime, Inc., Santa Rosa, CA using EPA method 8260B for VOCs, EPA Method 8270 for SVOCs, and EPA Method 8082A for PCBs.
(b) **Bold** value indicates detected concentration exceeds one or more soil screening criteria.
(c) Grayed out confirmation soil sample locations have been over-excavated during UST demolition activities.
(d) Selected screening levels are the most stringent ESL found in Tables S-1 through S-4 (RWQCB, 2016), excluding ESLs based on residential land use and protection of nondrinking water.
(e) Screening levels based on U.S. EPA RSLs for industrial land use (TR=1E-6, HQ=1).
(f) Screening levels based on DTSC's Human Health Risk Assessment (HERO HHRA) Guidance for commercial/industrial land use, as listed in Note 3, table 1.

References

(1) DTSC HERO, 2016. Human Health Risk Assessment Note Number: 3, January 2016.
(2) RWQCB, 2016. ESLs from User's Guide: Derivation and Application of Environmental Screening Levels (ESLs), Interim Final 2016, San Francisco Bay Regional Water Quality Control Board, February 2016, Revision 3.
(3) US EPA, 2016. Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites, RSL Table Update, May 2016.

TABLE 4
Summary of Analytical Results for Grab Groundwater Samples
Former Horton Street UST
5679 Horton Street, Emeryville, California

			Analytical Results in ug/L (a)(b)(c)																									
			TPH		VOCs																			Dissolved Title 22 Metals						
Sample ID	Sample Date	Sample Depth (ft bgs)	TPH-g	TPH-d (f)	Benzene	cis-1,2-DCE	Ethylbenzene	Isopropylbenzene	Naphthalene	MTBE	n-butylbenzene	n-propylbenzene	sec-butylbenzene	Toluene	Trichloroethene	trans-1,2-DCE	Vinyl Chloride	Xylenes-m,p	Xylenes-o	1,2-DCA	1,2,4-TMB	1,3,5-TMB	Other VOCs	Barium	Cobalt	Copper	Molybdenum	Nickel	Zinc	Other Title 22 Metals
H-H-19-24	5/5/2015	19 - 24	**781 (AE,CO)**	**403**	<10.0	**185**	<10.0	<10.0	<20.0	<10.0	<10.0	<10.0	<10.0	<10.0	**1,530**	**123**	**10.6**	<10.0	<10.0	**24.1**	<10.0	<10.0	ND	127	**17.4**	1.36	25.5	16.6	13.4	ND
H-H-28-32	5/5/2015	28 - 32	--	--	**2.92**	<0.5	3.60	1.17	**35.9**	**--**	2.14	1.82	1.09	<0.5	<0.5	<0.5	<0.5	15.0	5.13	<0.5	15.9	4.58	ND	--	--	--	--	--	--	--
H-H-42-46	5/5/2015	42 - 46	--	--	<0.5	<0.5	<0.5	<0.5	<1.0	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--	--	--	--	--	--
MCLs (d)			***na***	***na***	***1.0***	***6.0***	***300***	***na***	***na***	***13***	***na***	***na***	***na***	***150***	***5.0***	***10***	***0.50***	***1,750***	***1,750***	***0.50***	***na***	***na***	**--**	***1,000***	***na***	***1,300***	***na***	***100***	***na***	**--**
RWQCB ESL - Comm./Ind. (e)			***100***	***100***	***1.0***	***6.0***	***30***	***na***	***0.17***	***5.0***	***na***	***na***	***na***	***40***	***5.0***	***10***	***0.50***	***20***	***20***	***0.50***	***na***	***na***	**--**	***1,000***	***4.7***	***1,000***	***78***	***100***	***5,000***	**--**

Abbreviations
<0.5 = not detected at or above laboratory detection limit
-- = not analyzed
AE = Unknown hydrocarbon with a single peak
CO = Hydrocarbon response in gasoline range but does not resemble gasoline
DCA = dichloroethane
DCE = dichloroethene
EPA = Environmental Protection Agency
ESL = environmental screening level
ft bgs = feet below ground surface
MCLs = Maximum Contaminant Levels
MTBE = Methyl tert-butyl ether
na = not applicable
ND = not detected
RWQCB - Regional Water Quality Control Board, San Francisco Bay Region
TMB = Trimethylbenzene
TPH-(g/d) = total petroleum hydrocarbons as (gasoline/diesel)
ug/L = micrograms per liter
VOCs = volatile organic compounds

Notes
(a) Samples analyzed by K-Prime, Inc., Santa Rosa, CA using EPA Method 8260 for VOCs, EPA Method 8015B for TPH-g and TPH-d (with silica gel cleanup), and EPA Method 200.8 for metals.
(b) **Bold** value indicates detected concentration exceeds one or more soil screening criteria.
(c) Analytical results are listed in units of micrograms per liter of water.
(d) Screening levels based on California Department of Public Health's Drinking Water MCLs.
(e) Selected screening levels are the most stringent ESLs found in Tables GW-1 through GW-5 (RWQCB, 2016), excluding ESLs based on human health risk based only, aquatic receptors, shallow groundwater exposure, deep groundwater residential exposure, deep groundwater commercial/industrial sand scenario, and protection of nondrinking water.
(f) TPH-d with silica gel cleanup.

References
(1) CDPH, 2015. *Drinking Water Maximum Contaminant Levels* , California Department of Public Health, September 2015.
(2) RWQCB, 2016. ESLs from User's Guide: Derivation and Application of Environmental Screening Levels (ESLs), Interim Final 2016, San Francisco Bay Regional Water Quality Control Board, February 2016, Revision 3.

TABLE 5
SITE CONCEPTUAL MODEL
Former Horton Street UST
5679 Horton Street, Emeryville, California

SCM Element	SCM Sub-Element	Description	Data Gap	How to Address
1. Current Land Use		The Site is located in the public right-of-way on Horton Street within the northbound lane. The Site is adjacent to 5679 Horton Street in Emeryville, California. Industrial/commercial buildings are located along both sides of Horton Street. (Figure 1)	None	NA
2. Site History		The origin, use, and ownership of the former Horton Street UST are not currently known. The former Horton Street UST may have been installed as part of the former Marchant Calculating Machine Company facility (late 1910s to late 1950s) or subsequent light industrial businesses that historically occupied the area. The former Horton Street UST appears to have been utilized as a diesel fuel tank based on analytical results of the tank contents prior to removal. Subsequent redevelopment of the area likely resulted in the tank being left in place beneath Horton Street. (Reference: EKI, 2015b) (Figure 1)	None	NA
3. UST	**a. Contents Prior to Removal**	The contents of the former Horton Street UST were likely diesel, based on chemical analysis of a separate phase liquid sample (H-H-6.5-9) previously collected from inside the in-place UST on 5 May 2015 (Table 1). Prior to UST removal, approximately 800 gallons of the oily liquid contents were vacuumed out of the in-place UST and disposed off-site in accordance with applicable laws and regulations. (Reference: EKI, 2015b)	None	NA
	b. Removal	The former Horton Street UST at the Site was removed on 17 June 2015 in accordance with the Alameda County Department of Environmental Health ("ACDEH") approved Underground Storage Tank Closure Plan ("Closure Plan"), 5679 Horton Street, Emeryville, California, dated 8 June 2015 and prepared by EKI. The final extents of the UST excavation were approximately 9 feet wide and 12 feet long, extending to approximately 9.5 feet below ground surface ("ft bgs"; see Figure 1). The top of the tank was at approximately 5.5 ft bgs, and the bottom of the tank was at approximately 8.5 ft bgs. (Reference: EKI, 2015a; 2015b)	None	NA
4. Geology	**a. Regional**	The Site is located on the East Bay Plain, approximately 1,500 feet east of the current San Francisco Bay shoreline, and approximately 3 miles west of the Hayward Fault. The ground surface elevation at the Site is approximately 12 feet above mean sea level ("feet msl"), based on the City of Emeryville datum. The historical San Francisco Bay shoreline was located approximately 1,000 feet west of the Site (USGS, 1899). Fill and development activities conducted since the early 1900's created the westward migration of the shoreline. (Reference: EKI, 2012)	None	NA
	b. Site & Vicinity	Stratigraphy at the Site & Vicinity (Figures 3 to 4b): • <u>S10 Unit (beneath fill material to -10 feet msl):</u> The S10 Unit is an unconsolidated clayey layer containing sparse thin, discontinuous sandy and gravelly intervals within a fine-grained matrix. Two coarse-grained channels, trending generally east-west, are located to the north and south of the Site (Figure 4a). • <u>1032 Unit (-10 to -32 feet msl):</u> The 1032 Unit contains thick and prevalent sand and gravel intervals within a finer-grained clayey matrix. • <u>3243 Unit (-32 to -43 feet msl):</u> The 3243 Unit is a predominantly fine-grained clay-rich unit. It contains relatively rare discontinuous intervals of sand and gravels. The bottom elevation of the 3243 Unit generally coincides with a geologic unconformity. • <u>4360 Unit (-43 to -60 feet msl) and deeper:</u> The 4360 Unit is a predominantly fine-grained clay-rich unit. It contains a coarser-grained laterally-extensive, tabular sandy layer that is approximately 2 to 8 feet thick that occurs at an approximate elevation of -45 feet msl to the east of the Site, dipping to an elevation of approximately -55 feet msl to the west of the Site along Shellmound Street. Where data could be collected deeper than the 4360 Unit, the data indicate that the sediments encountered below -60 feet msl are predominantly fine grained with local intervals of sandier material, similar to the 4360 Unit. (Reference: EKI, 2016b)	None	NA
	c. Within UST excavation pit	Stratigraphy Within the UST Excavation Pit: • 0.0 to 1.0 ft bgs – Asphalt • 1.0 to 1.5 ft bgs – Baserock • 1.5 to 7.0 ft bgs – Black and green, silty clay, fill material • 7.0 to 9.5 ft bgs – Brown and gray, clayey silt, native material (Reference: EKI, 2015b)	None	NA
5. Hydrogeology	**a. Regional**	The Site is located within the East Bay Plain Groundwater Sub-basin of the Santa Clara Valley Groundwater Basin of the San Francisco Bay Hydrologic Region (DWR, 2003). The region has a Mediterranean-type climate with a distinct division between a wet season from November to April, and a dry season during the rest of the year. Normal annual precipitation is about 24 inches (1981-2011 normals, WRCC, 2012). Recharge to the groundwater system is mostly via infiltration from small streams at the valley margins near the western bounding Diablo Range, and through infiltration occurring in stream channels in the valley floor (Planert & Williams, 1995). Lateral flow from coarse alluvium at the basin margin into local aquifers is restricted by the north-northwest striking Hayward Fault, located approximately 3 miles northeast of the Site (RWQCB, 2003). (Reference: EKI 2012)	None	NA
	b. Site & Vicinity	The apparent hydraulic gradient direction is generally to the southwest in the S10, 1032, 3243 and 4360 Units based on data from the adjacent FMW Site to the west of the Site (Figures 5a to 5d). A slight upward hydraulic gradient was also observed between co-located wells in the S10/1032 Units, 1032/3243 Units, and the 3243/4360 Units on the FMW Site. (EKI, 2016b) Groundwater was not encountered within the 9.5 feet deep UST excavation pit at the Site. (Reference: EKI 2015b)	None	NA

TABLE 5
SITE CONCEPTUAL MODEL
Former Horton Street UST
5679 Horton Street, Emeryville, California

SCM Element	SCM Sub-Element	Description	Data Gap	How to Address
6. Surface Water Bodies		The nearest perennial surface drainage to the Site is Temescal Creek, located approximately 1,300 feet to the south. Temescal Creek originates at Lake Temescal in the Berkeley hills, flows partially underground through Berkeley and Emeryville in an engineered channel, and empties into San Francisco Bay near Ohlone Way. (Reference: EKI 2012)	None	NA
7. Nearby Wells		A historical monitoring well, MW-2, was located adjacent to the former Horton Street UST. The well was installed in 1993, and the well was approximately 14 feet deep. Well MW-2 was destroyed on 22 June 2015 in accordance with an Alameda County Public Works Agency (“ACPWA”) water resources well permit. Well MW-2 was located within the footprint of the UST excavation. (Reference: EKI 2015b) There are 41 groundwater monitoring wells located to the west of the Site at the adjacent Former Marchant/Whitney (“FMW") Site. Well depths range from approximately 17 to 70 feet bgs. (Reference: EKI, 2016b) The City of Emeryville Municipal Code Title 6 Chapter 9 prohibits the use of groundwater within the limits of the City of Emeryville as a potable water supply or for any residential, commercial, or industrial use.	None	NA
8. Presence of Free Product		During installation of the historical monitoring well, MW-2, the presence of free product was noted at approximately 4 feet bgs on the boring log. However, free product and groundwater were not observed in the UST excavation pit in June 2015 that extended to 9.5 feet bgs and the extent of the UST excavation encompassed the location of MW-2. (Reference: EKI, 2015b)	None	NA
9. Chemicals of Concern ("COCs")	**a. Soil**	COCs in soil associated with the former Horton Street UST at the Site include total petroleum hydrocarbons ("TPH") as diesel ("TPH-d") and other TPH related compounds based on analytical results from soil samples at the perimeter of the UST excavation pit (Tables 2 to 3b and Figure 2a). The highest concentrations of COCs in soil detected above San Francisco Bay Regional Water Quality Control Board ("SFRWQCB") Environmental Screening Levels ("ESLs") at the Site are 5.42 milligrams per kilogram (“mg/kg”) naphthalene (VOC), 2.15 mg/kg naphthalene (SVOC), and 8.28 mg/kg 2-methlynaphthalene. (Reference: EKI, 2015b)	None	NA
	b. Groundwater	COCs in groundwater associated with the former Horton Street UST at the Site include TPH-d and other TPH related compounds based on analytical results from grab groundwater samples at sampling location H-H (Table 4 and Figure 2a). The highest concentrations of COCs in groundwater detected above SFRWQCB ESLs at the Site are 2.92 micrograms per liter ("ug/L") benzene and 35.9 ug/L naphthalene. Chlorinated volatile organic compounds ("CVOCs") detected in groundwater at the Site appear to be associated with other sites in the vicinity (see below). Detected concentrations of TPH as gasoline ("TPH-g") in groundwater did not resemble gasoline and was indicative of CVOCs. (Reference: EKI, 2015b)	None	NA
	c. Soil Vapor	Soil vapor at the Site has not been investigated.	Presence of these COCs in soil vapor has not been investigated.	Install a soil vapor probe adjacent to the UST excavation and conduct 2 rounds of sampling.
10. Other Contaminant Release Sites in Vicinity	**a. West and Southwest of Site (Downgradient)**	The FMW Site at 5679 Horton Street is located immediately to the west and southwest of the Site. The former Marchant Calculating Company manufacturing facility was located on the FMW Site and extended eastward across the Site to Peladau Street. The FMW Site is immediately downgradient of the Site and is a voluntary cleanup site overseen by the Department of Toxic Substances Control ("DTSC"). COCs in the subsurface include TPH, TPH related compounds, and CVOCs. The highest concentrations of primary COCs detected include: (1) Soil - 6,590 mg/kg total extractable petroleum hydrocarbons ("TEPH") and 4,270 mg/kg trichloroethene ("TCE"), (2) Groundwater - 963 ug/L TEPH and 838,000 ug/L TCE, and (3) Soil Vapor - 32,400,000 micrograms per cubic meter ("ug/m^3") TCE. (Reference: EKI, 2016b)	None	NA
	b. Northwest of Site (Crossgradient)	The Michel & Pelton ("M&P") Site at 5743 Horton Street is located to the northwest of the Site and was the location of a former agricultural insecticide and disinfectants business. The M&P Site is crossgradient of the Site and is an inactive Spills, Leaks, Investigations, & Cleanups ("SLIC") site overseen by the San Francisco Bay Regional Water Quality Control Board ("SFRWQCB"). COCs in the subsurface include TPH, TPH related compounds, phthalates, phenols, and other VOCs such as CVOCs. (Reference: EKI, 2012; 2016a)	None	NA
	c. East of Site (Upgradient)	The Schwabacher-Frey Inc. Site at 5733 Peleadeau Street is located immediately to the east and was the location of a former stationary distributor. The Schwabacher-Frey Site is upgradient of the Site and is a leaking underground storage tank (“LUST”) site overseen by ACDEH. COCs in the subsurface include TPH-d and TPH related compounds. (Reference: EKI, 2015c)	None	NA

TABLE 5
SITE CONCEPTUAL MODEL
Former Horton Street UST
5679 Horton Street, Emeryville, California

SCM Element	SCM Sub-Element	Description	Data Gap	How to Address
11. Extent of Groundwater Impacts	**a. Beneath Site**	Sampling location H-H is located in Horton Street immediately adjacent to the former Horton Street UST (Figure 2a). Grab groundwater sampling at this location was conducted as part of investigation activities for other sites in the vicinity. Grab groundwater sampling activities at H-H were completed prior to discovery of the former Horton Street UST. Available data indicate that: (1) TPH-d was detected at a concentration of 403 ug/L in H-H-19-24 but TPH-related VOCs were not detected, (2) benzene (2.92 ug/L) and naphthalene (35.9 ug/L) were detected at concentrations above the SFRWQCB ESLs in a deeper grab groundwater (H-H-28-32), and (3) TPH-related VOCs were not detected in the deepest grab groundwater sample (H-H-58-62). (Reference: EKI, 2016a)	None	NA
	b. Southwest (Downgradient)	Sampling PW-P is located along the upgradient property boundary of the adjacent FMW Site (Figure 2b). Grab groundwater sampling at this location was conducted as part of investigation activities for the FMW Site. Based on the southwest hydraulic gradient direction, PW-P is located approximately 50 feet directly downgradient of the former Horton Street UST. Available data indicate that: (1) TEPH and TPH-related VOCs were not detected in in shallow grab groundwater samples at PW-P-20-24 and (2) TPH-related VOCs were also not detected in deeper grab groundwater samples at this location (PW-P-29-33 and PW-P-38-42) (Attachment 3). (Reference: EKI, 2016b)	None	NA
	c. North & South	Along Horton Street, sampling locations H-G and H-I are located approximately 70 feet to the north and 60 feet to the south, respectively, of the former Horton Street UST (Figure 2b). Grab groundwater sampling at these locations was conducted as part of investigation activities for other sites in the vicinity. Available data indicate that: (1) TPH-d and TPH-related VOCs were not detected in shallow grab groundwater samples at these locations (H-G-19-22 and H-I-22-26) and (2) TPH-related VOCs were also not detected in deeper grab groundwater samples at these locations (H-G-36-40, H-G-60-65, H-I-29-33, H-I-42-46, and H-I-58-62) (Attachment 3). (Reference: EKI, 2016a)	None	NA

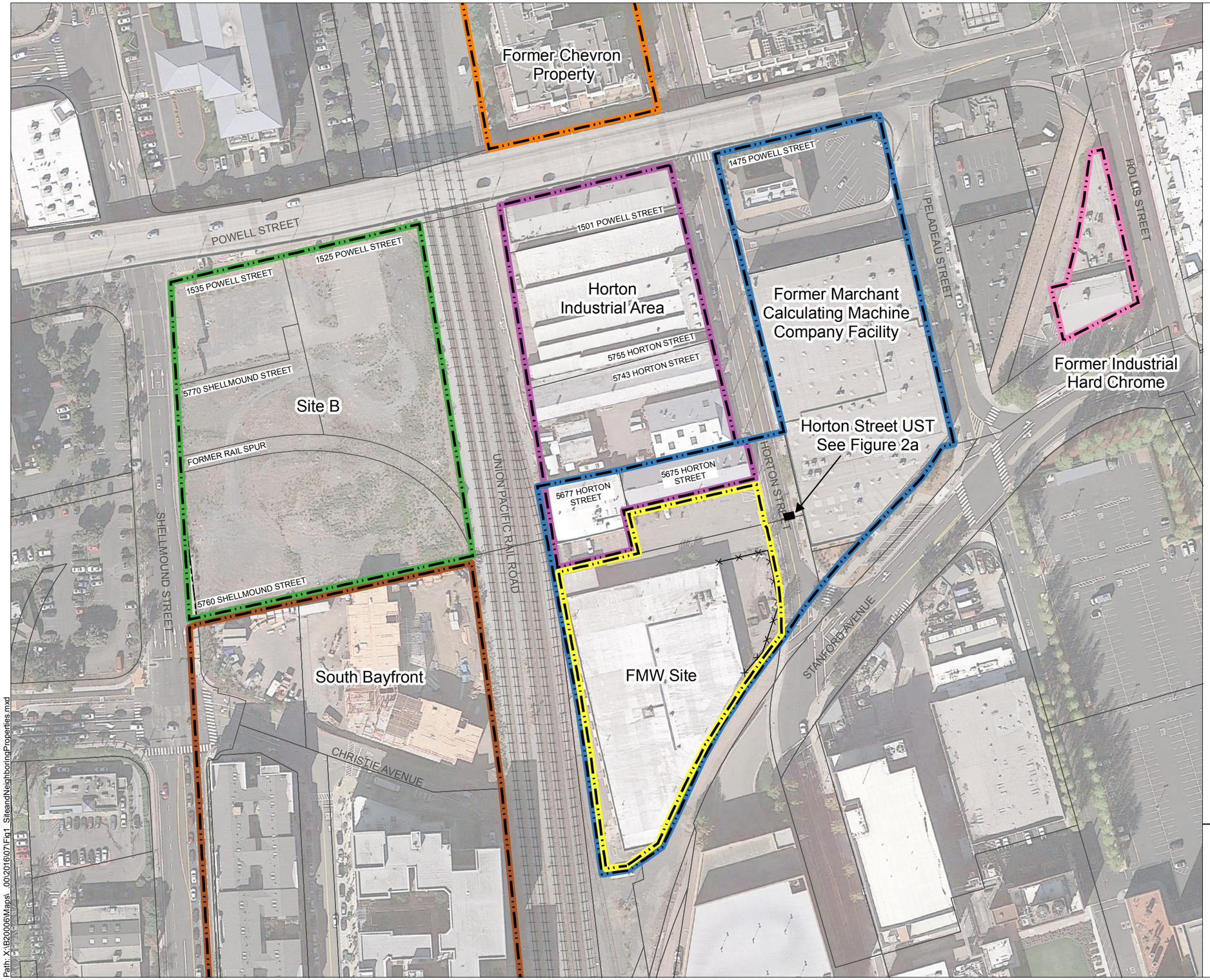
References:

(1) DWR, 2003. California's Groundwater: Bulletin 118, Update 2003. California Department of Water Resources, Sacramento, CA.
(2) EKI, 2012. *Final Subsurface Environmental Investigations Report*, Former Marchant/Whitney Site, 5679 Horton Street, Emeryville, California, August 2012.
(3) EKI, 2015a. *Underground Storage Tank Closure Plan*, 5679 Horton Street, Emeryville, California, 14 April 2015.
(4) EKI, 2015b. *Underground Storage Tank Closure Report*, In Public Right-of-Way on Horton Street Adjacent to 5679 Horton Street, Emeryville, California, 17 August 2015.
(5) EKI, 2015c. *Results of Soil and Groundwater Investigation*, Schwabacher-Frey Site, 5733 Peladeau Street, Emeryville, California, 5 October 2015.
(6) EKI, 2016a. *Final Additional Groundwater Investigation and Groundwater Monitoring Report*, Site B Project Area, Emeryville, California, June 2016.
(7) EKI, 2016b. *Final Remedial Investigation Report*, Former Marchant/Whitney Site, 5679 Horton Street, Emeryville, California, June 2016.
(8) RWQCB, 2003, A Comprehensive Groundwater Protection Evaluation for the South San Francisco Bay Basins. Report prepared by the Groundwater Committee of the California Regional Water Quality Control Board, San Francisco Bay Region.
(9) WRCC, 2012, Period of Record Monthly Climate Summary: 10/1/1970 to 2/26/2012, Oakland Museum, California, Station ID No. 046336, accessed March 2012. (http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6336)
(10) USGS, 1899, San Francisco Quadrangle. U.S. Geological Survey Topographic Map Series, February 1899 edition, scale 1:62,500.

TABLE 6
EVALUATION OF LOW THREAT CLOSURE POLICY CRITERIA
Former Horton Street UST
5679 Horton Street, Emeryville, California

Criteria	Criteria Description	Criteria Met?	Basis
General Criteria	**a. The unauthorized release is located within the service area of a public water system.**	Yes	Public water service in Emeryville provided by East Bay Municipal Utility District ("EBMUD").
	b. The unauthorized release consists only of petroleum.	Yes	See SCM Element 3 and 9 on Table 5.
	c. The unauthorized ("primary") release from the UST system has been stopped.	Yes	See SCM Element 3 on Table 5.
	d. Free product has been removed to the maximum extent practicable.	Yes	See SCM Element 8 on Table 5.
	e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed.	Yes	See SCM on Table 5.
	f. Secondary source has been removed to the extent practicable.	Yes	See SCM Element 3 on Table 5. Additional excavation beyond the extent of the former Horton Street UST was conducted to the extent practicable given the location in the public-right-of way and adjacent utilities (Figure 2a).
	g. Soil or groundwater has been tested for methyl tert-butyl ether ("MTBE") and results reported in accordance with Health and Safety Code section 25296.15.	Yes	See SCM Element 9a and 9b on Table 5, and Tables 3a and 4. Soil and shallow groundwater samples were analyzed for MTBE. The data tables in the Closure Report (Reference: EKI, 2015b) presented data for detected analytes and MTBE was not detected. MTBE data are shown in Tables 3a and 4 of this Work Plan.
	h. Nuisance as defined by Water Code section 13050 does not exist at the site.	Yes	See SCM Element 1 on Table 5.
Media-Specific Criteria	**1. Groundwater**	Yes	See SCM Element 11 on Table 5.
	2. Petroleum Vapor Intrusion to Indoor Air	No	See SCM Element 9c on Table 5 for proposed scope of work to address data gap.
	3. Direct Contact and Outdoor Air Exposure	Yes	See Tables 3a to 3b. Concentrations of benzene, ethylbenzene, naphthalene, and polycyclic aromatic hydrocarbons ("PAHs") as benzo(a)pyrene toxicity equivalent ("BaPe") in soil samples collected within 0 to 10 feet bgs at the Site are less than concentrations specified in the LCTP *Table 1 - Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health* for the applicable commercial/industrial and utility worker scenarios (Reference: RWQCB, 2012).

References:
(1) EKI, 2015b. *Underground Storage Tank Closure Report* , In Public Right-of-Way on Horton Street Adjacent to 5679 Horton Street, Emeryville, California, 17 August 2015.
(2) RWQCB, 2012. *Low-threat Underground Storage Tank Case Closure Policy,* 17 August 2012.



N

0 120 240

(Approximate Scale in Feet)

Legend

- FMW Site Property Boundary
- Site B Property Boundary
- South Bayfront Property Boundary
- Approximate Extent of Former Marchant Calculating Machine Company Facility
- Former Chevron Property
- Former Industrial Hard Chrome Facility
- Horton Industrial Area

Abbreviations
FMW = Former Marchant/Whitney
UST = underground storage tank

Notes
1. All property boundaries are approximate.

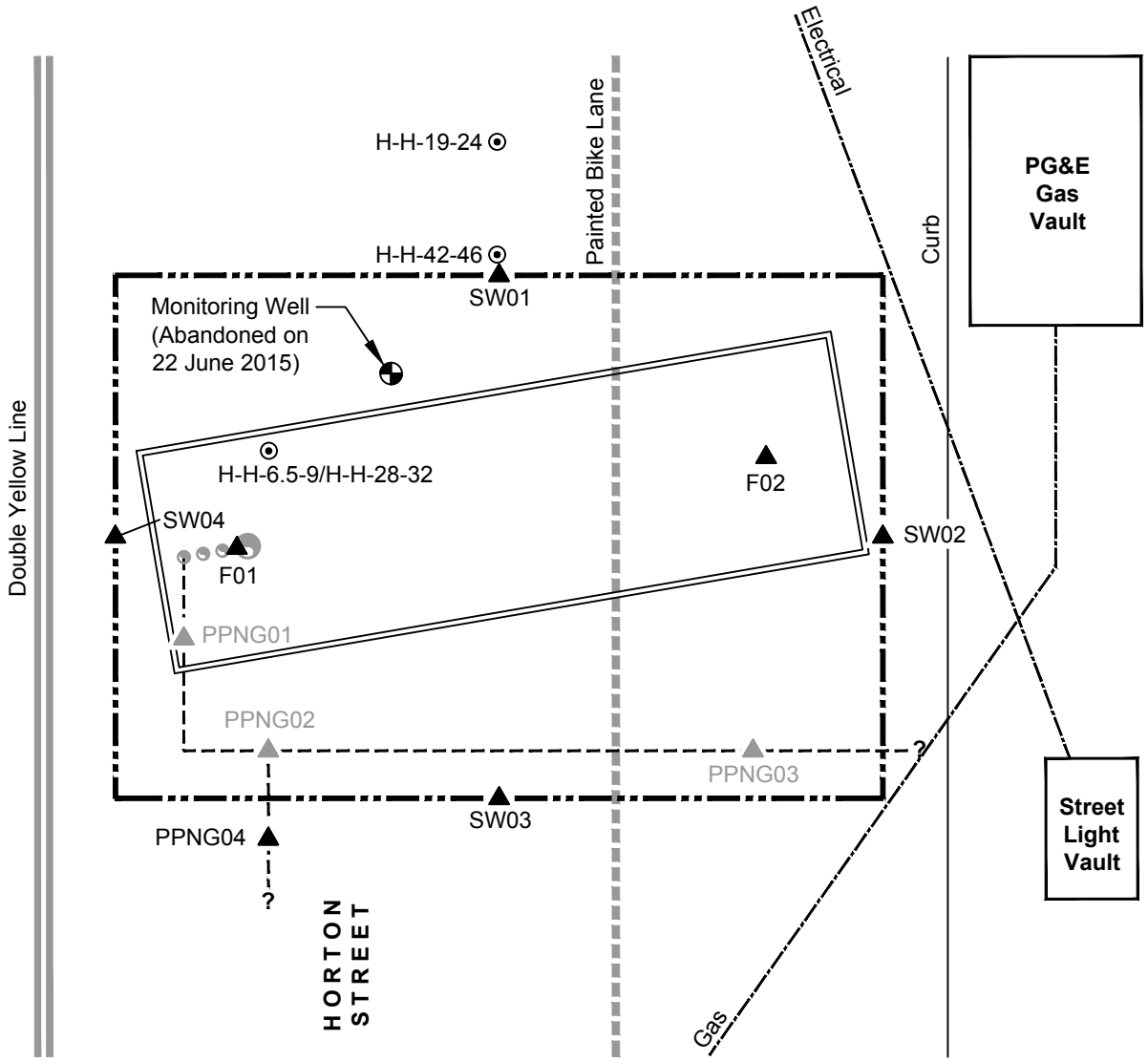
Source
Google Earth Pro, Date of Imagery, March 2016.

Erler & Kalinowski, Inc.

Site and Neighboring Properties

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7
Figure 1

Path: X:\B20006\Maps_00\2016\07\Fig1_SiteandNeighboringProperties.mxd



Legend:

- Approximate Location of UST
- Approximate Limit of UST Excavation Pit
- Approximate Location of Associated UST Piping
- Approximate Location of subsurface utilities as determined by SLS, October 2015.
- UST Fuel, Product, and Vent Ports
- Borehole
- Confirmation Soil Sampling Location

Abbreviations:

UST = underground storage tank
SLS = Subdynamic Locating Services, San Jose, CA

Notes:

1. All locations are approximate.
2. Grayed out confirmation soil sample locations have been over-excavated during UST demolition activities.

0 3 6
(Approximate Scale in Feet)

N

Erler & Kalinowski, Inc.

UST Excavation and Site Sampling Locations

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure 2a

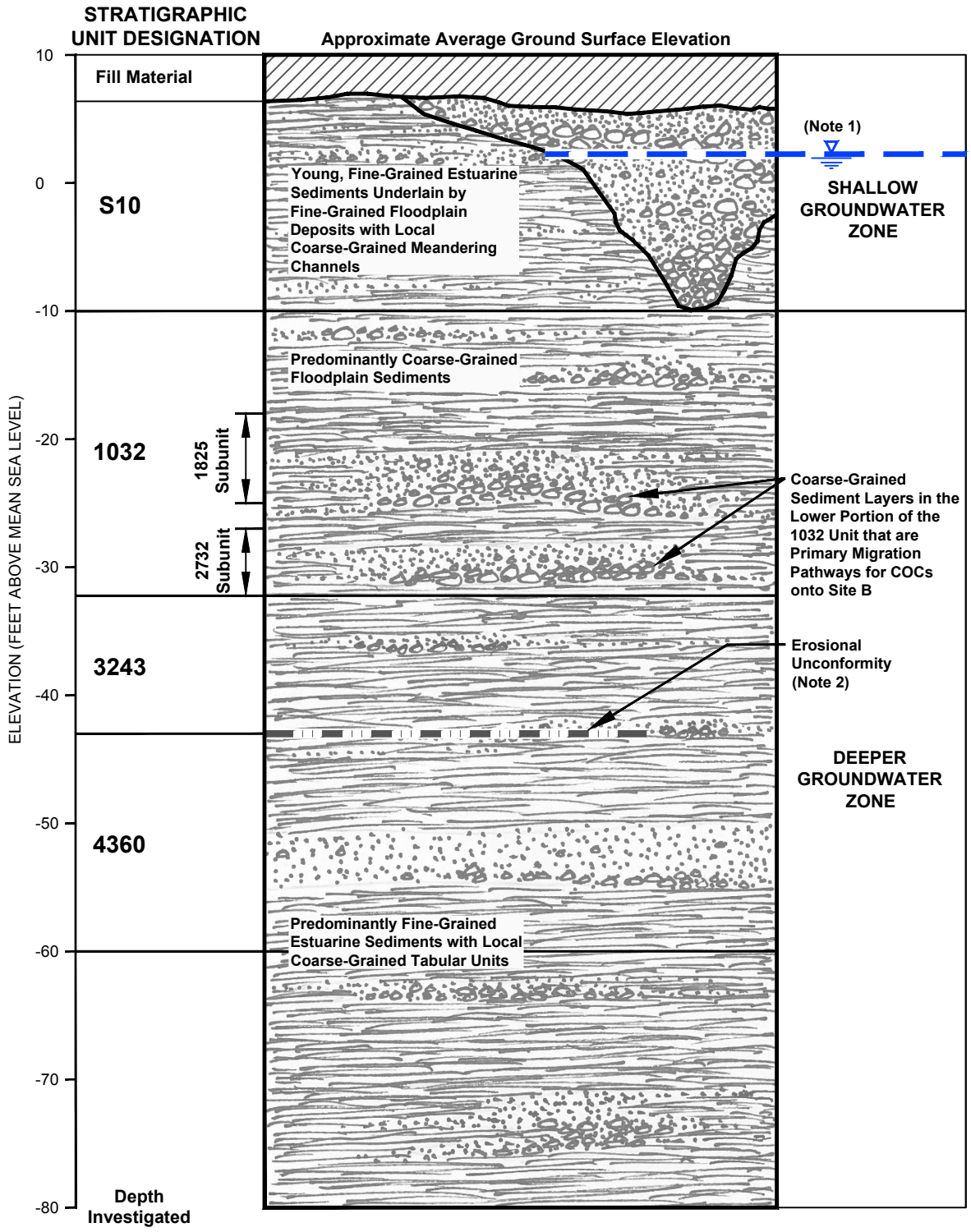
G:\B20006.00\2016-07\Figure 2a.dwg 7-22-16

Erler & Kalinowski, Inc.

Sampling Locations at the Site and Neighboring Properties

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7
Figure 2b

Path: X:\B20006\Maps_00\2016\07\Fig2b_GGWLocs.mxd



NOTES:

1. Approximate average groundwater elevation across the Horton District.
2. Erosional unconformity identified on the basis of abrupt change in tip resistance.
3. For description of stratigraphic units, see Table 5.

ABBREVIATIONS:

feet msl	= feet above mean sea level
S10 Unit	= stratigraphic unit beneath fill material to -10 feet msl
1032 Unit	= stratigraphic unit between -10 to -32 feet msl
1825 Subunit	= stratigraphic unit between -18 to -25 feet msl
2732 Subunit	= stratigraphic unit between -27 to -32 feet msl
3243 Unit	= stratigraphic unit between -32 to -43 feet msl
4360 Unit	= stratigraphic unit between -43 to -60 feet msl

NOT TO SCALE

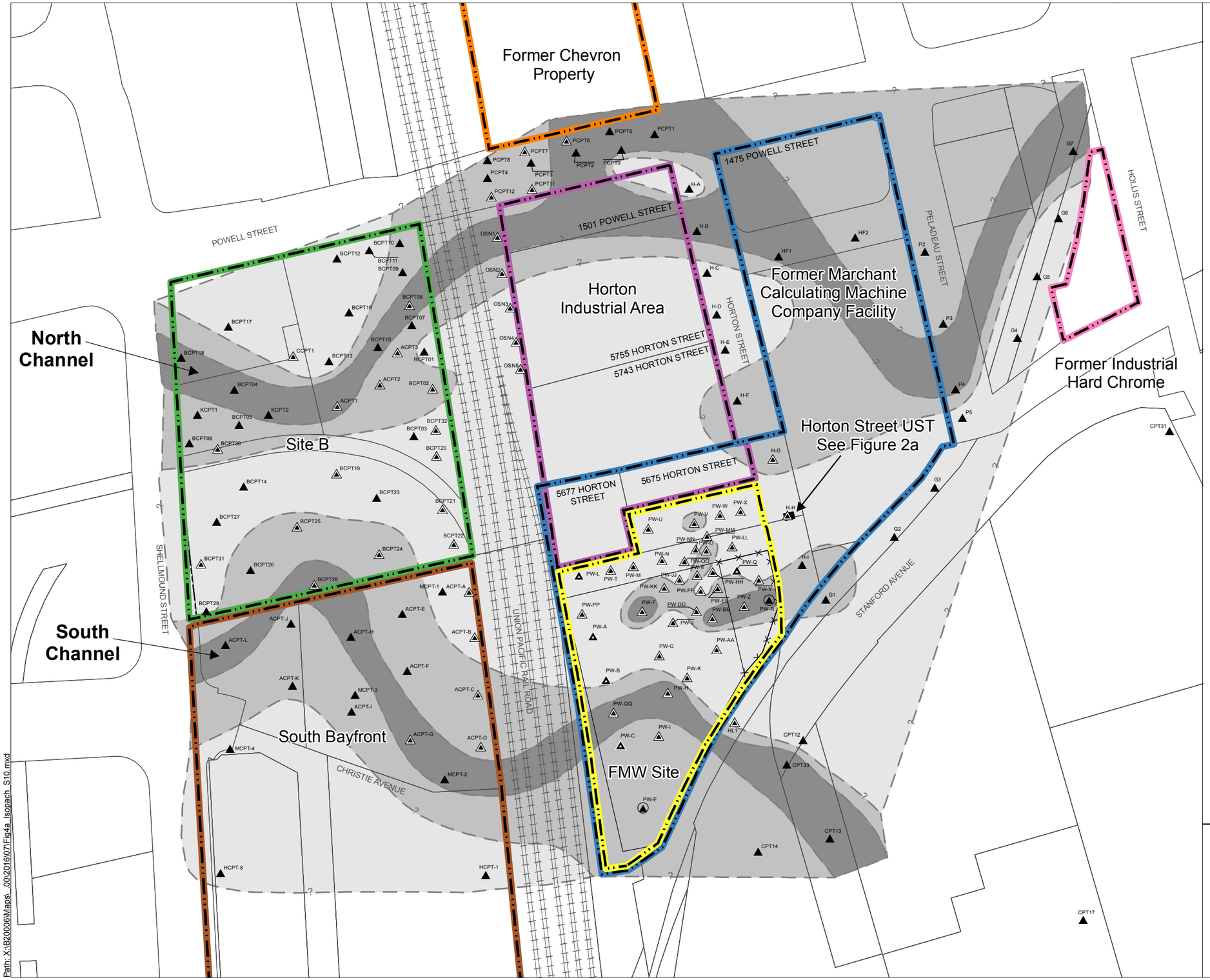
Erler & Kalinowski, Inc.

Generalized Stratigraphy

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure 3

20160722.1249A122 G:\B20006.00\2016-06\Figure 2-1 - Generalized Stratigraphy.dwg Model



N

0 120 240

(Approximate Scale in Feet)

Legend

- CPT
- CPT and HPT
- CPT, HPT, and MIP
- CPT and MIP

Isopach - Cumulative Thickness of Coarse-Grained Deposits

- 0 to 2 feet
- 2 to 5 feet
- 5 to 10 feet

Abbreviations

CPT	=	cone penetrometer test
ft msl	=	feet above mean sea level
FMW	=	Former Marchant/Whitney
HPT	=	hydraulic profiling tool
MIP	=	membrane interface probe
S10 Unit	=	stratigraphic unit beneath the fill material to -10 ft msl
UST	=	underground storage tank

Notes

1. All locations are approximate.
2. For description of the S10 Unit, see Table 5.
3. For the purposes of the isopach map, coarse-grained deposits are defined based on CPT data where the tip resistance is equal to or greater than 50 tons per square foot.

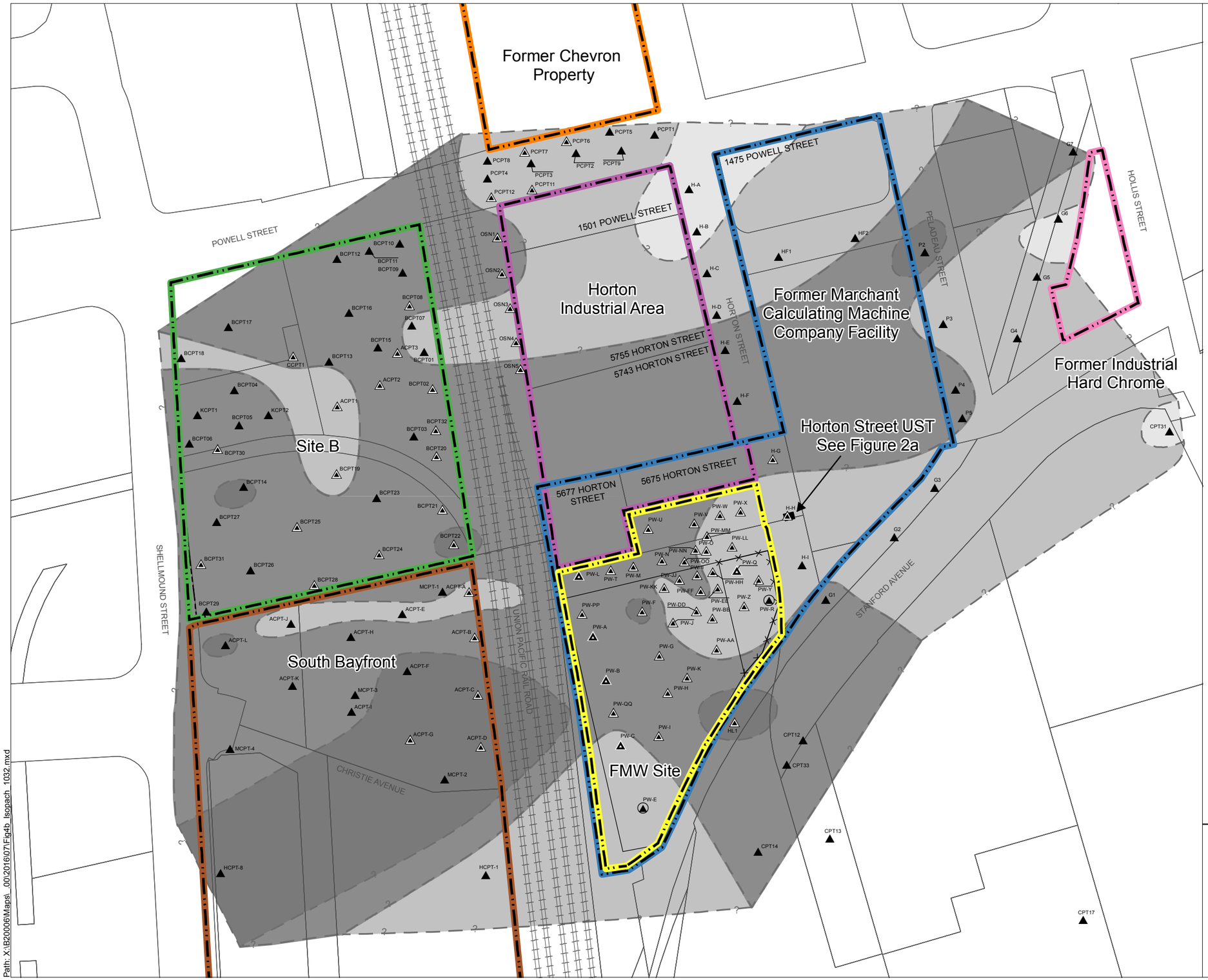
Erler & Kalinowski, Inc.

Isopach Map for the Cumulative Thickness of Coarse-Grained Deposits Within the S10 Unit

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure 4a

Path: X:\B20006\Maps\ 00\2016\07\Fig4a_Isopach_S10.mxd



N

0 120 240

(Approximate Scale in Feet)

Legend

- CPT
- CPT and HPT
- CPT, HPT, and MIP
- CPT and MIP

Isopach - Cumulative Thickness of Coarse-Grained Deposits

- 0 to 2 feet
- 2 to 5 feet
- 5 to 10 feet
- > 10 feet

Abbreviations

1032 Unit	=	stratigraphic unit between -10 to -32 ft msl
CPT	=	cone penetrometer test
ft msl	=	feet above mean sea level
FMW	=	Former Marchant/Whitney
HPT	=	hydraulic profiling tool
MIP	=	membrane interface probe
UST	=	underground storage tank

Notes

1. All locations are approximate.
2. For description of the 1032 Unit, see Table 5.
3. For the purposes of the isopach map, coarse-grained deposits are defined based on CPT data where the tip resistance is equal to or greater than 50 tons per square foot.

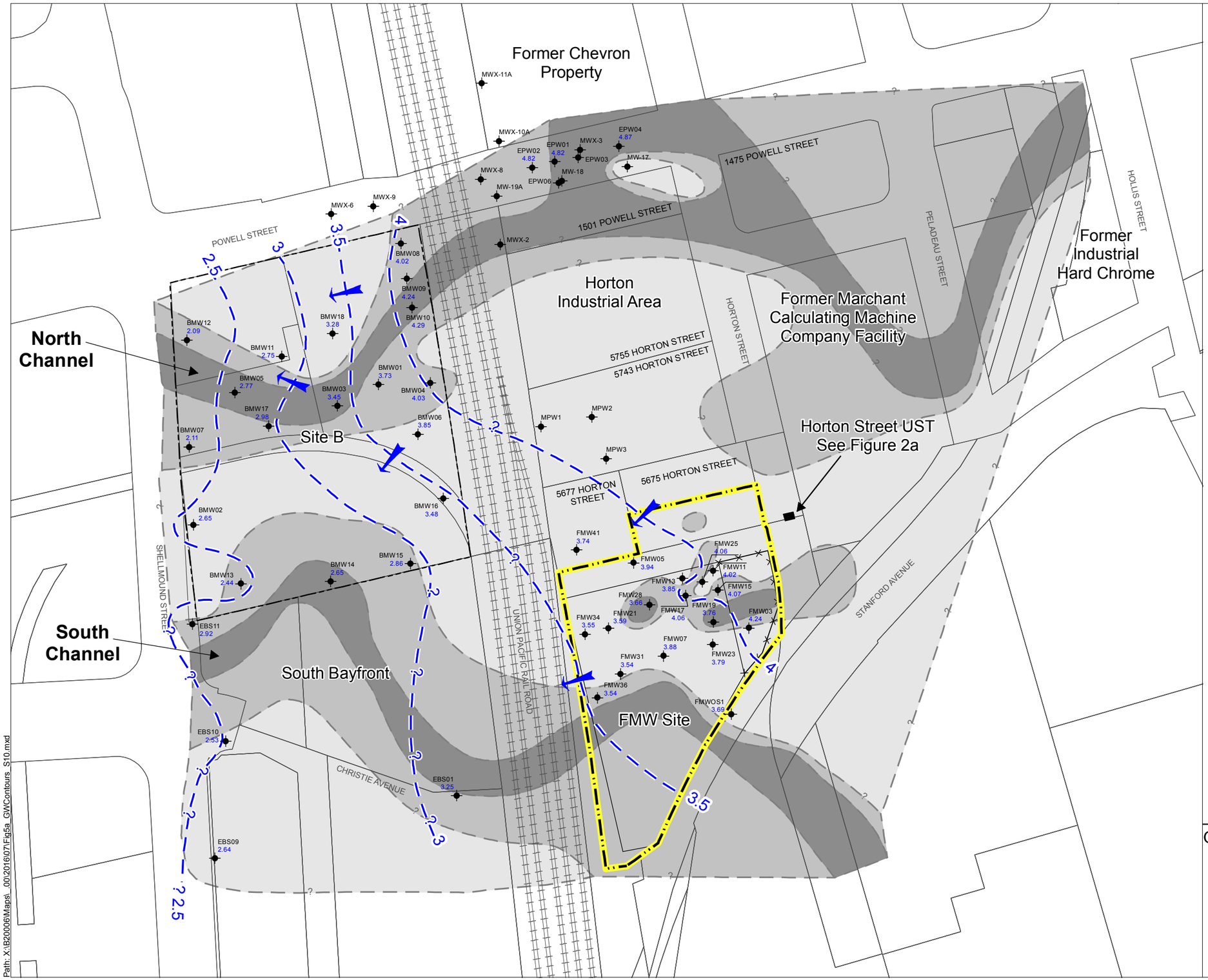
Erler & Kalinowski, Inc.

Isopach Map for the Cumulative Thickness of Coarse-Grained Deposits Within the 1032 Unit

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure 4b

Path: X:\B20006\Maps_00\2016\07\Fig4b_Isopach_1032.mxd



N

0 120 240

(Approximate Scale in Feet)

Legend

- Groundwater Monitoring Well - S10 Unit
- 4 — Interpreted Groundwater Elevation Contour (feet msl)
- 4.02 — Groundwater Elevation (feet msl)
- Hydraulic Gradient Direction

Isopach - Cumulative Thickness of Coarse-Grained Deposits

- 0 to 2 feet
- 2 to 5 feet
- 5 to 10 feet

Abbreviations

feet msl	=	feet above mean sea level
FMW	=	Former Marchant/Whitney
S10 Unit	=	stratigraphic unit beneath fill material to -10 feet msl
UST	=	underground storage tank

Notes

1. All locations are approximate.
2. For description of the S10 Unit, see Table 5.
3. Water levels measured on 4 September, 2015.
4. See Figure 4a for description of isopach map in the S10 Unit.

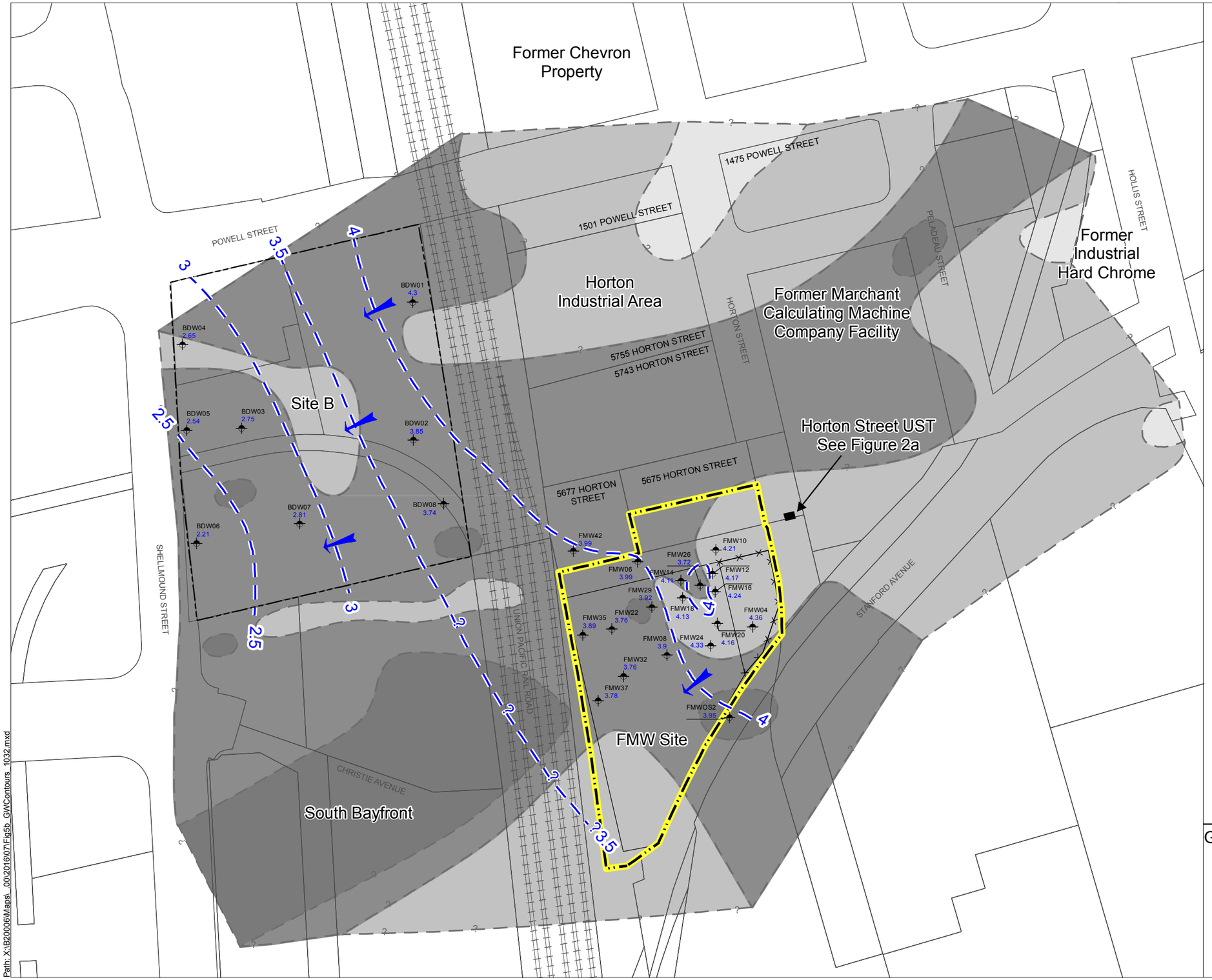
Erler & Kalinowski, Inc.

Groundwater Elevation Map - September 2015 S10 Unit

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure 5a

Path: X:\B20006\Maps_00\2016\07\Fig5a_GWContours_S10.mxd



Legend

- Groundwater Monitoring Well - 1032 Unit
- 4 — Interpreted Groundwater Elevation Contour (feet msl)
- 4.02 Groundwater Elevation (feet msl)
- Hydraulic Gradient Direction

Isopach - Cumulative Thickness of Coarse-Grained Deposits

- 0 to 2 feet
- 2 to 5 feet
- 5 to 10 feet
- > 10 feet

Abbreviations

1032 Unit	=	stratigraphic unit between -10 to -32 feet msl
feet msl	=	feet above mean sea level
FMW	=	former Marchant/Whitney
UST	=	underground storage tank

Notes

1. All locations are approximate.
2. For description of the 1032 Unit, see Table 5.
3. Water levels measured on 4 September, 2015.
4. See Figure 4a for description of isopach map in the 1032 Unit.

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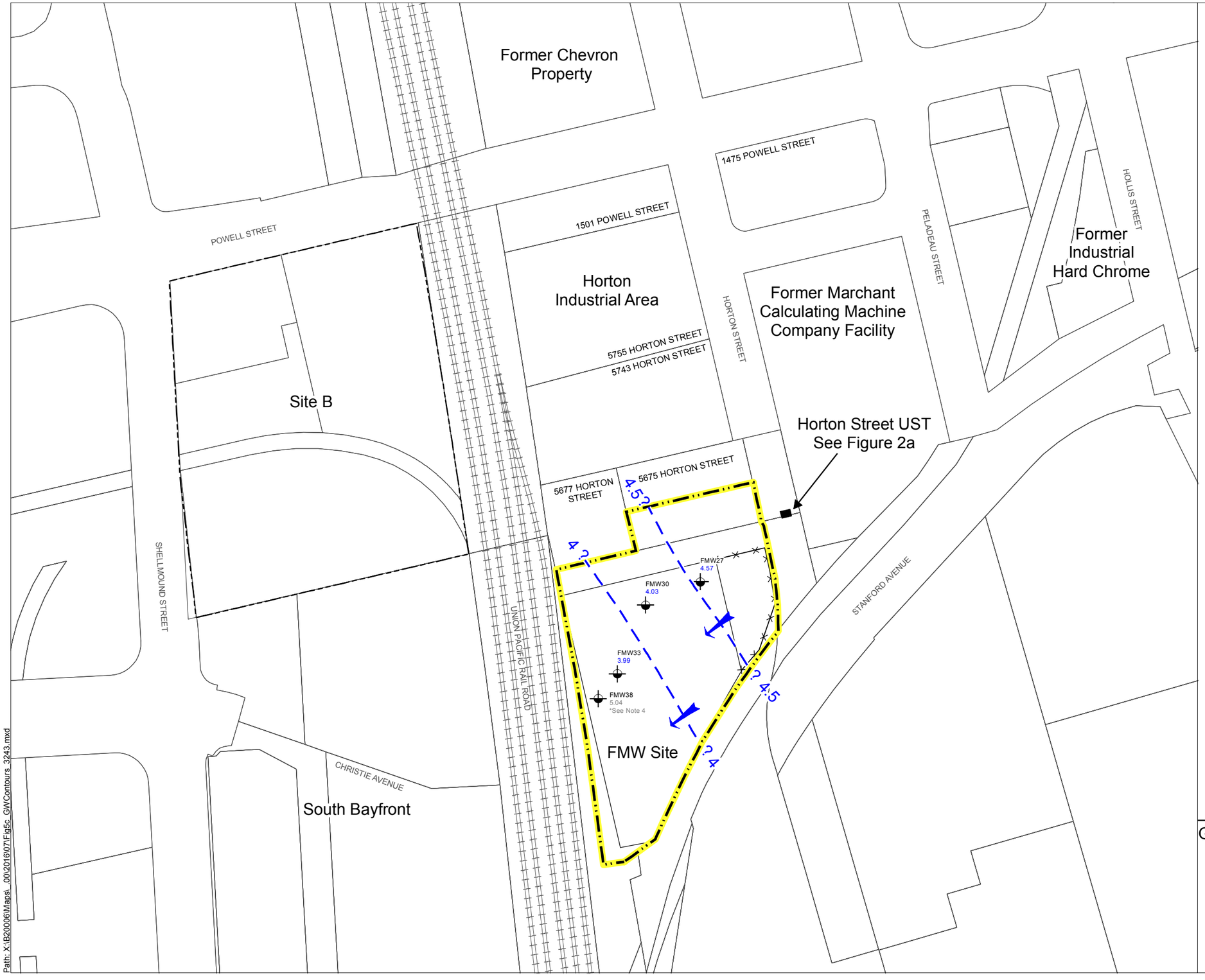
Groundwater Elevation Map - September 2015 1032 Unit

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure 5b

Path: X:\B20006\Maps_00\2016\07\Fig5b_GWContours_1032.mxd



N

0 120 240

(Approximate Scale in Feet)

Legend

- Groundwater Monitoring Well - 3243 Unit
- 4 — Approximate Groundwater Elevation Contour (feet msl)
- 4.02 — Groundwater Elevation (feet msl)
- Hydraulic Gradient Direction

Abbreviations

4360 Unit	=	stratigraphic unit between -43 to -60 feet msl
feet msl	=	feet above mean sea level
FMW	=	Former Marchant/Whitney
UST	=	underground storage tank

Notes

1. All locations are approximate.
2. For description of the 4360 Unit, see Table 5.
3. Water levels measured on 4 September, 2015.
4. FMW38 is predominantly screened in the 3243 Unit, but the groundwater elevation is more consistent with the wells screened within the 4360 Unit. Therefore, the groundwater elevation data at FMW38 is not used to contour groundwater elevations within the 3243 Unit.

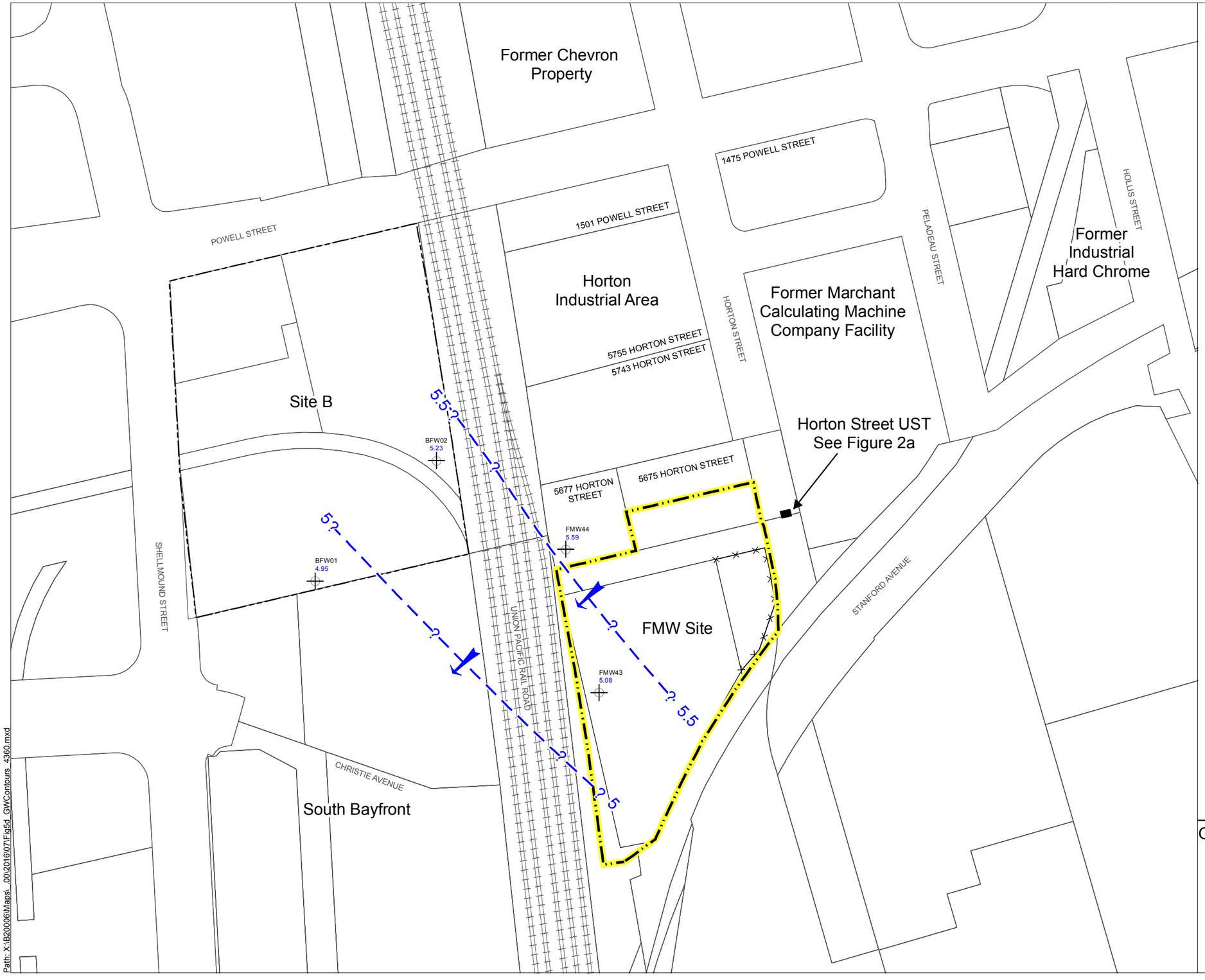
Erler & Kalinowski, Inc.

Groundwater Elevation Map - September 2015
3243 Unit

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure 5c

Path: X:\B20006\Maps_00\2016\07\Fig5c_GWContours_3243.mxd



Legend

- Groundwater Monitoring Well - 4360 Unit
- 4 — Approximate Groundwater Elevation Contour (feet msl)
- 4.02 — Groundwater Elevation (feet msl)
- Hydraulic Gradient Direction

Abbreviations

4360 Unit	=	stratigraphic unit between -43 to -60 feet msl
feet msl	=	feet above mean sea level
FMW	=	Former Marchant/Whitney
UST	=	underground storage tank

Notes

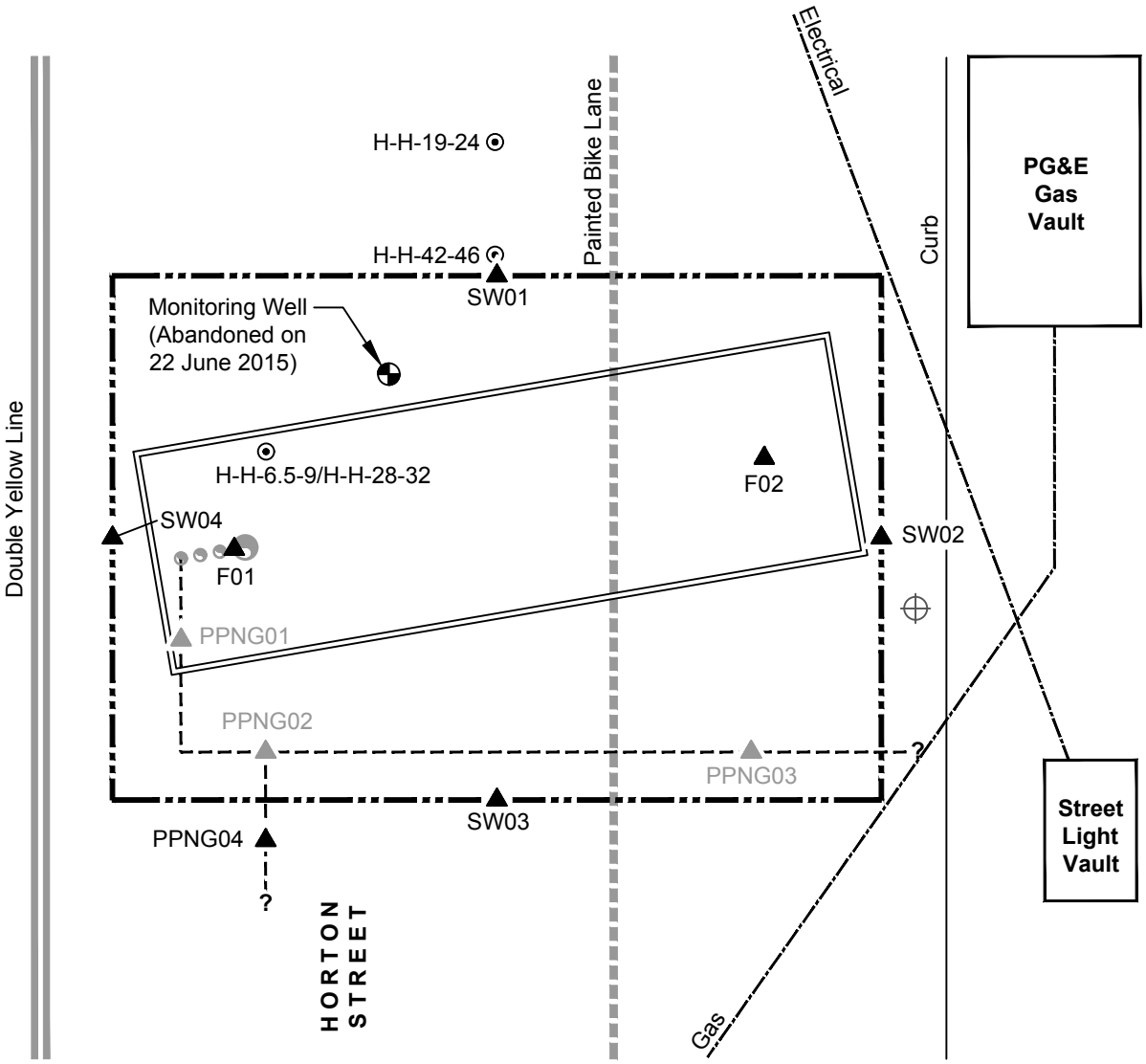
1. All locations are approximate.
2. For description of the 4360 Unit, see Table 5.
3. Water levels measured on 4 September, 2015.

Erler & Kalinowski, Inc.

Groundwater Elevation Map - September 2015
4360 Unit

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7
Figure 5d

Path: X:\B20006\Maps_00\2016\07\Fig5d_GWContours_4360.mxd



Legend:

- Approximate Location of UST
- Approximate Limit of UST Excavation Pit
- Approximate Location of Associated UST Piping
- Approximate Location of subsurface utilities as determined by SLS, October 2015.
- Proposed Soil Vapor Probe Location
- UST Fuel, Product, and Vent Ports
- Borehole
- Confirmation Soil Sampling Location

Abbreviations:

UST = underground storage tank
SLS = Subdynamic Locating Services, San Jose, CA

Notes:

1. All locations are approximate.
2. Grayed out confirmation soil sample locations have been over-excavated during UST demolition activities.

0 3 6
(Approximate Scale in Feet)

N

Erler & Kalinowski, Inc.

Proposed Soil Vapor Probe Installation Location

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure 6

G:\B20006.00\2016-07\Figure 2a.dwg 7-22-16

ATTACHMENT 1

Field Methods and Procedures

ATTACHMENT 1
FIELD METHODS AND PROCEDURES

Former Horton Street UST
Emeryville, California

TABLE OF CONTENTS

FIGURES

APPENDIXES

Field methods and procedures for constructing and sampling soil vapor probes has been prepared considering guidance in the California Environmental Protection Agency ("Cal-EPA") *Advisory – Active Soil Gas Investigations*, dated July 2015 ("ASGI Advisory").

1 SOIL VAPOR PROBE ("SVP") CONSTRUCTION

Typical SVP construction details are shown on Figure L-1. The one SVP is planned to be installed with a 3-inch long mesh screen from approximately 5.0 to 5.25 feet bgs. A 1-foot think sand filter pack will extend above and below the screen, from approximately 4.5 to 5.5 feet bgs (see below). Shallower depths will be used if groundwater is encountered above 5.5 feet bgs at the SVP location but the SVP will not be installed if groundwater is encountered during drilling at a depth of 3.5 feet bgs or less. The SVP location may be modified based on field conditions.

A drilling permit will be obtained from the Alameda County Public Works Agency ("ACPWA") and an encroachment permit will be obtained from the City of Emeryville. Underground Services Alert ("USA") will be notified at least 48-hours prior to groundbreaking activities. A private utility locator will also investigate for the presence of underground utilities using appropriate geophysical methods.

The SVP will include a 3-inch long, ½-inch diameter stainless-steel wire mesh screen attached to a length of continuous ¼-inch diameter fluorinated ethylene propylene ("FEP") Teflon® tubing, fitted at the top with a stainless-steel laboratory-grade plug valve using a stainless steel compression fitting.

The SVP will be installed in a hand-augured borehole approximately 3.5-inches diameter and approximately 5.5 feet bgs. The SVP will be emplaced using an approximately 1-inch diameter PVC emplacement "guide" pipe, to keep the screen and tubing centered in the borehole at the proper depth. A continuous filter pack will be placed in the annular space between the screen and the borehole wall. The guide pipe will be suspended in the borehole during sandpack emplacement. The filter pack will consist of pre-washed, graded, packaged silica sand. The guide pipe will be slowly withdrawn as annular materials are emplaced. The depth to top of sand will be confirmed, and topped off if necessary, after the guide pipe is withdrawn above the level of sand.

Slight tension will be maintained on the tubing to ensure it remains centered during sealing and grouting. Above the sand pack, the SVP will be sealed with a six-inch layer of dry medium granular bentonite, per the ASGI Advisory. Above this layer, each borehole will be backfilled to approximately one foot below existing grade with neat cement. Each SVP will be completed at the surface with a traffic-rated well box to protect the sampling valve. Traffic-rated well vaults will be used for surface completion of wells, and will be set in neat cement, with the rim level set very slightly above grade.

2 SVP SAMPLING

Soil gas samples will be collected at least 48 hours after installation of the SVP, in order to allow subsurface conditions to re-equilibrate from drilling and SVP construction.

As noted in the ASGI Advisory, soil gas sampling will be delayed until frontal systems have passed in the area, to avoid potential introduction of atmospheric air into the shallow vadose zone. Soil gas sampling will also not be performed during rainfall or within 5 days after a significant rainfall event (0.5 inches or more in a 24-hour period).

2.1 SVP Static Vacuum or Pressure Measurements

Ambient vacuum or pressure in the SVP will be measured prior to soil gas sampling using a vacuum/pressure gauge or digital manometer. The negative (vacuum) port of the gauge will be attached to the SVP using a short length of tubing, and the valve will be opened. If the gauge registers pressure instead of vacuum, the valve will be closed and the tubing will be attached to the positive (pressure) port. In either case, the final ambient vacuum or pressure value will be recorded in the field documents for the sampling event. After recording the measurement, the SVP valve will be closed and the field gauge removed.

2.2 Sampling Equipment and Manifold Setup

Soil gas sampling will be conducted using laboratory-supplied pre-evacuated summa®-passivated stainless-steel canisters. A schematic of the sampling setup is shown on Figure L-2. Sample canisters will be setup in a sampling manifold with two canisters, including a 1-liter canister for sample collection and a 6-liter canister for SVP purging. Each canister will be fitted with a canister inlet valve and a vacuum gauge to indicate the vacuum in the canister when the canister valve is open.

Tubing from the canisters will be connected to a tee in the manifold. Tubing between the tee and the valve on the top SVP will include (1) a flow controller calibrated for a flow rate of approximately 150 milliliters per minute ("mL/min") during purging and sampling, (2) a vacuum gauge to measure the vacuum in the SVP during purging and sampling, and (3) a manifold valve to isolate the manifold tubing and fittings during shut-in testing. Tubing from the manifold valve will be connected to the valve on the top of the SVP.

Sample canisters and flow restrictors will be pre-cleaned and batch certified by the analytical laboratory prior to use. The canisters, gauges, and flow restrictors will be connected with FEP Teflon tubing and stainless steel compression fittings.

2.3 Canister Vacuum Testing

The sample canisters are evaluated to a full vacuum at the laboratory, which is approximately 29.9 in-Hg. The vacuum in each sample canister will be measured and recorded in the field to verify the vacuum is within 5% of full vacuum prior to sample collection. Sample canisters with a vacuum not within 5% of full vacuum will not be

used for soil gas sample collection. Sample canisters with a vacuum within 10% of full vacuum may be used for shroud air sample collection for leak testing (see Section 2.6).

The accuracy of the canister vacuum gauge can vary due to repeated use in the field. Therefore, the laboratory will measure and record the "full vacuum" reading on each canister vacuum gauge prior to shipment to the field. Similarly, the "zero" reading on each gauge will be recorded in the field.

For sample canisters used to collect soil gas samples, the initial canister vacuum will be measured to verify it is at full vacuum, as described above, during the shut-in test described in Section 2.4. For shroud air sample canisters used for during leak testing (see Section 2.6), the initial vacuum will be measured and recorded by capping the inlet with a compression fitting and briefly opening the canister valve to measure the vacuum.

2.4 Shut-In Test

A shut-in test will be performed after the sampling manifold is connected to the SVP valve. For the shut-in test, the SVP valve and the sample canister valve will remain closed.

The valve on the purge canister will be opened briefly to establish a vacuum in the sampling manifold tubing and fittings. The vacuum on the purge canister vacuum gauge will be recorded and then observed for 5 minutes. If there is a significant leak in the sampling manifold, the vacuum will decrease. If the vacuum decreases, manifold fittings will be checked and re-done as needed, and the shut-in test will be repeated. If there is no observable change in the vacuum on the gauge, the shut-in test is successful and purging and sampling will proceed.

After the shut in test is successful and the SVP valve and purge canister valve are closed, the sample canister valve will be opened briefly to measure the vacuum in the sample canister to verify it is at full vacuum (see Section 2.3).

2.5 Purging

Approximately three purge volumes of soil gas will be purged from each SVP. One purge volume includes the internal volume of the tubing and screen and the interstitial space in the sand pack and dry bentonite chips in the SVP annular space. For these SVPs, one purge volume is approximately 0.9 liters, so three purge volumes is a total of 2.7 liters. Purging will be performed using the 6-liter pre-evacuated purge canister with the 150 mL/min flow restrictor (see Section 2.2). The three purge volume target of 2.7 liters will be achieved in approximately 18 minutes.

To perform the purge, (1) the leak check shroud will be setup as described in Section 2.6, (2) the purge canister valve will be opened and the vacuum on the canister gauge recorded, (3) the manifold inlet valve and the SVP valve will be opened to begin the purge, (3) the vacuum on the purge canister gauge will be monitored until the vacuum decreases the required amount for the desired purge volume, and (4) the vacuum in the sampling manifold will be observed on the probe vacuum gauge during the purge to verify it does not exceed 100 in-WC (7.5 in-Hg). After the purge is complete, the purge

canister valve will be closed and the manifold valve and SVP valve will remain open for sampling to begin.

2.6 Leak Detection

A quantitative leak-detection protocol will be included during purging and sampling, as follows.

A plastic bag ("shroud") will be placed around the above-ground sampling assembly and above the annular space of the SVP and all of the connections; the opening of the shroud will be weighted to the ground around the SVP. During sampling, the air inside the shroud will be spiked with controlled bursts of a tracer gas approximately every 10 minutes. The tracer gas will be 1,1-difluoroethane ("DFA"), provided in a pressurized can by the laboratory. Tracer gas will be injected through ¼-inch tubing routed under the bag to the interior. The target concentration of DFA in the shroud air is approximately 3,000 to 30,000 parts per million by volume.

To quantify the DFA concentration in the shroud during sample collection, air from within the shroud (the "shroud air" sample) will be sampled simultaneously with soil gas sample collection from the SVP using a separate sample canister. The shroud air sample canister will be located inside the shroud but will not be connected to the sampling manifold, so it will collect a sample of the shroud air.

The shroud air sample will be analyzed for DFA to determine the representative DFA concentration in the shroud air during the concurrent soil gas sample collection. Soil gas samples will also be analyzed for DFA.

In the event that DFA is detected in a soil gas sample, the DFA concentration in the soil gas sample will be compared to the DFA concentration in the shroud air sample to determine the magnitude of the leak. The ASGI Advisory indicates an air leak up to 5 percent is acceptable if quantitative tracer testing is performed by shrouding.

2.7 Sample Collection

The soil gas sample and shroud air sample will be collected after the shut-in test and purging are complete. At this point the sampling manifold is connected to the SVP, the leak check shroud is in place, and the manifold valve and SVP valve are open (i.e., were opened during the purging step). The air inside the shroud will be spiked with a short burst of DFA gas from a pressurized can, and sampling will be initiated by opening the valves on the soil gas sample canister and the shroud air sample canister.

Each sample canister will be allowed to fill until the vacuum in the canister is at or near zero, at which point the canister valves will be closed and the vacuum remaining in the canisters will be recorded.

2.8 Sampling Handling

Sample handling and documentation will be performed as discussed in Section 3.3. Sample canisters will be labeled, boxed, and sent via courier to the analytical lab under chain-of-custody protocols.

The analytical laboratory will check each canister to verify that the canister valve is was securely closed and the threaded cap was placed on the inlet to the valve. The laboratory will report these observations with the analytical report.

2.9 Sample Analysis

The soil gas samples will be analyzed for VOCs using EPA Method TO-15. Samples will be analyzed using the laboratory's standard TO-15 analyte list with an analytical reporting limit of 1 part per billion by volume ("ppbv") for samples that do not require dilution due to high VOC concentrations.

The soil gas samples and the shroud air samples will be analyzed for DFA using EPA Method TO-3. The analytical reporting limit for DFA analysis will be 10 parts per million by volume ("ppmv"), which is approximately 0.03% to 0.3% of the target range of DFA in the shroud air.

The maximum hold time prior to sample analysis is 30 days for samples collected in the summa®-passivated stainless steel sample canisters (Cal-EPA, 2015).

2.10 SVP Abandonment

After analytical results are received for the SVP samples for the two proposed sampling events, and if a determination is made that no further SVP sampling will be needed, the SVPs will be abandoned in accordance with an Alameda County of Environmental Health permit.

3 FIELD QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

3.1 Equipment Decontamination

Disposable sampling equipment will be discarded after each use. Reusable equipment will be cleaned prior to and after each use. Between sampling locations, sampling equipment that will be reused shall be washed using either: (1) a Liquinox (or equivalent non-phosphate containing detergent) solution in water or (2) a steam cleaner. After washing, the equipment shall be rinsed first with clean water, then with distilled water, prior to initial use and between each subsequent use.

3.2 Sample Identification Number Nomenclature

A unique sample identification number ("ID") will be assigned to each collected sample. Example sample ID nomenclature is described below and may be subject to change.

The unique sample identification number for soil gas sample IDs will be a code that may include:

1. the type of sample (e.g., soil gas); and,
2. a sequence number.

3.3 Sample Handling and Transport Procedures

A sample label will be attached to each sample container following sample collection. The label will include the following information and will be filled out with waterproof, permanent ink.

1. Unique sample identification number;
2. Date and time the sample collected;
3. Initials of sample collector; and
4. Analyses requested.

After labeling, sample canisters will be packaged back in the same shipping boxes that the analytical laboratory provided. Sample containers will be transported to the analytical laboratory under chain-of-custody, as described in the following subsection.

3.4 Field Documentation

Each sample will be labeled and properly sealed immediately after collection. Sample canisters will be packaged back in the same shipping boxes that the analytical laboratory provided and transported to the analytical laboratory under chain-of-custody procedures.

3.4.1 Field Logbook/Forms

A field logbook or field forms will be used to document specific field activities and provide a daily record of field activities.

3.4.2 Chain-of-Custody

Samples will be transported to the analytical laboratory under chain-of-custody. An example chain-of-custody record is included in Attachment A. Field personnel will record the following information on the chain-of-custody record in waterproof, permanent ink.

1. Client and project number;
2. Site name;
3. Name or initials and signature of sampler;
4. Name of analytical laboratory;
5. Field sampling identification number for each sample;
6. Date and time of collection for each sample;
7. Number and type of sample containers for each sample;
8. Analysis requested for each sample;
9. Sample matrix for each sample;
10. Signatures of all persons involved in possession of the samples; that is, “relinquished by” and “received by”;
11. Dates and times of transfers of sample possession;
12. Shipping company air bill number, if applicable;
13. Any remarks by either sample collector or laboratory.

When transferring samples to the laboratories, the individuals relinquishing samples and the individuals receiving them will sign, date, and note the time of transfer on the chain-of-custody record. Each transfer of samples will be documented with a separate entry on the Chain-of-custody.

3.5 Field QA/QC Samples

Field QA/QC samples will be collected during sampling to quantitatively measure and ensure the quality of the sampling effort and the analytical data. Field QA/QC samples will consist of shroud samples as described in Section 2.2.4. Field QA/QC samples are to be handled in the same manner as the environmental samples collected.

New materials will be used for SVP construction and sampling tubing. Sampling equipment (sample canisters, vacuum gauges, and flow restrictors) will be pre-cleaned at the laboratory. Therefore, no material blanks or equipment blanks will be collected.

Laboratory QA/QC procedures will comply with the QA/QC procedures included in the ASGI Advisory.

4 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

IDWs such as soil cuttings and decontamination water will be containerized in DOT-approved containers such as 55-gallon drums. The IDW containers will be labeled with respect to their contents, date generated, site address, and generator information. The IDW containers will be temporarily stored in a secure location off-site as designated by the Successor Agency. Appropriate composite waste characterization samples, as described below, will be collected, and IDW containers will be disposed of by the Successor Agency in accordance with applicable laws and regulations.

4.1 Waste Characterization Sampling and Analysis

- Soil Samples from Drums for Waste Characterization: A four-point composite soil sample, representative of up to four drums, will be field composited from grab samples collected in pre-cleaned brass or stainless steel liners. Chemical analyses of soil for waste characterization, listed below, will be analyzed by a California-certified laboratory.
    - TPH-g by EPA Method 8015M
    - TPH-d and TPH-mo by EPA Method 8015M, with silica-gel cleanup
    - Title 22 metals using EPA Method 6020/7471; and
    - VOCs using EPA Method 8260B.
- Water Samples from Drums for Waste Characterization: A four-point composite water sample, representative of up to four drums, will be field composited and collected in laboratory-provided sample containers as listed on Table 4-1. Chemical analyses of water for waste characterization purposes, listed below, will be analyzed by a California-certified laboratory.

- VOCs using EPA Method 8260B.

Groundwater samples collected from wells may be used for waste characterization purposes in lieu of collecting composite water samples from drums.

4.2 Off-Site Disposal Facilities

Disposal of IDWs at off-site disposal facilities will be coordinated and transported by Belshire Environmental Services, Inc. of Foothill Ranch, California or a similar waste management company. The destination of the wastes will depend on the waste classification and is subject to acceptance by each facility.

- Non-Hazardous Soil: Soil Safe of Adelanto, 12328 Hibiscus Rd., Adelanto, CA 92301
- Non-RCRA Hazardous Soil: US Ecology, Highway 99, 11 Miles South of Beatty, NV 89003
- Non-Hazardous and RCRA-Hazardous Liquid: DeMenno Kerdoon, 2000 North Alameda Street, Compton, CA 90222

Separate composite samples of IDW soil and water will be collected by EKI, and submitted to a California-certified analytical lab for the following analyses:

- VOCs by EPA Method 8260B
- TPH-g by EPA Method 8015M
- TPH-d and TPH-mo by EPA Method 8015M, with silica-gel cleanup
- Title 22 metals using EPA Method 6020/7471

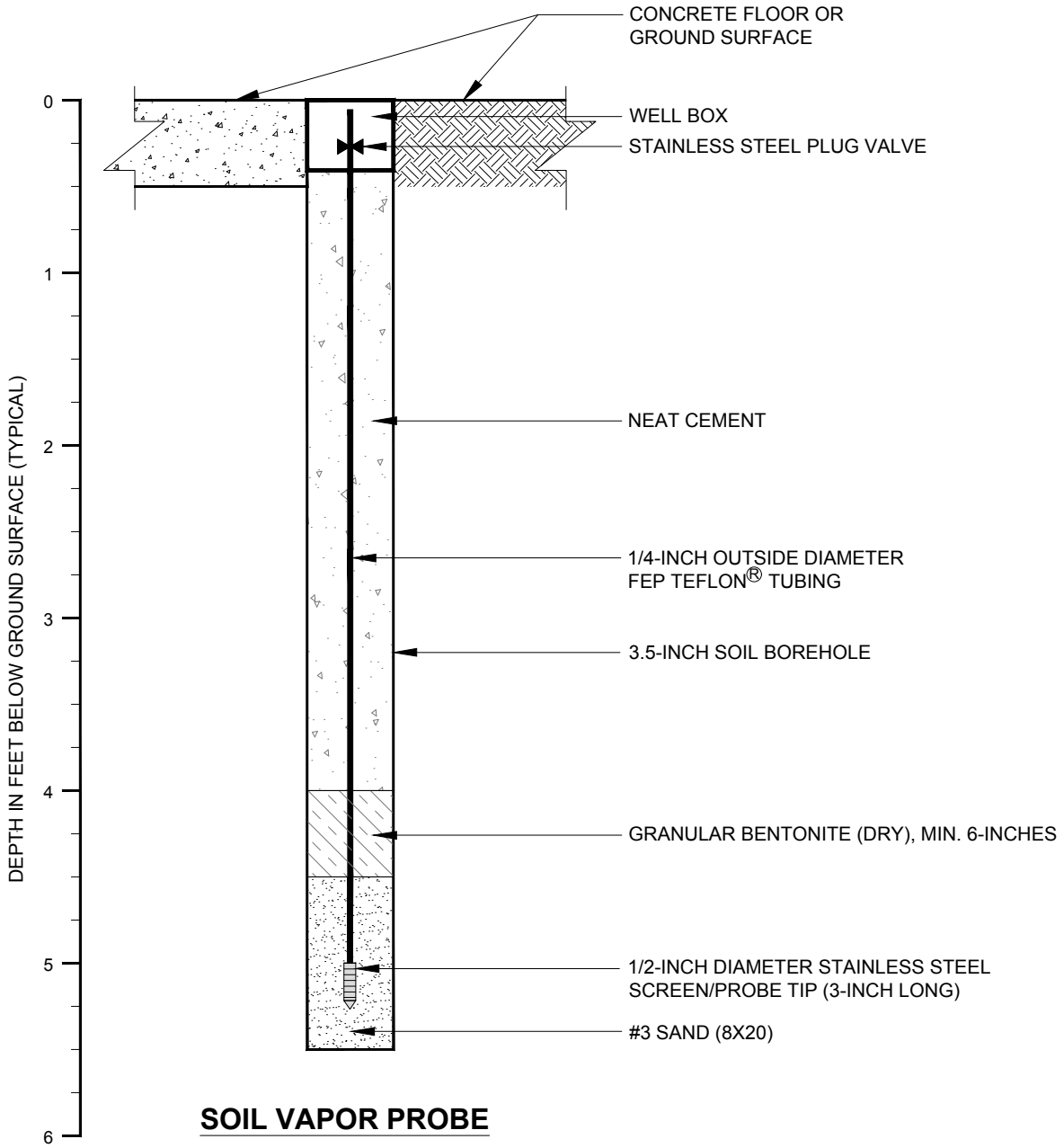
Wastes will be managed for disposal by the Successor Agency in accordance with applicable laws and regulations. Manifests, transportation, and off-site disposal of IDWs will be the responsibility of the Successor Agency.

5 SURVEYING

Following completion of fieldwork, horizontal coordinates and elevations of SVPs will be surveyed by a California state licensed land surveyor. Vertical elevations will be surveyed relative to mean sea level based on the National Geodetic Vertical Datum ("NGVD") 1929. Horizontal coordinates will be surveyed relative to the California Coordinate System North American Datum ("NAD") 1927, Zone 3.

6 REFERENCES

Cal-EPA, 2015, *Advisory - Active Soil Gas Investigations*. California Environmental Protection Agency, Department of Toxic Substances Control, Los Angeles and San Francisco Regional Water Quality Control Boards, July 2015. [https://www.dtsc.ca.gov/SiteCleanup/upload/VI_ActiveSoilGasAdvisory_FINAL.pdf]



SOIL VAPOR PROBE

NOTES:

1. SCALE IS APPROXIMATE.

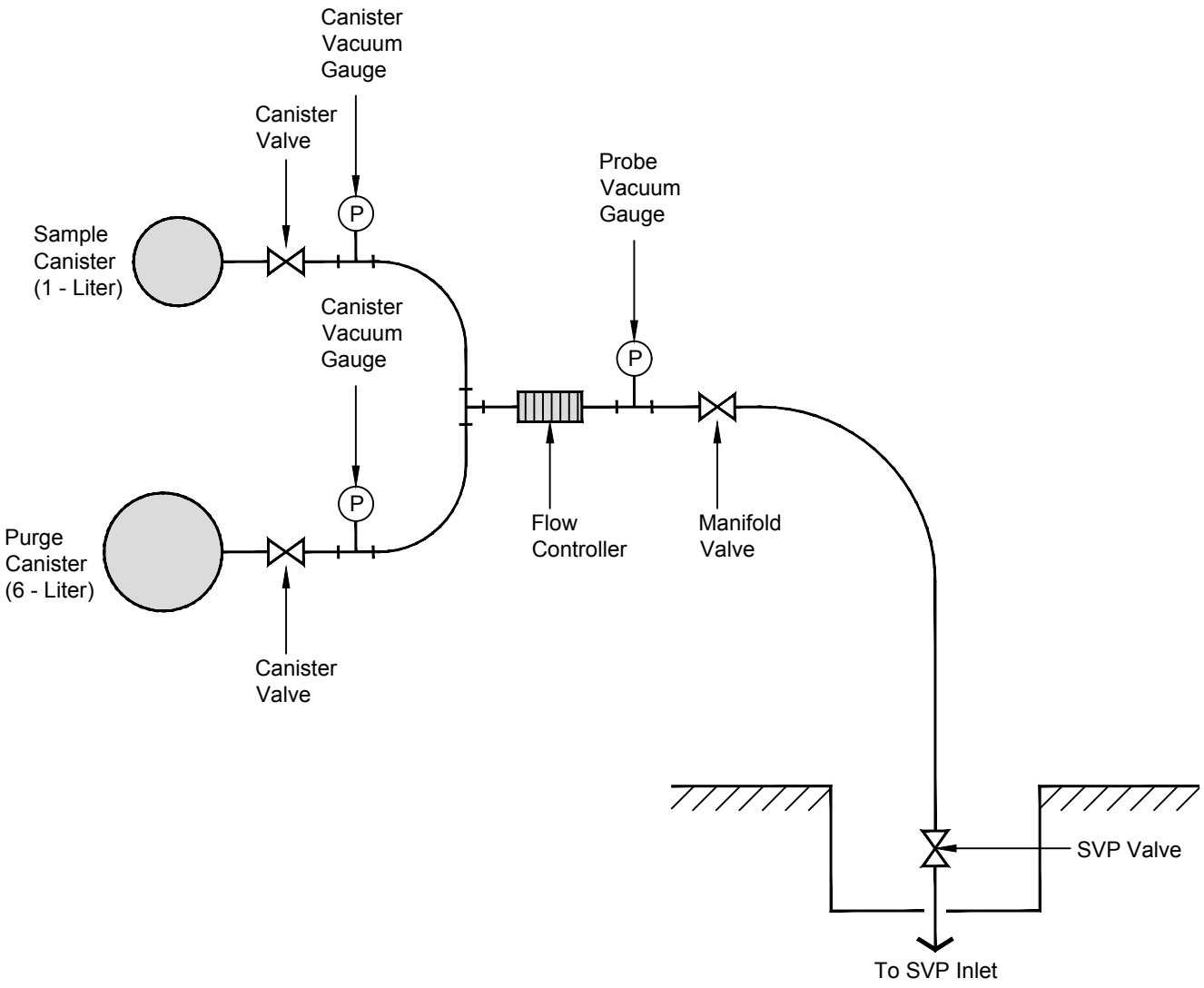
Erler & Kalinowski, Inc.

Typical Temporary Soil Vapor Probe
Construction Detail

Former Horton Street UST
Emeryville, CA
July 2016
EKI B20006.00 T7

Figure L-1

C:\B40068.00\2016-07\Figure L-2.dwg 7-21-16



Legend:

- Stainless Steel Plug Valve
- (P) Vacuum Gauge (0-30 in-Hg)
- Compression Fitting
- Flow Controller (125 mL/min)

Abbreviations:

in-Hg	= inches mercury
mL/min	= milliliters per minute
SVP	= soil vapor probe
UST	= underground storage tank

Not to Scale

Erler & Kalinowski, Inc.

Soil Gas Sampling Setup
with Purge Canister

Former Horton Street UST
Emeryville, CA

July 2016
EKI B20006.00 T7

Figure L-2

G:\B40068.00\2016-07\Figure L-2.dwg 7-21-16

APPENDIX A

Example Chain-of-Custody Form

Erler & Kalinowski, Inc.

CHAIN OF CUSTODY RECORD

PAGE _____ OF _____

CONSULTING ENGINEERS AND SCIENTISTS 1870 Ogden Drive, Burlingame CA 94010 PHONE: 650-292-9100 FAX: 650-552-9012

Project Name	**Project No.**	**ANALYSES REQUESTED**	**EKI COC No.**: (YYYYMMDD-#)
Location:	**Sampled By:**	*Method No.*	Revision: _____ (A, B, C, D, etc.) Date: By:
Reporting: Electronic Format: Hard Copy Format: PDF EPA Data Report Level: Please report results to the following people: (1) (2) (3)	**Laboratory:**	*Analyte Group*	**EXPECTED TURN-AROUND TIME** / Remarks

Field Sample Identification	Lab Sample No.	Date	Time	Matrix	No./Type of Containers									Extract and HOLD	HOLD		

Special Instructions:

Relinquished by:	(Signature/Affiliation)	Date	Time	**Received by:**
Relinquished by:	(Signature/Affiliation)	Date	Time	**Received by:**
Relinquished by:	(Signature/Affiliation)	Date	Time	**Received by:**

ATTACHMENT 2

Site-Specific Health and Safety Plan

SITE HEALTH AND SAFETY PLAN ADDENDUM No. 1

Date:	6 February 2015
Site Name:	Former Marchant/Whitney Site
Project Addresses:	5679 Horton Street, Emeryville, CA
EKI Project Number:	EKI B20006.00 T2
Site Safety Officer:	Jessica Daugherty, P.G.
Project Manager:	Joy Su, P.E.
Proposed Fieldwork Date:	2015 to 2016

TYPE OF ADDENDUM:

This Addendum No. 1 modifies the original Site Health and Safety Plan ("HSP") by Erler & Kalinowski, Inc. ("EKI"), dated July 2012, for the Former Marchant/Whitney Site, located at 5679 Horton Street, in Emeryville, California. This Addendum No. 1 updates the proposed fieldwork dates, Corporate Safety Manager information, Table 1 – Maximum Detected Concentrations of Chemicals of Concern (Attachment B), following additional on-site investigations since the original HSP was written, and Table 2 - Allowable Chemical Exposure Limits and Exposure Symptoms (Attachment C). The original HSP is included as Attachment A.

Amended Corporate Safety Manager

The Corporate Safety Manager is Claudia Cuadrado, P.E., cell phone (650) 504-4481.

SIGNATURES

Site Safety Officer _____ Date 2/6/15

Project Manager _____ Date 2/6/15

Corporate Safety Manager _____ Date 2/6/15

ATTACHMENTS

Attachment A	Site Health and Safety Plan, dated July 2012
Attachment B	Table 1 – Maximum Detected Concentrations of Chemicals of Concern
Attachment C	Table 2 - Allowable Chemical Exposure Limits and Exposure Symptoms

ATTACHMENT A

Site Health and Safety Plan, dated July 2012

SITE HEALTH AND SAFETY PLAN

For

SUBSURFACE ACTIVITIES

Former Marchant/Whitney Site
5679 Horton Street
Emeryville, California

for

ERLER & KALINOWSKI, INC.
(EKI B20006.00)

July 2012

Erler & Kalinowski, Inc.
Consulting Engineers and Scientists

1870 Ogden Drive
Burlingame, CA 94010-5306
(650) 292-9100
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SITE HEALTH AND SAFETY PLAN SUMMARY

SITE NAME:	Former Marchant/Whitney Site
PROJECT NAME:	Subsurface Activities
ADDRESS:	5679 Horton Street, Emeryville, CA
SITE TELEPHONE:	Mobile Telephone: 650-759-0965
INVESTIGATION DATE:	2012 to 2014
EKI JOB NUMBER:	EKI B20006.00
SITE SAFETY OFFICER (SSO):	Jessica Daugherty
FIELD SITE SAFETY OFFICER (FSSO):	To be determined
PROJECT MANAGER:	Joy Su, P.E.

TYPE OF ACTIVITY	POTENTIAL HAZARDS	
[X] Soils and/or Soil Gas Sampling	[X] Organics	[ ] Acids
[X] Groundwater Sampling	[X] Inorganics	[ ] Bases
[ ] Site Inspection	[X] Heavy Metals	[ ] Fire
[X] Remedial Activities	[X] Solvents	
[X] Contractor Supervision	[ ] Pesticides	
[X] Other: Contractor Observation	[X] Other: Petroleum Hydrocarbons	

PERSONAL PROTECTIVE EQUIPMENT Level: [ ] A [X*] B [X*] C [X*] D

- [X] Hard Hat
- [X] Boots
  - [X] Steel toed
  - [ ] Chemical resistant
- [X] Safety Goggles or Glasses
- [X] Respirator (have available)
  - [X] Organic vapor cartridges
  - [X] Particulate filters
  - [ ] Other:
- [X] Organic Vapor Meter (OVM)
- [ ] Dräger® Tubes
- [ ] Ear Plugs/Muffs
- [X] Coveralls
  - [X] Cotton
  - [X] Tyvek (have available)
- [X] First Aid Kit
- [X] Gloves
  - [X] Disposable Nitrile
  - [ ] Disposable outer (i.e., North Viton)
  - [ ] Other:

* As described in Section 4.10.3, EKI personnel will start in modified Level B for the beginning of the EOC Construction Project where the concrete slab will be removed and the level of PPE may be downgraded by the SSO or FSSO. For other general activities to be conducted at the Site when potential exposure to VOCs in the subsurface is anticipated to be low, EKI personnel will begin in Level D PPE and the level of PPE may be upgraded as deemed necessary by the SSO or FSSO. Criteria for downgrading or upgrading the level of PPE for EKI personnel are detailed in Section 4.10.3 - Monitoring.

1.0 INTRODUCTION

This Site Health and Safety Plan ("HSP"), developed in accordance with Federal and California Occupational Safety and Health Administration ("OSHA") standards for hazardous waste operations (29 CFR 1910.120 and 8 CCR 5192), establishes Site specific health and safety protocols for Erler & Kalinowski, Inc. ("EKI") personnel performing subsurface activities at the Former Marchant/Whitney Site, located at 5679 Horton Street in Emeryville, California (the "Site") (Figure 1).

The following additional reference sources and guidance documents published by the National Institute for Occupational Safety and Health ("NIOSH") and the American Conference of Governmental Industrial Hygienists ("ACGIH") were used to develop this HSP:

- ACGIH, 2012. *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*; and

- NIOSH, 2007. *Pocket Guide to Chemical Hazards*. September, 2007.

A remediation contractor ("Contractor") will be retained by the City of Emeryville ("City") to perform construction activities related to Site remediation. For informational purposes only, this HSP may be provided to any sub-contractors of EKI involved in activities at the Site. Entities and personnel other than EKI staff shall be solely responsible for their own health and safety and shall independently assess on-Site conditions and develop their own health and safety protocol. However, other entities or personnel that anticipate using health and safety measures which are less stringent than EKI's measures should immediately contact EKI's Site Safety Officer.

EKI has developed a Corporate Health and Safety Plan ("CHSP") for EKI employees. The CHSP complies with current health and safety regulations, including OSHA 29 CFR 1910.120 and 8 CCR 5192, Hazardous Waste Operations and Emergency Response. Many of the protocols of the CHSP are conducted on a routine basis (general training, respirator fit testing, general medical record keeping, etc.) and are not repeated herein. Questions regarding the EKI CHSP are referred to Thomas W. Kalinowski, Sc.D., Corporate Safety Officer.

A copy of this HSP, along with any addenda containing activity-specific health and safety information, will be kept in a conspicuous location on Site at all times while work is being conducted by EKI personnel.

2.0 MULTI-EMPLOYER WORKSITE PROCEDURES

In light of the Cal-OSHA Multi-Employer Worksite Rule, EKI is explicitly stating that all site employers are specifically responsible for the health and safety of their respective employees. EKI has no contractual responsibility, control or authority over the health and safety of

contractors at the site. EKI has no authority to correct site hazards created by other site personnel. EKI personnel will not assume such responsibility in the field.
The following procedures must be followed by EKI personnel:

- Maintain the procedures outlined in this plan for the sake of EKI personnel. In the event that EKI personnel observe that a contractor does not follow the minimum activities as defined in this HSP, EKI will advise the contractor of non-compliance. Any such notifications will be documented in the project field logs. If the non-compliance creates a potential health or safety hazard or exposure situation for EKI personnel and the contractor responsible for the hazard does not correct the situation, EKI personnel shall remove themselves from the work zone or any zone of potential exposure. EKI personnel shall not return to the work area until the situation is safe for their return as judged by the SSO or FSSO.

- EKI personnel shall not create potential hazard situations that may endanger other site personnel.

- The Site Safety Officer or his/her representative will conduct air monitoring within a work zone where EKI personnel are working using a personal direct reading photoionization detector ("PID"). As a matter of convenience and coordination, the monitoring information will be provided to others on-site, including sub-contractors. However, the Contractor and all other contractors, sub-contractors, and other third parties are responsible for obtaining and responding, as appropriate, to air monitoring information at the Site consistent with their corporate policies and site-specific plans. EKI will not assume responsibility for air monitoring or protection levels for other site personnel.

3.0 KEY HEALTH AND SAFETY PERSONNEL

The EKI Corporate Safety Officer is Thomas W. Kalinowski, Sc.D. The SSO will be Jessica Daugherty during work at the Site. The SSO may designate a FSSO. The SSO or FSSO is to be present during field activities at all times. The SSO or FSSO is responsible for the following:

- Observing field activities for compliance with this Site Health and Safety Plan, applicable addenda, and EKI's CHSP.
- Modifying health and safety protocols or terminating field work when unsafe work conditions exist.
- Familiarizing EKI personnel with health and safety protocols.
- Ensuring that EKI field personnel wear appropriate personal protective equipment.
- Recording data from direct reading instruments and evaluating potential hazards to EKI personnel.
- Monitoring decontamination procedures.
- Recording the occurrence of any Site injury or illness.

The SSO and FSSO have the authority to suspend the operations of EKI employees and EKI subcontractors if it is determined that Site conditions have become unsafe. The SSO and FSSO will also be members of the Site characterization team and will have project responsibilities in observing and participating in characterization activities. Conflicts, if any, between the multiple responsibilities of the SSO and FSSO will be resolved with the participation of the Project Manager or Corporate Safety Officer.

4.0 TASK / OPERATION SAFETY AND HEALTH PLAN

This section provides a brief description and history of the Site and discusses the proposed Site activities, associated health hazards, and appropriate protective actions.

4.1 Site Description

As shown on Figure 1, the Site is generally bounded by Stanford Avenue to the south, Horton Street to the east, the Union Pacific Rail Road tracks to the west, and other commercial/light industrial properties to the north. A single-story warehouse containing interior offices is located at the Site. To the east of the warehouse, there is a fenced outdoor storage and parking area. To the north of the warehouse, there is a driveway and parking area that is also used by neighboring properties to the north of the Site. The Site is currently owned by the City and has been occupied since 1999 by the City's Public Works Department for use as a corporation yard.

4.2 Site History

The 1952 Sanborn map for the Corporation Yard area indicates that the manufacturing facility of the Marchant Calculating Machine Company ("Marchant") occupied this part of the Site. The office building for Marchant was located at 1475 Powell Street. Marchant manufactured calculating machines and their facility included a hardening and plating room, a press room and grinding department, and an enameling and spraying room.

As early as the late 1960's, the Former Whitney Research Tool Company occupied this area. A RCRA Emergency Contingency Plan, dated 20 April 1990 indicated that constituents such as caustic soda, nitric acid, petroleum naptha, and petroleum oil were stored at the facility.

4.3 Summary of Prior Subsurface Investigations Conducted on the Site

A groundwater investigation was conducted at the Site in August 2011, and volatile organic compounds ("VOCs"), petroleum hydrocarbons, and metals were detected in groundwater. Trichloroethene ("TCE") was the primary VOC detected in groundwater at a maximum concentration of 838,000 micrograms per liter ("ug/L"). Separate phase liquid was also encountered and laboratory analytical results indicated that it consisted of primarily TCE with petroleum hydrocarbons.

During subsurface investigations, a second, buried concrete slab was identified below the existing building slab and was encountered across the majority of the Site (i.e., beyond the existing building foundation slab extents).

Two sub-slab soil vapor investigations for VOCs were conducted at the Site in October 2011 and January 2012. The second investigation included sampling of soil gas under the second slab that was encountered below the surface slab. TCE was also the primary VOC detected in sub-slab soil vapor at a maximum concentration of 26,500 micrograms per cubic meter ("ug/m^3") under the first slab and 32,400,000 ug/m^3 in soil vapor under the second slab.

Groundwater monitoring wells were installed at the Site in February 2012. Soil samples collected during the installation of the wells were analyzed for VOCs and metals. TCE was detected at a maximum concentration of 0.395 milligrams per kilogram ("mg/kg"). Tetrachloroethene ("PCE"), cis-1,2-dichloroethene ("cis-1,2-DCE"), trans-1,2-dichloroethene ("trans-1,2-DCE") and vinyl chloride ("VC") were also detected at maximum concentrations of 0.00275 mg/kg, 0.31 mg/kg, 0.256 mg/kg, and 0.0384 mg/kg, respectively. Arsenic, lead, and cadmium were detected in soil samples at maximum concentrations of 5.27 mg/kg, 51 mg/kg, and 20 mg/kg, respectively.

Groundwater samples were collected from monitoring wells on the Site in March 2012. TCE was the primary VOC detected in groundwater at a maximum concentration of 612,000 ug/L. cis-1,2-DCE was detected at a maximum concentration of 1,340 ug/L.

The maximum concentrations of chemicals detected in groundwater, sub-slab soil gas, and soil samples collected at the Site are included in Table 1.

4.4 Proposed Construction Activities

It is our current understanding that the City of Emeryville is planning to construct a new Emergency Operations Center ("EOC") inside the northeast corner of the existing warehouse ("EOC Construction Project"). The City plans to demolish approximately 7,000 square feet of existing offices and utilities inside the building and construct the new EOC in its place. New structural foundations will reach approximately four (4) feet below the existing floor and both concrete slabs in this area will be removed. The remaining warehouse space will remain during construction.

4.5 Proposed Field Activities

Planned field activities for the Site may include:

- Observation of cone penetrometer testing ("CPT"), membrane interface probe ("MIP"), and hydraulic profiling tool testing ("HPT") direct-push or CPT drilling rig;
- Observation of the installation of groundwater monitoring wells;
- Observation of development of groundwater monitoring wells;
- Collection of groundwater samples from monitoring wells;
- Collection of grab groundwater samples from temporary boreholes;

- Collection of sub-slab vapor or soil vapor samples;
- Conducting soil vapor extraction and groundwater pumping tests;
- Management of the temporary on-Site storage of investigation-derived waste;
- Collection of environmental soil samples, from boreholes, excavation sidewalls and bottoms, backhoe buckets, and stockpiles;
- Observation of demolition and removal of concrete floor slab and subsurface concrete structures and debris;
- Observation of soil excavation, backfilling of excavations, and waste loading and off-hauling activities;
- Performance of air monitoring;
- Observation of on-Site soil being treated with lime;
- Observation of surveying activities; and
- Packaging of samples for submittal to the analytical laboratory for chemical analysis.

4.6 Potential Physical Hazards

Potential physical hazards associated with the planned sampling activities are discussed below.

4.6.1 Operating Equipment

Potential physical hazards associated with heavy equipment include:

- Noise;
- Moving parts of the equipment which may catch clothing or hair;
- High-pressure hydraulic lines, when incorrectly assembled or in ill-repair;
- Electrical systems, when incorrectly assembled or in ill-repair;
- Underground utilities and pipelines which can be ruptured or damaged;
- Moving the drill rig over uneven terrain which may cause the vehicle to become unstable and roll or become stuck;
- Lifting or moving heavy items such as buckets or drums; and
- Injury due to slipping, tripping or falling.

Personnel will be made aware of Site equipment and the hazards of working around such equipment. All personnel operating such equipment will be made aware of the presence of other site personnel. Whenever appropriate, warning devices (e.g., cones, caution tape) will be placed to alert site personnel to the location of specific hazards or to areas where personnel should use special caution.

Additional precautions include the following:

- Hard-hats, safety glasses, and steel-toe boots will be worn.
- Heavy work gloves will be worn when handling heavy equipment.
- Chemical resistant gloves will be worn when handling soil or groundwater samples or sampling reagents.
- On-Site personnel who operate or are within 10 feet of operating gasoline or diesel powered equipment will wear approved hearing protection to limit exposure to noise.

- A first aid kit and cellular phone will be available at the EKI job Site.

The hazards related to the use of the specific heavy equipment during on-Site activities will be reviewed during the health and safety meeting to be held at the start of the field activities at the beginning of each day.

4.6.2 Noise

Work around heavy equipment always includes the possibility of excessive noise. Where excessive noise may be encountered, employees will be provided with hearing protection such as earplugs or earmuffs. Excessive noise can be readily indicated to the workers on-Site by difficulty in hearing verbal communication at approximately an arm's length away. If such conditions exist, hearing protection will be instituted as appropriate (see also the EKI CHSP).

4.6.3 Vehicular Traffic

Vehicular traffic is of concern to field personnel when conducting work in the driveway and parking areas at the Site. Appropriate control measures for safely conducting work in these areas and/or directing traffic around the work area may include the following:

- Use of high visibility safety vests or other high visibility clothing for all personnel performing work in the parking lot or street.

- Proper placement of appropriately labeled signs, in accordance with Caltrans specifications, indicating the presence of roadwork and changes to normal traffic pathways.

- Placement of safety cones or flashers in and approaching the work area to safely divert traffic around the work area.

- Use of a flag person to monitor and control the flow of traffic around the work area.

Although no work for the Site is planned to take place in the street, heavy equipment and truck traffic will be present on the Site during the project. The above measures will be implemented by the SSO, as appropriate, if EKI personnel are conducting work in on-site traffic corridors.

4.6.4 Heat Stress and Heat Stroke

Adverse climatic conditions, primarily heat, are important considerations in planning and conducting Site operations. Heat stroke and stress are an associated concern. All on-Site personnel must be familiar with the symptoms of heat stress, and the conditions during which it may occur. The use of protective clothing greatly enhances the likelihood of heat stress.

Preventative measures include the following:

- Frequent rest periods in the shade when heat and/or humidity is high.
- Drinking of non-alcoholic fluids will be encouraged, but will be done outside of any designated exclusion zones.
- Suitable acclimation periods will be provided for workers to gradually establish their resistance to heat stress.

Heat stress symptoms may include:

- Nausea, headache, lightheadedness, cramps, dizziness, clammy skin, lack of coordination, or slurred speech.

Heat stroke symptoms may include:

- Hot, dry skin;
- Mental confusion; and
- Unconsciousness.

HEAT STROKE IS LIFE THREATENING AND A MEDICAL EMERGENCY. SEEK EMERGENCY MEDICAL TREATMENT IMMEDIATELY (See Section 5.0).

Where Site conditions warrant, the SSO or FSSO will monitor for heat stress and implement work/rest regimens, if necessary. Potable water and/or an electrolyte replacement fluid such as Gatorade will be available on-Site at all times.

Personnel exhibiting symptoms of heat stress will be removed from the work area, and cooled. Fluids will be administered, and the personnel will be observed. Personnel exhibiting symptoms of heat stroke will be immediately cooled and transported to the nearest hospital (see Figure 2).

At all times, EKI employees shall be provided access to potable drinking water, either from an available and easily accessible continuous source or a portable supply of at least one quart of water per employee per hour for the entirety of the shift. The EKI SSO and FSSO shall encourage the frequent drinking of water by EKI employees at the daily health and safety meeting conducted on Site.

Further, EKI shall provide access to a shaded area to EKI employees suffering from heat illness or believing a preventative recovery period (a period of time to recover from the heat in order to prevent the onset of heat illness) is needed. A shaded area is defined as a canopy, umbrella, or other temporary structure designed to provide shade. The shaded area shall be open to air or provided with a cooling ventilation system. Any employee needing access to a shaded area shall remain in that area for a period of at least 5 minutes, or until the employee feels adequately prepared to resume work and the EKI SSO or Corporate Safety Officer agree that the employee is able to resume work activities.

At any time, an EKI employee can indicate to the SSO that he or she requires a recovery period. The SSO may also direct an EKI employee to take a recovery period if he or she deems such an action necessary. Any employee requiring a recovery period shall be escorted to the designated shaded recovery area. The designated shaded area shall be within visual range of the site so that the employee's condition may be continually monitored. An employee may be referred for medical attention if the symptoms of heat illness persist for longer than 15 minutes or if an employee requires more than two recovery breaks in one 8-hour shift. Preventative recovery periods will not count towards the two recovery breaks that may lead to a referral for medical attention.

EKI shall provide site specific training regarding heat illness to all supervisory and non-supervisory employees working on site. The training will include but not be limited to the following areas:

- The environmental and personal risk factors for heat illness.
- Procedures for complying with the requirements of the heat stress standard.
- The importance of frequent consumption of small quantities of water, up to 4 cups per hour, under extreme conditions of work and heat.
- The importance of acclimatization.
- The different types of heat illness and the common signs and symptoms of heat illness.
- The importance of immediately reporting to one's supervisor symptoms or signs of heat illness in themselves or in co-workers.
- The site procedures for providing first aid to respond to a heat illness, and the emergency procedures in place for contacting medical service providers.

4.6.5 Open Excavations and Confined Spaces

The excavation contractor will be removing soil, concrete pads, and concrete footings using standard demolition and excavation techniques to an anticipated depth of approximately two (2) to four (4) feet below ground surface in the EOC project area. The interior walls of the EOC area will be gutted, but the exterior walls and roof will remain in place. The potential hazard of an excavation area collapsing or personnel falling into an open excavation exists, during or after digging, at any point prior to backfilling of an excavation. When working near excavations, EKI personnel will remain at least two (2) feet away from sidewalls of excavations greater than four (4) feet in depth. EKI personnel will not approach any area where the face of an open excavation is not appropriately sloped or shored for the on-Site soil conditions.

EKI field personnel will not enter trenches or excavations that are greater than four (4) feet in depth that may qualify as a confined space or any excavation that appears to present an indication of potential cave-in as determined by competent EKI field personnel or other competent representatives of the City of Emeryville, such as the Resident Engineer or Geotechnical Engineer. EKI personnel will obtain assistance from the excavation contractor to acquire needed soil samples, e.g., from a backhoe bucket, without entering these excavations.

EKI field personnel will not enter any tanks, trenches, or excavations that are not properly shored, braced, or sloped. In addition, EKI personnel will not enter any confined space with the

concurrent existence of the following conditions without advanced specific preparation, planning, training, and supervision by the EKI Corporate Safety Officer:

- Existing ventilation may be insufficient to remove hazardous air contaminants, and/or an oxygen deficiency may exist.
- Ready access or egress for removal of a suddenly disabled employee is difficult due to location and/or size of opening.
- An atmosphere or other conditions may exist that could present a threat of causing injury, acute illness, disablement or death.

No confined space entry is anticipated for EKI personnel at the Site for the planned work activities. In addition, EKI personnel will not enter any confined space without advanced specific preparation, planning, training, and supervision by the EKI Corporate Safety Officer. However, if confined space entry becomes necessary, a specific confined space entry plan and health and safety plan amendment for that activity will be prepared under the supervision of the EKI Corporate Safety Officer before EKI personnel participate in such work. Additionally, if confined space entry by EKI personnel becomes necessary during excavation activities, a plan addressing the health and safety issues associated with working in confined spaces will be submitted to DTSC for review before any such entry is performed.

4.6.6 Underground and Overhead Utilities

Prior to the initiation of drilling, demolition, or excavation fieldwork, the work area will be cleared by the Contractor by contacting Underground Services Alert ("USA") at least two days in advance of work and by retaining a private utility locating company.

For subsurface environmental sampling to be performed by EKI, EKI personnel will contact USA for underground clearance. EKI personnel will also note the location of overhead utilities in the vicinity of proposed sampling locations and will be informed of the identification and marking of underground utilities by members of USA or by the private underground utility locating company retained by EKI to evaluate proposed sampling locations on the Site.

4.6.7 Fire Protection

The SSO or designated representative will verify that construction vehicles within the work area will contain fire extinguishers as required by CAL-OSHA regulations. Additionally, 10-pound type ABC fire extinguishers will be located within the immediate work area so that the maximum distance to a fire extinguisher does not exceed 75 feet.

4.7 Potential Chemical Hazards

As noted above in Section 4.3, petroleum hydrocarbons, VOCs, and metals have been detected in groundwater samples collected at the Site. VOCs have also been detected in sub-slab soil vapor samples collected at the Site, and metals and VOCs have been detected in soil samples collected at the Site. The maximum concentrations of chemicals detected in groundwater, sub-slab soil vapor, and soil samples collected at the Site are included in Table 1. Table 2 lists chemical

compounds in soil and groundwater that may be encountered at the Site during the demolition, excavation, and sampling activities, their OSHA Permissible Exposure Limits ("PELs") and ACGIH Threshold Limit Values ("TLVs") and symptoms of potential exposure to the compounds. The PEL is the maximum permitted concentration of an airborne contaminant in a worker's personal breathing zone, averaged over an 8-hour period ("PEL-TWA") or a 15-minute period ("STEL"). ACGIH TLVs are recommended exposure limits.

Carbon monoxide may also be generated during field investigation activities during the use of heavy equipment with diesel powered engines, particularly at demolition, excavation and sampling locations inside buildings where ventilation may be limited.

Chemicals of Concern

Note that the State of California has determined that several compounds listed in Table 2 are human carcinogens and/or reproductive toxicants. The following notice is presented to personnel who may have access to the Site as a result of the planned subsurface investigation activities and who are required to read and acknowledge this health and safety plan.

> WARNING: This area contains chemicals known to the State of California to cause cancer and/or reproductive harm.

Potential Exposure Routes

The primary modes of possible exposure of Site personnel to hazardous chemicals during this project are through inhalation of vapors and contaminated particulates; skin or eye contact with vapors or contaminated soil and groundwater; and ingestion of contaminated soil and groundwater, e.g. from residues on hands and face. The primary modes of possible exposures to specific chemicals of concern at this site are discussed below and included in Table 2.

Petroleum Hydrocarbon Compounds: The primary modes of possible exposure to petroleum hydrocarbons during this project are through inhalation of vapors; skin or eye contact with vapors or contaminated soil or groundwater; and ingestion of contaminated soil or groundwater. Ingestion will be minimized through personal hygiene practices. Common symptoms of exposure to petroleum hydrocarbons at elevated concentrations include irritation of eyes and the respiratory system, headaches, nausea, dizziness, and fatigue (source - NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, dated September 2007).

VOCs: The primary modes of possible exposure to VOCs during this project are through inhalation of vapors; skin or eye contact with vapors, contaminated soil or groundwater, absorption through the skin resulting from contact with contaminated soils or groundwater; and ingestion of contaminated soil or groundwater. Ingestion will be minimized through personal hygiene practices. Common symptoms of exposure to VOCs at elevated concentrations include irritation of the eyes, skin, nose and respiratory system, headache, nausea, dizziness, and fatigue. Certain VOCs may be carcinogenic (e.g., benzene) (source - NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, dated September 2007).

Metals: The primary modes of possible exposure to metals during this project are through skin or eye contact with contaminated soil or groundwater; inhalation of airborne particulates containing metals; and ingestion of contaminated soil or groundwater. Ingestion will be minimized through personal hygiene practices. Common symptoms of exposure to metals at elevated concentrations include irritation of eyes and respiratory system, headaches, nausea, dizziness, and fatigue (source - NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, dated September 2007).

Carbon Monoxide: The primary mode of possible exposure to carbon monoxide during the proposed fieldwork is through inhalation. Carbon monoxide is a colorless, odorless gas that may be generated during the operation of heavy equipment that burns gasoline or diesel (e.g., drill rigs, excavators, and portable diesel generators). Common symptoms of exposure include headaches, rapid breathing, nausea, weakness, dizziness, confusion, hallucinations, cyanosis, depression, angina, and syncope (i.e., temporary loss of consciousness and posture) (source - NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, dated September 2007).

Calcium Oxide (Lime): The primary mode of possible exposure to lime during proposed fieldwork is through inhalation. Lime is a white/gray, odorless solid or powder. Common symptoms of exposure include irritation of eyes, skin, and respiratory system, ulcer, perforation nasal septum, pneumonitis, and dermatitis (source - NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, dated September 2007).

4.8 Minimization of Potential Chemical Exposure

Work zones will be established to control entry into and exit from the work area. Work zones are described in Section 4.10.2.

Field personnel will minimize potential direct contact exposure to chemical hazards by avoiding direct contact with soil and groundwater and through the use of personal protective equipment.

Safe work practices, including the restriction of eating, drinking, or smoking in designated work zones will be enforced at the work site to minimize potential contact and ingestion of soil. Workers will wash thoroughly after removal of their personal protective equipment and prior to breaks and at end of shift.

Field personnel will minimize potential inhalation exposure to chemical hazards and vehicle exhaust through the use of engineering controls and personal protective equipment, as needed based on monitoring conducted in accordance with Section 4.10.3. Respiratory protective measures are discussed below in Section 4.10. Engineering controls may include, but are not limited to:

- Increasing general ventilation using portable fans at the drilling location and work tables.
- Locating work tables and work areas so EKI staff can position themselves on the upwind side of the work area.
- Utilizing ventilation systems to redirect chemical vapors or exhaust.

- Evaluating and selecting drilling methods that reduce exposure of field personnel to chemicals volatilizing from the soil or groundwater.
- Containing and covering soil cuttings and sealing any containers with extracted groundwater.

When EKI personnel are conducting field work inside of buildings, engineering controls for vehicle exhaust will be implemented prior to the operation of drill rigs or other diesel powered engines. More specifically, vehicle exhaust vents will be ducted to discharge outside the building windows or roll-up door. Additionally, EKI personnel will monitor for the presence of carbon monoxide gas while working inside of buildings where heavy equipment is operated or used. Based on the results of this monitoring, additional engineering controls will be implemented and/or PPE requirements will be adjusted as necessary using the monitoring response protocol established in Section 4.10.3, below.

4.9 Community Hazard Analysis

Particulate and vapor emissions are expected to be generated during the planned demolition, excavation, and subsurface investigation activities. However, due to implementation of engineering controls and work practice controls (see Section 4.8) and respiratory protective measures, EKI worker exposure to chemicals at airborne concentrations of concern, e.g., above the PELs or TLVs listed in Table 2, is not expected.

Potential exposure to site occupants and the surrounding community will likely be much less than potential EKI worker exposure. However, due to the close proximity of other workers at the Site and of adjacent properties, potential exposure to site occupants and the surrounding community may be of concern during subsurface activities where soil and groundwater are heavily disturbed, such as excavation, drilling and developing wells. Air monitoring will be conducted at the perimeter of the work zone in accordance with the Perimeter Air Monitoring Plan ("AMP"), and work may be conducted on the weekend to minimize exposure to site occupants and the surrounding community. Work zones are discussed in Section 4.10.2. Protocols for increasing engineering controls or suspending work based on work zone perimeter air monitoring results are also included in the AMP. The health and safety protocols described in this HSP and the AMP are designed to protect human health through the control of contaminants during project work.

4.10 Protective Actions

4.10.1 Personal Protective Equipment

The level of protection employed for general Site activities conducted by EKI personnel may be upgraded or downgraded, as deemed necessary by the Site Safety Officer. For investigation activities where potential exposure to VOCs in the subsurface is anticipated to be lower, EKI will generally begin work in Level D PPE. However, for the proposed EOC Construction Project that includes removal of the concrete slabs and the potential exposure to VOCs is higher, EKI will begin work in modified Level B PPE. See Section 4.10.3 – Monitoring, below, for a summary of

work zone monitoring criteria that will be used to upgrade or downgrade the level of PPE for EKI personnel.

4.10.1.1 Level D

EKI field personnel will wear equipment to protect against the potential physical and chemical hazards that have been identified herein and those that become apparent in the field.

Level D personal protection will be required, at a minimum, by the SSO or FSSO for all field activities at the Site. Level D personal protective equipment includes:

- Hard hat;
- Chemical resistant disposable gloves (nitrile);
- Boots, steel toe and shank;
- Safety glasses;
- Earplugs near operating equipment;
- High visibility safety vests.

The level of protection employed for general Site activities by EKI personnel may be upgraded, as deemed necessary by the SSO or FSSO. If organic vapor and/or carbon monoxide concentrations become elevated in the work zone (see Section 4.10.3 – Monitoring, below), the SSO or FSSO may require Level C protection (i.e., donning of air purifying respirators and use of Tyvek coveralls, see Section 4.10.1.2) or modified Level B protection (see Section 4.10.1.3).

4.10.1.2 Level C

Level C protection may be required to minimize inhalation of VOCs. The criteria to upgrade to Level C protection for EKI employees are described below in Section 4.10.3 - Monitoring.

In addition to the Level D protection above, Level C protection will include:

- Respiratory protection consisting of a half-mask or full-mask air purifying respirator with combination organic vapor and high-efficiency particulate (HEPA P100) filter cartridges.

Note that the assigned protection factors are 10 for a half-face air purifying respirator and 50 for a full-face air purifying respirator.[1]

[1] OSHA, 2009, *Assigned Protection Factors for the Revised Respiratory Protection Standard*, OSHA 3352-02 2009.

If air-purifying respirators are required, organic vapor cartridges will be changed at least once daily. This cartridge change out schedule is appropriate for this Site, on the basis of the concentrations of chemicals detected in soil and groundwater at the Site and anticipated concentrations of VOCs in air.[2]

EKI utilizes standardized procedures for respirator fit testing. These procedures are described in EKI´s CHSP.

4.10.1.3 Modified Level B

Modified Level B protection may be required to minimize inhalation of VOCs and/or carbon monoxide. The criteria to upgrade to modified Level B protection for EKI employees are described below in Section 4.10.3 - Monitoring. Modified Level B protection will include the following:

- Supplied air positive pressure/pressure demand full-face respiratory protective gear.
- Main air supply from cascaded bottle(s) of Grade D (minimum) compressed breathing air. A certificate of air quality will be obtained from the supplier.
- Emergency escape bottle on each supplied airline unit.
- Coveralls (Tyvek™ or cotton) as full dermal protection is not considered necessary for the anticipated Site conditions.
- Nitrile inner gloves.

Inspection, cleaning, and sanitization procedures for respiratory protection equipment are described in the CHSP. These procedures are summarized below.

Prior to working with Level B protection, the face piece of the air supply system shall be inspected for the following:

1. Face piece is cleaned and sanitized;
2. Face piece is free of cracks, tears, holes, or distortion from improper storage;
3. Face piece rubber parts are pliable;
4. Face piece lens is clear, free of cracks and scratches, and properly sealed;
5. Valves, gaskets, o-rings are present and in good repair;
6. Connections are tight and secure;
7. Head straps and harnesses are elastic and pliable and clear of defects; and
8. Buckles are in good repair and working.

[2] The estimated service life of the vapor filter cartridges was assessed for the primary chemicals detected in soil and groundwater at the Site (i.e., those chemicals present at the highest concentrations that are likely to control the cartridge lifetime) using the North Safety Products "esLife™" software and the 3M "Respirator Service Life Software", Version 4.0. The service life was evaluated for a presumed continuous total vapor concentration of 1 ppm.

Prior to working with Level B protection, the regulators and gauges of the air supply system shall be inspected for the following:

1. Cleanliness;
2. Diaphragm is in good working order;
3. Connections are secure and free of defects;
4. Hoses are free of defects and leaks;
5. Pressure gages are operating properly; and
6. O-ring between escape tank and hose seals properly (no leaks).

Prior to working with Level B protection, the breathing air supply shall be inspected for the following:

1. Cylinders are free of rust and defects;
2. Grade D specifications are met;
3. Connections are clean and in good repair with no leaks; and
4. Escape air tank is full, and inspection/hydro-test dates are current.

Specific exclusion and decontamination zones will be established by the Contractor for modified Level B activities. A minimum of two people will be used during work with modified Level B protection including one person in the work area and one person dedicated to monitoring the main air supply source that will be located outside the work area. The air supply system will also include a low-pressure alarm. All personnel using modified Level B supplied air respirators will have a quantitative fit test for the equipment to be used, in accordance with 8CCR 5144.

EKI utilizes standardized procedures for respirator fit testing and equipment calibration. These procedures are described in EKI´s CHSP.

4.10.2 Work Zones

Exclusion zones ("EZs") will be established for the planned sampling activities at the Site. The EZs will be demarcated with barricades or cones and yellow caution tape. The EZs will be established for each work area; will be as large as feasible (e.g., at least 20 feet in diameter) and will include the exhaust vent from the ventilation fans set up specifically for this project in any work area.

In addition, a contamination reduction zone ("CRZ") and a support zone will be established by the SSO or FSSO for any field activity which requires Level C or modified Level B personal protection.

For work inside the building, the CRZ will be placed outside of the EZ, and outside of the building in the event that engineering controls cannot reduce VOC concentrations within the building to a level that is protective of worker health and safety. Unauthorized and unprotected individuals will not be permitted within the EZ or CRZ. All Health and Safety protocols outlined in this plan shall be observed within the EZ and CRZ, as appropriate. The SSO or FSSO will direct all non-essential and non-certified personnel to remain in the support zone.

Communications will generally be oral, given the small size of the work zones.

4.10.3 Work Zone Air Monitoring and Response Protocols for Elevated Contaminant Levels

The Perimeter Air Monitoring Plan ("AMP") included in Appendix __ describes the perimeter air monitoring program planned for implementation during remedial actions performed at the Site. Work zone air monitoring to be performed for EKI personnel working at the Site is described below. EKI utilizes standardized procedures for equipment calibration. These procedures are described in EKI´s CHSP.

In general, when potential exposure to VOCs from subsurface materials is anticipated to be low, EKI personnel will begin Site activities in Level D PPE and the level of PPE may be upgraded as deemed necessary by the SSO or FSSO according to the criteria described below. However, for the proposed EOC Construction Project that includes removal of the concrete slabs and the potential exposure to VOCs is higher, EKI will begin work in modified Level B PPE as described below.

Volatile Organic Compounds (VOCs): Field personnel will perform air monitoring for total VOCs (TVOCs) routinely with an organic vapor monitor with photo-ionization detector (PID). Air monitoring will be performed in the breathing zone of EKI personnel at each EKI work location during the planned subsurface activities. The PID will be equipped with a 10.6 eV lamp to allow for inclusion of the identified COCs in the TVOC measurements. The SSO or FSSO will verify that the PID is operating correctly and is calibrated before work starts at the Site each day. All calibration readings (i.e., zero and span measurements, and calibration gas and its concentration) and field readings shall be recorded in the field log. Background PID measurements shall be made at the start of the work period and, at least, once later each day at a nearby location, preferably up wind from the work area. Work area measurements will be made when a new EKI work area is established and periodically throughout the workday.

A typical PID has a detection limit of 0.1 ppmv for TVOCs and does not provide airborne concentrations for individual volatile organic compounds. A typical PID has a maximum quantification level of 3,000 ppmv. A PID with a lower detection range and maximum quantification level (e.g., a "ppbRAE") may also be used.

Detectable TVOC Levels Greater Than 1 ppmv

If PID readings of TVOC levels consistently exceed 1 ppmv above background in the breathing zone on a sustained basis, then Level C protection (half-face or full-face air purifying respirators fitted with organic and particulate filter cartridges) will be required for EKI personnel within the EKI work area (see Section 4.10.1.2, above). While EKI personnel are working in Level C protection, the SSO or FSSO will make arrangements with EKI's consulting CIH for personal breathing zone samples to be collected to document VOC concentrations.

Based on existing Site data, vinyl chloride represents approximately 10 to 15 molar percent of the detected VOCs. Therefore, TVOC levels greater than 1 ppmv should not result in vinyl

chloride concentrations above the PEL of 1 ppmv. If the breathing zone air sampling results indicate that vinyl chloride concentrations are less than 1 ppmv, work may continue in Level C protection unless PID readings continuously exceed 10 ppmv above background in the breathing zone. However, if the breathing zone air sample results indicate that vinyl chloride is present at concentrations greater than 1 ppmv, work will be suspended until implementation of engineering controls that effectively reduce vinyl chloride concentrations to below 1 ppmv.

If vinyl chloride is present and cannot be reduced below 1 ppmv through engineering controls, modified Level B protection (supplied air positive pressure/pressure demand full-face respiratory protective gear) will be required for EKI personnel within the EKI work area (see Section 4.10.1.3, above). While EKI personnel are working in modified Level B protection, the SSO of FSSO will make arrangements with EKI's consulting CIH for personal breathing zone samples to be collected to document VOC concentrations.

Detectable TVOC Levels Greater Than 10 ppmv

If PID readings of TVOC levels continuously exceed 10 ppmv above background in the breathing zone of workers on a sustained basis and vinyl chloride is not present at levels above 1 ppmv and workers are in Level C protection, then work will be suspended, and the source of the emission will be identified and controlled before work continues. During this time, any exposed soil will be covered with visqueen and open boreholes will be covered with visqueen, plugged with core material, or filled with grout to minimize further volatilization.

If PID readings consistently exceed 10 ppmv above background in the breathing zone on a sustained basis and cannot be reduced below 10 ppmv through engineering controls, modified Level B protection (supplied air positive pressure/pressure demand full-face respiratory protective gear) will be required for EKI personnel within the EKI work area (see Section 4.10.1.3, above). While EKI personnel are working in modified Level B protection, the SSO or FSSO will make arrangements with EKI's consulting CIH for personal breathing zone samples to be collected to document VOC concentrations.

Modified Level B Protection During First Phase of EOC Construction Project

Modified Level B protection will be required for EKI personnel during the first phase of the EOC Construction Project where the concrete slabs will be removed. Level B protection will be required for EKI personnel, at a minimum, until the second concrete slab is removed and personal exposure monitoring is completed as the second slab is removed. Level B protection will be required until the analytical results of personal exposure monitoring are reviewed by the SSO, FSSO, and EKI's consulting CIH to determine if, and when, EKI personnel may downgrade to Level D or Level C protection according to the criteria described above.

Carbon Monoxide: Before EKI personnel begin work inside of a building, engineering controls will be used to increase general and/or ducted exhaust ventilation (see Section 4.8). While work is conducted, EKI field personnel will monitor airborne concentrations of carbon monoxide using a multi-gas meter (e.g. a 4 gas meter capable of detecting carbon monoxide, oxygen, hydrogen sulfide, and methane). The SSO or FSSO will verify that the multi-gas meter is

operating correctly before it is brought to the Site and that it is calibrated in the office or at the Site before work starts at the Site each day. All calibration readings (i.e., zero and span measurements, and calibration gas and its concentration) and field readings shall be recorded in the field log. Background carbon monoxide measurements shall be made at the start of the work period and at least once later each day at a nearby location, preferably upwind from the work area.

If multi-gas meter readings indicate that ambient air in the work zone contains concentrations of carbon monoxide that are above 25 ppmv or the percent atmospheric oxygen is below 19.5%, the alarm on the multi-gas meter will be activated, all fuel- and electric-powered equipment will be immediately shut-down and work will cease. If hazardous atmospheres continue to be present in the work zone, then work will cease and personnel will withdraw from the work area. The source of the emission will be identified and controlled. During this time, engineering controls will be implemented to further increase ventilation and reduce carbon monoxide concentrations before work can continue.

Visible Dust: EKI field personnel will look for the presence of visible dust clouds, e.g., a concentration of approximately 1 mg/m^3 is typically visible. If sustained, visible dust clouds are observed in an EKI work area or threatening an EKI work area, EKI's field activities will be suspended, and EKI personnel and EKI subcontractors will withdraw from the work area to allow evaluation and implementation of appropriate corrective measures to control visible dust.

If visible dust results from work performed by the Contractor cannot effectively be controlled by the Contractor, then Level C protection (half-face or full-face air purifying respirators fitted with HEPA / P-100 particulate filter cartridges) will be required for EKI personnel within the EKI work area until such time as airborne dust levels are reduced. Arrangements will be made by the SSO or FSSO for collection of personal breathing zone air samples on selected EKI personnel to document airborne dust concentrations whenever Level C protection is required. The respirator cartridge change-out frequency, as described below, will also be re-assessed based upon the results of the air samples.

4.10.4 Decontamination

Primary Level D decontamination procedures will include:

- Washing of sampling equipment with deionized water and Alconox solution;
- Brushing, vacuuming, steam-cleaning, or high-pressure washing drilling equipment. All steam-cleaning or high-pressure washing will be conducted in an area where steam-cleaning water will be contained in 55-gallon drums for subsequent characterization and disposal; and
- Removal of personal protective equipment no longer needed, such as gloves and coveralls.

If Level C or modified Level B personal protection is required for EKI personnel, minimum decontamination procedures associated with Level C and modified Level B protection will be

established and followed within the CRZ. These procedures are the same for Level D, but also include the following:

- Washing of boots and equipment;
- Removal of personal protective equipment followed by removal of the air purifying respirator;
- Decontamination procedures (as described above) and preliminary respirator cleaning using "wipes"; and
- Bagging and disposal of respirator cartridges and other disposable items at the end of each day.

If Level C or modified Level B personal protection is required, reusable personal protective equipment and sampling equipment will be decontaminated by washing the equipment with a trisodium phosphate solution and rinsing with deionized water. A decontamination area will be set up within the CRZ, and visqueen will be put down beneath the area to contain any fluids generated during decontamination activities. All fluids and disposable equipment will be properly contained in labeled drums and disposed after appropriate characterization.

If an injury occurs to personnel who are in Level C or modified Level B protection, decontamination procedures will be followed to the extent reasonable based upon the nature of the injury.

4.10.5 Spill Containment

Groundwater will be extracted at flow rates ranging from approximately 1 to 10 gallons per minute during a pump test and will be containerized in a temporary on-site storage tank. If a spill were to occur, the pump would be turned off immediately and the spill would be contained with absorbent materials or vacuumed up using a wet/dry vacuum. After containment, the fluids and absorbent materials would be recovered and put in 55-gallon drums for appropriate disposal. TVOCs would be measured in the vicinity of the spill using the PID. PPE requirements are expected to be the same as those required for the work activities, including respiratory protection as determined by PID readings.

Gasoline or diesel generators may be used to power equipment such as portable fans or a groundwater pump if electrical power is not available. The quantities of gasoline/diesel to be handled would be moderate (approximately 40 gallons per day), but handling will be limited to refueling of generators from gas cans designed for that purpose. If a gasoline or diesel spill were to occur, the spill would be contained with absorbent materials. After containment, the fluids and absorbent materials would be recovered and put in 55-gallon drums for appropriate disposal. TVOCs would be measured in the vicinity of the spill using the PID. PPE requirements are expected to be the same as those required for the work activities, including respiratory protection as determined by PID readings.

Due to the limited potential for spills and the nature of materials likely to spill, the 40-hour and annual 8-hour refresher training, discussed below in Section 4.10.7, are considered adequate for the Site conditions.

4.10.6 Waste Management

Wastes generated may include soil cuttings, excavated soil, groundwater, decontamination wastewater, concrete, demolition debris, and disposable PPE. Solid wastes will be contained in DOT-approved drums or roll-off bins and liquid wastes will be contained in DOT-approved drums or storage tanks. All containers will be labeled as to the contents, location of source, and date generated. All containers will be temporarily stored in a designated area on Site.

4.10.7 Training

EKI personnel participating in investigation activities at the Site and all on-Site personnel working within the demarcated work area, or exclusion zone, will have completed the Hazardous Waste Operations and Emergency Response 40-Hour Health and Safety training course, and an annual 8-Hour refresher training, as appropriate, in compliance with 29 CFR 1910.120 and 8 CCR 5192.

4.10.8 Safety Briefings

At the beginning of each day of work, the SSO or FSSO will brief all field staff as to the work conditions and hazards associated with the planned subsurface investigation activities. The nearest telephone will be identified, and the route to the nearest medical facility will be reviewed. Daily Site-specific training is detailed above. The SSO or FSSO will ensure that all EKI personnel have reviewed this Health and Safety Plan. A signed log of attendees at safety meetings and acknowledgment of review of the health and safety plan will be maintained by EKI.

4.10.9 Medical Monitoring

EKI personnel participating in field activities are included in a medical monitoring program. The program meets the requirements of 29 CFR 1910.120 and CCR Title 8, 5192 f(3)A. The primary elements of the program are that medical evaluations are given:

- Prior to assignment;
- Annually;
- On a periodic basis as determined necessary by the examining physician;
- At termination of employment; and
- As soon as possible following a high exposure episode, injury or illness or when an employee experiences symptoms which are suspected to be attributable to a work exposure.

Details of the medical monitoring program are included in EKI's CHSP.

4.10.10Site Facilities

Restrooms are available at the Site. Personnel conducting the activities associated with this project shall not use the restroom, exit the work area, enter public areas of the Site, or exit the Site unless proper decontamination has occurred. EKI will furnish drinking water and wash water for its employees.

5.0 EMERGENCY RESPONSE PLAN

The nature of work at the job Site makes medical emergencies a continual possibility. The EKI SSO and FSSO will be familiar with emergency procedures and evacuation routes (Figure 2). A first aid kit and emergency wash water will be readily available and the means to obtain medical care will be arranged in advance of Site work.

If an injury or illness occurs due to an accident or exposure, the SSO or FSSO will be immediately notified so appropriate first aid can begin and medical attention arranged, if necessary. The SSO or FSSO will investigate the nature and cause of the accident or exposure so that work procedures can be modified to minimize the likelihood of the incident's recurrence. The SSO or FSSO will assist in preparation of required reports of injury or illness as required by applicable regulations and the EKI Injury and Illness Prevention Program ("IIPP").

Routine and emergency communication with off-site parties will be provided through the EKI mobile telephone. Emergency telephone numbers are given in Table 3. When calling 911 from a mobile phone, the Fire Department should be called directly if the 911-dispatcher is slow to answer the call. If emergency responders are required and they must enter an Exclusion Zone, the Fire Department or another hazardous materials responder will be contacted and notified of potential hazards in the work area.

For emergencies not requiring an ambulance, injured personnel will be transported to the Alta Bates Medical Center Emergency (Figure 2). Directions to the Alta Bates Medical Center Emergency and standard procedures for reporting emergencies are also included in Table 3.

6.0 GENERAL WORK RULES

- Do not eat, drink, or smoke in any work area.
- Wash hands and face before eating, drinking, or smoking.
- Minimize skin contact with soil and groundwater.
- Chemical protective gloves must be worn when handling contaminated or potentially contaminated materials.

- If any electrically powered equipment is used on-Site, it must be explosion-proof where explosion hazard exists and utilize a ground-fault interrupter approved for outdoor use.
- Eye protection is required when engaged in or observing mechanical work.
- Used personal protective clothing, e.g., gloves and Tyvek coveralls, shall be disposed of by placing them in a designated container.

Wash contaminated equipment before removing it from the Site or place contaminated equipment in plastic bags for later decontamination.

7.0 SIGNATURES

Site Safety Officer _____ Date: 7/31/12

Project Manager _____ Date: 7/31/12

Corporate Safety Officer _____ Date: 7/31/12

Certified Industrial Hygienist _____ Date: 7/31/12

THE AMERICAN BOARD OF INDUSTRIAL HYGIENE INCORPORATED
CERTIFICATION NUMBER 4574 CP EXPIRES 6-1-2017
PENNSYLVANIA-1960
JULIE V. WELLINGS, CIH

TABLE 1
Maximum Concentrations of Chemicals of
Concern Detected in Groundwater and Sub-slab Soil Vapor
Former Marchant/Whitney Site
5679 Horton Street
Emeryville, California

Compound	Maximum Concentration Detected in Groundwater (ug/L)	Maximum Concentration Detected in Sub-Slab Soil Vapor (ug/m^3)	Maximum Concentration Detected in Soil Vapor at 3 to 5 feet bgs (ug/m^3)	Maximum Concentration Detected in Soil (mg/kg)
Volatile Organic Compounds				
Benzene	ND	ND	26.8	ND
Carbon Tetrachloride	ND	ND	31.2	ND
Chloroethane	ND	ND	23,500	ND
Chloroform	ND	1,370	415	ND
Chloromethane	ND	ND	38.2	ND
cis-1,2-Dichloroethene	1,360	814	13,200,000	0.31
1,1-Dichloroethane	ND	ND	46.7	ND
1,1-Dichloroethene	86.6	ND	23,200	ND
1,2 Dichloroethane	9.14	ND	ND	ND
Ethylbenzene	ND	ND	35.1	ND
Methylene chloride (dichloromethane)	ND	ND	4.76	ND
Tetrachloroethene	ND	127	599	0.00275
Toluene	ND	ND	83.3	ND
trans-1,2-Dichloroethene	190	3,260	827,000	0.256
1,1,1-Trichloroethane	ND	5,810	420	ND
Trichloroethene	838,000	26,500	32,400,000	0.395
Trichlorotrifluoroethane	ND	198	517	ND
1,2,4-Trimethylbenzene	ND	42.1	74.9	ND
1,3,5-Trimethylbenzene	ND	10.9	43.5	ND
Vinyl chloride	13.5	ND	3,330,000	0.0384
Xylenes	ND	17.9	193	ND
Petroleum Hydrocarbons				
TEPH	963	--	--	--
TPH as gasoline	75,300 CO	--	--	--
Metals				
Arsenic	ND	--	--	5.27
Barium	547	--	--	ND
Cadmium	ND	--	--	20
Chromium	14.7	--	--	ND
Cobalt	45.2	--	--	ND
Copper	8.73	--	--	ND
Lead	ND	--	--	51
Mercury	0.744	--	--	ND
Molybdenum	57	--	--	ND
Nickel	47.2	--	--	ND
Vanadium	12.8	--	--	ND
Zinc	6.19	--	--	ND

Abbreviations:
"--" = not analyzed
CO = hydrocarbon response in gasoline range but does not resemble gasoline
feet bgs = feet below ground surface
ND = not detected
TEPH = total extractable petroleum hydrocarbons
TPH = total petroleum hydrocarbons
ug/L = micrograms per liter

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA PEL-TWA [a]	Cal/OSHA PEL-STEL [b]	ACGIH TLV-TWA [c]	ACGIH TLV-STEL [d]	UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
Volatile Organic Compounds								
Benzene	1	5	0.5	2.5	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; (potential occupational carcinogen)	Eyes, skin, respiratory system, blood, central nervous system, bone marrow
Carbon tetrachloride	2	10	5	10	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; central nervous system depression; nausea, vomiting; liver, kidney injury; drowsiness, dizziness, incoordination; [potential occupational carcinogen]	Central nervous system, eyes, lungs, liver, kidneys, skin
Chloroethane	100	NL	100	NL	ppmv	Inhalation, skin absorption (liquid), ingestion (liquid), skin and/or eye contact	Incoordination, inebriation; abdominal cramps; cardiac arrhythmias, cardiac arrest; liver, kidney damage	Liver, kidneys, respiratory system, cardiovascular system, central nervous system
Chloroform	2	NL	10	NL	ppmv	Inhalation, absorption, ingestion, contact	Irritation of eyes, skin; dizziness, mental dullness, nausea, confusion; headache, fatigue; anesthesia; enlarged liver; (potential occupational carcinogen)	Liver, kidneys, heart, eyes, skin, central nervous system, (in animals: liver and kidney cancer)
Chloromethane	50	100	50	100	ppmv	Inhalation, skin and/or eye contact (liquid)	Dizziness, nausea, vomiting; visual disturbance, stagger, slurred speech, convulsions, coma; liver, kidney damage; liquid: frostbite; reproductive, teratogenic effects; [potential occupational carcinogen]	Central nervous system, liver, kidneys, reproductive system
1,1-Dichloroethane	100	NL	100	NL	ppmv	Inhalation, ingestion, contact	Irritation of skin; central nervous system depression; liver, lung, kidney damage	skin, liver, kidney, respiratory system, central nervous system
1,2-Dichloroethane (ethylene dichloride)	1	2	10	NL	ppmv	Inhalation, ingestion, skin absorption, skin and/or eye contact	Irritation eyes, corneal opacity; central nervous system depression; nausea, vomiting; dermatitis; liver, kidney, cardiovascular system damage; (potential occupational carcinogen)	Eyes, skin, kidneys, liver, central nervous system, cardiovascular system
1,1-Dichloroethene, Vinylidene chloride	1	NL	5	NL	ppmv	Inhalation, ingestion, skin absorption, skin and/or eye contact	Irritation of eyes, skin, throat; dizziness; headache; nausea	Eyes, skin, respiratory system, central nervous system, liver kidneys [in animals: liver and kidney tumors]
1,2-Dichloroethene, cis-1,2-Dichloroethene trans-1,2-Dichlorethene	200	NL	200	NL	ppmv	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; central nervous system depression	Eyes, respiratory system, central nervous system
Ethylbenzene	100	125	20	NL	ppmv	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eyes, skin, respiratory system, central nervous system

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA PEL-TWA [a]	Cal/OSHA PEL-STEL [b]	ACGIH TLV-TWA [c]	ACGIH TLV-STEL [d]	UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
Volatile Organic Compounds (continued)								
Methylene chloride (dichloromethane)	25	125	50	NL	ppmv	Inhalation, absorption, ingestion, skin and/or eye contact	Irritation of eyes, skin; fatigue, weakness, somnolence, lightheadedness; numbness and tingling of limbs; nausea (potential occupational carcinogen)	Eyes, skin, cardiovascular system, central nervous system, (in animals: lung, liver, salivary, and mammary gland tumors)
Methyl chloroform (1,1,1-trichloroethane)	350	450	350	450	ppmv	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac arrhythmias; liver damage	Eyes, skin, central nervous system, cardiovascular system, liver
Tetrachloroethene (perchloroethylene)	25	100	25	100	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; (potential occupational carcinogen)	Eyes, skin, respiratory system, liver, kidneys, central nervous system
Toluene	50	150	20	NL	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys
Trichloroethene	25	100	10	25	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; (potential occupational carcinogen)	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system
1,1,2-Trichloro-1,2,2-trifluoroethane (trichlorotrifluoroethane)	1,000	1,250	1,000	1,250	ppmv	Inhalation, ingestion, contact	Irritation skin, throat, drowsiness, dermatitis; central nervous system depression; in animals: cardiac arrhythmias, narcosis	skin, heart, central nervous system, cardiovascular system
1,2,4-Trimethylbenzene	25	NL	25	NL	ppmv	Inhalation, ingestion, contact	Irritation eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia, headache drowsiness, fatigue, dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonia, (aspiration liquid)	Eyes, skin, respiratory system, central nervous system, blood
1,3,5-Trimethylbenzene	25	NL	25	NL	ppmv	Inhalation, ingestion, contact	Irritation eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia, headache drowsiness, fatigue, dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonia, (aspiration liquid)	Eyes, skin, respiratory system, central nervous system, blood
Vinyl chloride	1	NL	1	NL	ppmv	Inhalation, skin, and/or eye contact (liquid)	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; (potential occupational carcinogen)	Liver, central nervous system, blood, respiratory system, lymphatic system
Xylenes	100	150	100	150	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA PEL-TWA [a]	Cal/OSHA PEL-STEL [b]	ACGIH TLV-TWA [c]	ACGIH TLV-STEL [d]	UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
Petroleum Hydrocarbon Compounds								
Gasoline	300	500	300	500	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; (potential occupational carcinogen)	Eyes, skin, respiratory system, central nervous system, liver, kidneys
Diesel	NL	NL	100	NL	mg/m^3	Inhalation, skin absorption, ingestion, skin and/or eye contact	Expected to be similar to gasoline	Expected to be similar to gasoline
Motor Oil	NL	NL	NL	NL	mg/m^3	Inhalation, skin absorption, ingestion, skin and/or eye contact	Expected to be similar to gasoline	Expected to be similar to gasoline
Metals								
Antimony	0.5	NL	0.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, mouth; coughing; dizziness; headache; nausea, vomiting, diarrhea; stomach cramps; insomnia; anorexia; unable to smell properly	Eyes, skin, respiratory system, cardiovascular system
Arsenic (metal, inorganic compounds, as As)	0.01	NL	0.01	NL	mg/m^3	Inhalation, skin absorption, skin and/or eye contact ingestion	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin, (potential occupational carcinogen)	Liver, kidneys, skin, lungs, lymphatic system
Barium (metal, soluble compounds, as Ba)	0.5	NL	0.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, upper respiratory system; skin burns; gastroenteritis; muscle spasm; slow pulse, extrasystoles; hypokalemia	Eyes, skin, respiratory system, heart, central nervous system
Beryllium and Be compounds	0.002	NL	0.00005	NL	mg/m^3	Inhalation, skin and/or eye contact	Berylliosis (chronic exposure): anorexia, weight loss, lassitude (weakness, exhaustion), chest pain, cough, clubbing of fingers, cyanosis, pulmonary insufficiency; irritation eyes; dermatitis; (potential occupational carcinogen)	Eyes, skin, respiratory system
Cadmium (metal, inorganic compounds, as Cd)	0.005	NL	0.01	NL	mg/m^3	Inhalation, ingestion	Pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia; (potential occupational carcinogen)	Respiratory system, kidneys, prostate, blood
Chromium (metal , CrII & Cr III compounds, as Cr)	0.5	NL	0.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin; lung fibrosis (histologic)	Eyes, skin, respiratory system
Chromium VI (hexavalent compounds, as Cr VI) Water-soluble Insoluble	0.005	NL	NL 0.05 0.01	NL	mg/m^3 mg/m3 mg/m3	Inhalation, ingestion, skin and/or eye contact	Irritation respiratory system; nasal septum perforation; liver, kidney damage; leukocytosis (increased blood leukocytes), leukopenia (reduced blood leukocytes), eosinophilia; eye injury, conjunctivitis; skin ulcer, sensitization dermatitis; (potential occupational carcinogen)	Blood, respiratory system, liver, kidneys, eyes, skin

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA PEL-TWA [a]	Cal/OSHA PEL-STEL [b]	ACGIH TLV-TWA [c]	ACGIH TLV-STEL [d]	UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
Metals (continued)								
Cobalt (metal fume and dust, as Co)	0.02	NL	0.02	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Cough, dyspnea (breathing difficulty), wheezing, decreased pulmonary function; weight loss; dermatitis; diffuse nodular fibrosis; respiratory hypersensitivity, asthma	Skin, respiratory system
Copper (salts, dusts and mists, as Cu)	1	NL	1	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; cough, dyspnea (breathing difficulty), wheezing	Eyes, skin, respiratory system, liver, kidneys (increase(d) risk with Wilson's disease)
Lead (metal, inorganic compounds, as Pb)	0.05	NL	0.05	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension	Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue
Mercury (metal, inorganic compounds, as Hg)	0.025	NL	0.025	NL	mg/m^3	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria	Eyes, skin, respiratory system, central nervous system, kidneys
Molybdenum (insoluble compounds, as Mo)	10	NL	10	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	In animals: irritation eyes, nose, throat; anorexia, diarrhea, weight loss; listlessness; liver, kidney damage	Eyes, respiratory system, liver, kidneys
Molybdenum (soluble compounds, as Mo)	0.5	NL	0.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	In animals: irritation eyes, nose, throat; anorexia; incoordination; dyspnea (breathing difficulty); anemia	Eyes, respiratory system, kidneys, blood
Nickel (metal, as Ni)	0.5	NL	1.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; (potential occupational carcinogen)	Nasal cavities, lungs, skin
Nickel (insoluble compounds, as Ni)	0.1	NL	0.2	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; (potential occupational carcinogen)	Nasal cavities, lungs, skin
Nickel (soluble compounds, as Ni)	0.05	NL	0.1	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; (potential occupational carcinogen)	Nasal cavities, lungs, skin
Selenium (metal and compounds, as Se)	0.2	NL	0.2	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; headache; chills, fever; dyspnea (breathing difficulty), bronchitis; metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye, skin burns	Eyes, skin, respiratory system, liver, kidneys, blood, spleen in animals: anemia; liver necrosis,
Silver (metal, dust, fume, soluble)	0.01	NL	0.1	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Blue-gray eyes, nasal septum, throat, skin; irritation, ulceration skin; gastrointestinal disturbance	Nasal septum, skin, eyes
Thallium	0.1	NL	0.2	NL	mg/m^3	Inhalation, skin absorption, ingestion, skin and/or eye contact	Nausea; diarrhea; abdominal pain; vomiting; tremors; chest pain; pulmonary edema; convulsions; psychosis	Eyes, respiratory system, central nervous system, liver, kidneys, gastrointestinal tract, body hair
Vanadium (as vanadium pentoxide dust and fume)	0.05	NL	0.05	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation of the eyes, skin, throat; green tongue, metallic taste, eczema; fine rales, wheezing, bronchitis, breathing difficulty	Eyes, skin, respiratory system
Zinc oxide dust (as total nuisance dust)	10	10	2	NL	mg/m^3	Inhalation	Metal fume fever: chills, muscle ache, nausea, fever, dry throat, cough; metallic taste; weakness; headache; blurred vision; low back pain; chest tightness; rales	Respiratory system

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA		ACGIH		UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
	PEL-TWA [a]	PEL-STEL [b]	TLV-TWA [c]	TLV-STEL [d]				
Gases of Concern								
Carbon Monoxide	25	NL	25	NL	ppmv	Inhalation, ingestion, skin and/or eye contact	Headache, tachypnea (rapid breathing), nausea, weakness, dizziness, confusion, halucination, cyanosis,	cardiovascular system, lungs, blood, central nervous system

Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists
Cal/OSHA = California Occupational Health and Safety Administration
mg/m^3 = milligrams per cubic meter
NL = not listed
NIOSH = National Institute for Occupational Safety and Health
PEL = Permissible Exposure Limit
ppmv = part per million by volume
STEL = Short Term Exposure Limit
TLV = Threshold Limit Value
TWA = time weighted average

Notes:

(a) PEL-TWA for an employee exposure to an airborne contaminant in a workday, expressed as an 8-hour TWA concentration from Table AC-1, Cal/OSHA, CCR Title 8, §5155, Table AC-1, operative 3 August 2010.
(b) PEL-STEL for an employee exposure to an airborne contaminant, expressed as a 15-minute TWA concentration from Table AC-1,
(c) TLV-TWA concentration for a conventional 8-hour workday and 40-hour workweek from *2010 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices,* ACGIH, 2010 Adoption.
(d) TLV-STEL concentration for a 15-minute TWA exposure that should not be exceeded at any time during a workday from *2010 Threshold Limit Values for Chemical Substances and Physical Agents and* Biological Exposure Indices), ACGIH, 2010 Adoption.
(e) Exposure routes, symptoms, and target organs from the National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards, September 2007.

TABLE 3
EMERGENCY INFORMATION

EMERGENCY TELEPHONE NUMBERS

In emergency, ambulance:	911
Hospital:	Alta Bates Medical Center Emergency 2450 Ashby Avenue Berkeley, CA (510) 204-1303
Police and Fire Departments:	911
Emeryville Fire Department (direct for cell phones):	(510) 596-3750
Emeryville Police Department (direct for cell phones):	(510) 596-3700
Poison Control Center (24-hour):	(800) 876-4766
Toxline:	(301) 496-1131
CHEMTREC (24-hour, emergency only)	(800) 424-9300
EKI Field Phone (on Site)	(650) 759-0965 (SSO or FSSO)
Erler & Kalinowski, Inc.: Corporate Safety Officer: (Tom Kalinowski)	(650) 292-9100 (Office) (415) 661-7300 (Home)

DIRECTIONS TO EMERGENCY HOSPITAL (see Figure 2):

Head north on Horton St toward Haruff St. Take the 1st right onto Haruff St. Turn left onto Peladeau St. Turn right onto Powell St. Turn left onto CA-123 N/San Pablo Ave. Turn right onto Ashby Ave/State Hwy 13 S. Destination will be on the right

Alta Bates Medical Center Emergency
2450 Ashby Avenue
Berkeley, CA
(510) 204-1303

TABLE 3
EMERGENCY INFORMATION (continued)

STANDARD PROCEDURE FOR REPORTING EMERGENCIES

When calling for assistance in an emergency situation, provide the following:

- Name of person making call.
- Telephone number and location of person making call.
- Name(s) of person(s) exposed or injured and their location.
- Nature of emergency and type of exposure, when appropriate.
- Actions already taken.

Never be the first to hang up when calling for emergency assistance.

Wait for the dispatch operator to finish all questions.

As with all wireless phones, if you are in an area where your phone is searching or scanning for a signal, it is highly probable that a call to 911 will not go through. Prior to beginning site activities, the nearest landline phone will be identified. If your wireless 911 call is not connecting, use the nearest landline phone and call for help or call the Fire Department directly.

SPILL/RELEASE TELEPHONE NUMBERS

For a significant release or threatened release of **hazardous materials**:
First call EKI Project Manager or other manager at EKI.
Call 911 first if an imminent threat to life or health exists
Then call Office of Emergency Services (OES), California State Warning Center:
(800) 852-7550

For release to a waterway (e.g., storm drain or SF Bay):
Call the Regional Water Quality Control Board (during business hours): (510) 622-2300
After business hours, call OES number listed above.
U.S. Coast Guard (SF Bay Area): 415-399-3547

N

0 60 120

(Approximate Scale in Feet)

Legend

FMW Site Property Boundary

Proposed EOC Outline

Abbreviations

EOC = Emergency Operations Center

FMW = Former Marchant/Whitney

Erler & Kalinowski, Inc.

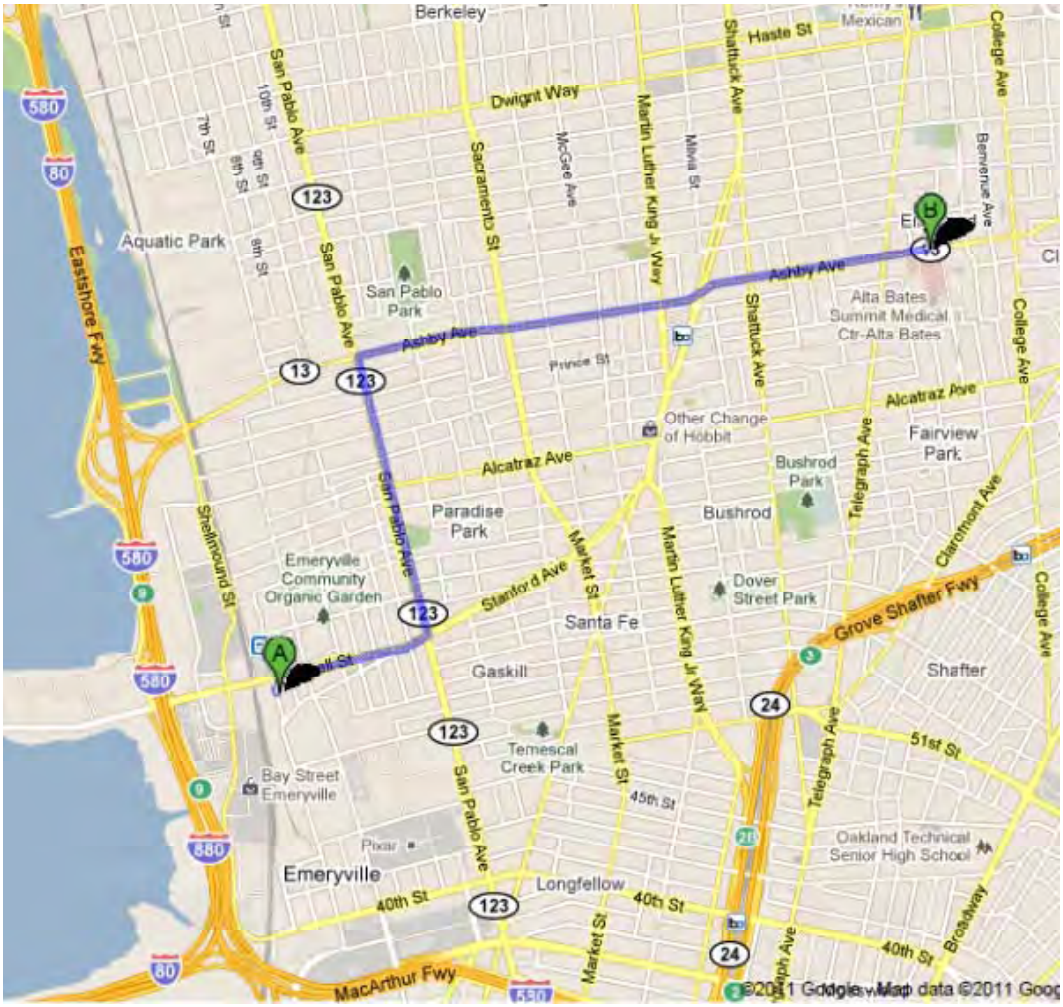
Site Location Map

Former Marchant/Whitney Site
Emeryville, CA
June 2012
EKI B20006.00
Figure 1

Path: X:\B20006\Maps_00\2012\06\Fig1 HASP-FMW-EOC.mxd

Figure 2. Route to Hospital

Alta Bates Medical Center Emergency
2450 Ashby Avenue, Berkeley, CA
(510) 204-1303



Directions:

Head north on Horton St toward Haruff St
Take the 1st right onto Haruff St
Turn left onto Peladeau St
Turn right onto Powell St
Turn left onto CA-123 N/San Pablo Ave
Turn right onto Ashby Ave/State Hwy 13 S
Alta Bates Medical Center Emergency will be on the right

ATTACHMENT B

Table 1 – Maximum Concentrations of Chemicals of Concern

TABLE 1
Maximum Concentrations of Chemicals of Concern
Former Marchant/Whitney Site
5679 Horton Street
Emeryville, California

Compound	Maximum Concentration Detected in Groundwater (ug/L)	Maximum Concentration Detected in Sub-Slab Soil Vapor (ug/m^3)	Maximum Concentration Detected in Soil Vapor at 3 to 5 feet bgs (ug/m^3)	Maximum Concentration Detected in Soil (mg/kg)	Maximum Concentration Detected in Indoor Air (ug/m^3)
Volatile Organic Compounds					
Benzene	ND	ND	26.8	ND	--
Carbon Tetrachloride	ND	ND	31.2	ND	0.537
Chloroethane	ND	ND	23,500	ND	0.582
Chloroform	ND	1,370	415	ND	0.210
Chloromethane	ND	ND	38.2	ND	3.89
cis-1,2-Dichloroethene	1,360	814	13,200,000	0.31	0.277
1,1-Dichloroethane	ND	ND	46.7	ND	ND
1,1-Dichloroethene	86.6	ND	23,200	ND	ND
1,2 Dichloroethane	9.14	ND	ND	ND	--
Ethylbenzene	ND	ND	35.1	ND	--
Methylene chloride (dichloromethane)	ND	ND	4.76	ND	1.35
Tetrachloroethene	ND	127	599	0.00275	0.179
Toluene	ND	ND	83.3	ND	--
trans-1,2-Dichloroethene	190	3,260	827,000	0.256	0.882
1,1,1-Trichloroethane	ND	5,810	420	ND	0.730
Trichloroethene	838,000	26,500	32,400,000	0.395	6.52
Trichlorotrifluoroethane	ND	198	517	ND	7.23
1,2,4-Trimethylbenzene	ND	42.1	74.9	ND	--
1,3,5-Trimethylbenzene	ND	10.9	43.5	ND	--
Vinyl chloride	13.5	ND	3,330,000	0.0384	0.286
Xylenes	ND	17.9	193	ND	--
Petroleum Hydrocarbons					
TEPH	963	--	--	--	--
TPH as gasoline	75,300 CO	--	--	--	--
Metals					
Arsenic	ND	--	--	5.27	--
Barium	547	--	--	ND	--
Cadmium	ND	--	--	20	--
Chromium	14.7	--	--	ND	--
Cobalt	45.2	--	--	ND	--
Copper	8.73	--	--	ND	--
Lead	ND	--	--	51	--
Mercury	0.744	--	--	ND	--
Molybdenum	57	--	--	ND	--
Nickel	47.2	--	--	ND	--
Vanadium	12.8	--	--	ND	--
Zinc	6.19	--	--	ND	--

Abbreviations:
"--" = not analyzed
CO = hydrocarbon response in gasoline range but does not resemble gasoline
feet bgs = feet below ground surface
mg/kg = milligrams per kilogram
ND = not detected
TEPH = total extractable petroleum hydrocarbons
TPH = total petroleum hydrocarbons
ug/L = micrograms per liter
ug/m^3 = micrograms per cubic meter

ATTACHMENT C

Table 2- Allowable Chemical Exposure Limits and Exposure Symptoms

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA PEL-TWA [a]	Cal/OSHA PEL-STEL [b]	ACGIH TLV-TWA [c]	ACGIH TLV-STEL [d]	UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
Volatile Organic Compounds								
Benzene	1	5	0.5	2.5	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; (potential occupational carcinogen)	Eyes, skin, respiratory system, blood, central nervous system, bone marrow
Carbon tetrachloride	2	10	5	10	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; central nervous system depression; nausea, vomiting; liver, kidney injury; drowsiness, dizziness, incoordination; [potential occupational carcinogen]	Central nervous system, eyes, lungs, liver, kidneys, skin
Chloroethane	100	NL	100	NL	ppmv	Inhalation, skin absorption (liquid), ingestion (liquid), skin and/or eye contact	Incoordination, inebriation; abdominal cramps; cardiac arrhythmias, cardiac arrest; liver, kidney damage	Liver, kidneys, respiratory system, cardiovascular system, central nervous system
Chloroform	2	NL	10	NL	ppmv	Inhalation, absorption, ingestion, contact	Irritation of eyes, skin; dizziness, mental dullness, nausea, confusion; headache, fatigue; anesthesia; enlarged liver; (potential occupational carcinogen)	Liver, kidneys, heart, eyes, skin, central nervous system, (in animals: liver and kidney cancer)
Chloromethane	50	100	50	100	ppmv	Inhalation, skin and/or eye contact (liquid)	Dizziness, nausea, vomiting; visual disturbance, stagger, slurred speech, convulsions, coma; liver, kidney damage; liquid: frostbite; reproductive, teratogenic effects; [potential occupational carcinogen]	Central nervous system, liver, kidneys, reproductive system
1,1-Dichloroethane	100	NL	100	NL	ppmv	Inhalation, ingestion, contact	Irritation of skin; central nervous system depression; liver, lung, kidney damage	skin, liver, kidney, respiratory system, central nervous system
1,2-Dichloroethane (ethylene dichloride)	1	2	10	NL	ppmv	Inhalation, ingestion, skin absorption, skin and/or eye contact	Irritation eyes, corneal opacity; central nervous system depression; nausea, vomiting; dermatitis; liver, kidney, cardiovascular system damage; (potential occupational carcinogen)	Eyes, skin, kidneys, liver, central nervous system, cardiovascular system
1,1-Dichloroethene, Vinylidene chloride	1	NL	5	NL	ppmv	Inhalation, ingestion, skin absorption, skin and/or eye contact	Irritation of eyes, skin, throat; dizziness; headache; nausea	Eyes, skin, respiratory system, central nervous system, liver kidneys [in animals: liver and kidney tumors]
1,2-Dichloroethene, cis-1,2-Dichloroethene trans-1,2-Dichlorethene	200	NL	200	NL	ppmv	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; central nervous system depression	Eyes, respiratory system, central nervous system
Ethylbenzene	100	125	20	NL	ppmv	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eyes, skin, respiratory system, central nervous system

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA PEL-TWA [a]	Cal/OSHA PEL-STEL [b]	ACGIH TLV-TWA [c]	ACGIH TLV-STEL [d]	UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
Volatile Organic Compounds (continued)								
Methylene chloride (dichloromethane)	25	125	50	NL	ppmv	Inhalation, absorption, ingestion, skin and/or eye contact	Irritation of eyes, skin; fatigue, weakness, somnolence, lightheadedness; numbness and tingling of limbs; nausea (potential occupational carcinogen)	Eyes, skin, cardiovascular system, central nervous system, (in animals: lung, liver, salivary, and mammary gland tumors)
Methyl chloroform (1,1,1-trichloroethane)	350	450	350	450	ppmv	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac arrhythmias; liver damage	Eyes, skin, central nervous system, cardiovascular system, liver
Tetrachloroethene (perchloroethylene)	25	100	25	100	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; (potential occupational carcinogen)	Eyes, skin, respiratory system, liver, kidneys, central nervous system
Toluene	50	150	20	NL	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys
Trichloroethene	25	100	10	25	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; (potential occupational carcinogen)	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system
1,1,2-Trichloro-1,2,2-trifluoroethane (trichlorotrifluoroethane)	1,000	1,250	1,000	1,250	ppmv	Inhalation, ingestion, contact	Irritation skin, throat, drowsiness, dermatitis; central nervous system depression; in animals: cardiac arrhythmias, narcosis	skin, heart, central nervous system, cardiovascular system
1,2,4-Trimethylbenzene	25	NL	25	NL	ppmv	Inhalation, ingestion, contact	Irritation eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia, headache drowsiness, fatigue, dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonia, (aspiration liquid)	Eyes, skin, respiratory system, central nervous system, blood
1,3,5-Trimethylbenzene	25	NL	25	NL	ppmv	Inhalation, ingestion, contact	Irritation eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia, headache drowsiness, fatigue, dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonia, (aspiration liquid)	Eyes, skin, respiratory system, central nervous system, blood
Vinyl chloride	1	NL	1	NL	ppmv	Inhalation, skin, and/or eye contact (liquid)	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; (potential occupational carcinogen)	Liver, central nervous system, blood, respiratory system, lymphatic system
Xylenes	100	150	100	150	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA PEL-TWA [a]	Cal/OSHA PEL-STEL [b]	ACGIH TLV-TWA [c]	ACGIH TLV-STEL [d]	UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
Petroleum Hydrocarbon Compounds								
Gasoline	300	500	300	500	ppmv	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; (potential occupational carcinogen)	Eyes, skin, respiratory system, central nervous system, liver, kidneys
Diesel	NL	NL	100	NL	mg/m^3	Inhalation, skin absorption, ingestion, skin and/or eye contact	Expected to be similar to gasoline	Expected to be similar to gasoline
Motor Oil	NL	NL	NL	NL	mg/m^3	Inhalation, skin absorption, ingestion, skin and/or eye contact	Expected to be similar to gasoline	Expected to be similar to gasoline
Metals								
Antimony	0.5	NL	0.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, mouth; coughing; dizziness; headache; nausea, vomiting, diarrhea; stomach cramps; insomnia; anorexia; unable to smell properly	Eyes, skin, respiratory system, cardiovascular system
Arsenic (metal, inorganic compounds, as As)	0.01	NL	0.01	NL	mg/m^3	Inhalation, skin absorption, skin and/or eye contact ingestion	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin, (potential occupational carcinogen)	Liver, kidneys, skin, lungs, lymphatic system
Barium (metal, soluble compounds, as Ba)	0.5	NL	0.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, upper respiratory system; skin burns; gastroenteritis; muscle spasm; slow pulse, extrasystoles; hypokalemia	Eyes, skin, respiratory system, heart, central nervous system
Beryllium and Be compounds	0.0002	NL	0.00005	NL	mg/m^3	Inhalation, skin and/or eye contact	Berylliosis (chronic exposure): anorexia, weight loss, lassitude (weakness, exhaustion), chest pain, cough, clubbing of fingers, cyanosis, pulmonary insufficiency; irritation eyes; dermatitis; (potential occupational carcinogen)	Eyes, skin, respiratory system
Cadmium (metal, inorganic compounds, as Cd)	0.005	NL	0.01	NL	mg/m^3	Inhalation, ingestion	Pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia; (potential occupational carcinogen)	Respiratory system, kidneys, prostate, blood
Chromium (metal , CrII & Cr III compounds, as Cr)	0.5	NL	0.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin; lung fibrosis (histologic)	Eyes, skin, respiratory system
Chromium VI (hexavalent compounds, as Cr VI) Water-soluble Insoluble	0.005	NL	NL 0.05 0.01	NL	mg/m^3 mg/m^3 mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation respiratory system; nasal septum perforation; liver, kidney damage; leukocytosis (increased blood leukocytes), leukopenia (reduced blood leukocytes), eosinophilia; eye injury, conjunctivitis; skin ulcer, sensitization dermatitis; (potential occupational carcinogen)	Blood, respiratory system, liver, kidneys, eyes, skin

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA PEL-TWA [a]	Cal/OSHA PEL-STEL [b]	ACGIH TLV-TWA [c]	ACGIH TLV-STEL [d]	UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
Metals (continued)								
Cobalt (metal fume and dust, as Co)	0.02	NL	0.02	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Cough, dyspnea (breathing difficulty), wheezing, decreased pulmonary function; weight loss; dermatitis; diffuse nodular fibrosis; respiratory hypersensitivity, asthma	Skin, respiratory system
Copper (salts, dusts and mists, as Cu)	1	NL	1	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; cough, dyspnea (breathing difficulty), wheezing	Eyes, skin, respiratory system, liver, kidneys (increase(d) risk with Wilson's disease)
Lead (metal, inorganic compounds, as Pb)	0.05	NL	0.05	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension	Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue
Mercury (metal, inorganic compounds, as Hg)	0.025	NL	0.025	NL	mg/m^3	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria	Eyes, skin, respiratory system, central nervous system, kidneys
Molybdenum (insoluble compounds, as Mo)	10	NL	10	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	In animals: irritation eyes, nose, throat; anorexia, diarrhea, weight loss; listlessness; liver, kidney damage	Eyes, respiratory system, liver, kidneys
Molybdenum (soluble compounds, as Mo)	0.5	NL	0.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	In animals: irritation eyes, nose, throat; anorexia; incoordination; dyspnea (breathing difficulty); anemia	Eyes, respiratory system, kidneys, blood
Nickel (metal, as Ni)	0.5	NL	1.5	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; (potential occupational carcinogen)	Nasal cavities, lungs, skin
Nickel (insoluble compounds, as Ni)	0.1	NL	0.2	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; (potential occupational carcinogen)	Nasal cavities, lungs, skin
Nickel (soluble compounds, as Ni)	0.05	NL	0.1	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; (potential occupational carcinogen)	Nasal cavities, lungs, skin
Selenium (metal and compounds, as Se)	0.2	NL	0.2	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; headache; chills, fever; dyspnea (breathing difficulty), bronchitis; metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye, skin burns	Eyes, skin, respiratory system, liver, kidneys, blood, spleen in animals: anemia; liver necrosis,
Silver (metal, dust, fume, soluble)	0.01	NL	0.01	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Blue-gray eyes, nasal septum, throat, skin; irritation, ulceration skin; gastrointestinal disturbance	Nasal septum, skin, eyes
Thallium	0.1	NL	0.02	NL	mg/m^3	Inhalation, skin absorption, ingestion, skin and/or eye contact	Nausea; diarrhea; abdominal pain; vomiting; tremors; chest pain; pulmonary edema; convulsions; psychosis	Eyes, respiratory system, central nervous system, liver, kidneys, gastrointestinal tract, body hair
Vanadium (as vanadium pentoxide dust and fume)	0.05	NL	0.05	NL	mg/m^3	Inhalation, ingestion, skin and/or eye contact	Irritation of the eyes, skin, throat; green tongue, metallic taste, eczema; fine rales, wheezing, bronchitis, breathing difficulty	Eyes, skin, respiratory system
Zinc oxide dust (as total nuisance dust)	10	NL	2	10	mg/m^3	Inhalation	Metal fume fever: chills, muscle ache, nausea, fever, dry throat, cough; metallic taste; weakness; headache; blurred vision; low back pain; chest tightness; rales	Respiratory system

TABLE 2
Allowable Chemical Exposure Limits and Exposure Symptoms
Former Marchant/Whitney Site
5679 Horton Street, Emeryville, CA

CHEMICAL	Cal/OSHA		ACGIH		UNITS	EXPOSURE ROUTES [e]	EXPOSURE SYMPTOMS [e]	TARGET ORGANS [e]
	PEL-TWA [a]	PEL-STEL [b]	TLV-TWA [c]	TLV-STEL [d]				
Gases of Concern								
Carbon Monoxide	25	NL	25	NL	ppmv	Inhalation, ingestion, skin and/or eye contact	Headache; tachypnea (rapid breathing); nausea; weakness; dizziness; confusion; hallucination; cyanosis	Cardiovascular system, lungs, blood, central nervous system

Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists
Cal/OSHA = California Occupational Health and Safety Administration
mg/m^3 = milligrams per cubic meter
MSDS = material safety data sheet
NL = not listed
PEL-TWA = Permissible Exposure Limit - Time Weighted Average
PEL-STEL = Permissible Exposure Limit - Short Term Exposure Limit
ppmv = part per million by volume
TLV-TWA = Threshold Limit Value - Time Weighted Average
TLV-STEL = Threshhold Limit Value - Short Term Exposure Limit

Notes:

(a) PEL-TWA for an employee exposure to an airborne contaminant in a workday, expressed as an 8-hour TWA concentration from Table AC-1, Cal/OSHA, CCR Title 8, §5155, Table AC-1, operative 1 January 2015.
(b) PEL-STEL for an employee exposure to an airborne contaminant, expressed as a 15-minute TWA concentration from Table AC-1, Cal/OSHA, CCR Title 8, §5155, Table AC-1, operative 1 January 2015.
(c) TLV-TWA concentration for a conventional 8-hour workday and 40-hour workweek from 2010 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, ACGIH, 2014 Adoption.
(d) TLV-STEL concentration for a 15-minute TWA exposure that should not be exceeded at any time during a workday from 2010 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices), ACGIH, 2014 Adoption.
(e) Exposure routes, symptoms, and target organs from the National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards, September 2007.

ATTACHMENT 3

Summary of Groundwater Analytical Results from the FMW Site and Site B

TABLE 3-1a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR DETECTED VOCs AND TPH FOR GRAB GROUNDWATER SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Location ID	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Field Parameters (c)						Analytical Results (a,b)																	
												VOCs (ug/L)																TPH (ug/L)	
						Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (°C)	Turbidity (NTU)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	Bromomethane	Chloroform	Naphthalene	Toluene	Trichlorotrifluoroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	Other VOCs	TPH-g	TEPH
Former Marchant/Whitney Site																													
PW-A	PW-A-26-30	8/12/2011	26 to 30	-13.4 to -17.4	12.6	765	2.8	116	6.5	18.9	5,999	<0.5	**6.5**	3.51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-A-37-41	8/10/2011	37 to 41	-24.4 to -28.4		742	0.69	74	7.08	19.5	2,000	<100	**22,700**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	4,430 CO	<50
	PW-A-62-66	5/4/2015	62 to 66	-49.4 to -53.4		632	0.1	-559	7.39	19.5	--	<0.5	0.91	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-B	PW-B-10-15	8/9/2011	10 to15	2.6 to -2.4	12.6	--	--	--	--	--	--	<10	**1,540**	**406**	**23.9**	<10	<10	<10	<10	<20	<10	<10	<10	<10	<10	<10	ND	--	--
	PW-B-10-15	8/10/2011	10 to 15	2.6 to -2.4		--	--	--	--	--	--	<10	**1,540**	**406**	**23.9**	<10	<10	<10	--	<10	<10	<10	--	<10	<10	--	ND	442 CO	<83
	PW-B-25-29	8/10/2011	25 to 29	-12.4 to -16.4		796	0.42	-11	6.95	19.5	5,999	<0.5	**48.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<50	<100
	PW-B-30-34	8/10/2011	30 to 34	-17.4 to -21.4		948	0.38	44	6.96	19.6	5,999	<500	**65,100**	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	ND	15,800 CO	<50
	PW-B-40-44	8/22/2011	40 to 44	-27.4 to -31.4		1,030	3.06	31	6.96	18.8	5,999	<2,000	**153,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<4000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--	--
	PW-B-62-66	5/13/2015	62 to 66	-49.4 to -53.4		668	2.88	-7.8	7.58	21.4	--	<0.5	**5.77**	1.27	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-B-62-66-DUP	5/13/2015	62 to 66	-49.4 to -53.4		668	2.88	-7.8	7.58	21.4	--	<0.5	**5.24**	1.01	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-B-85-90	5/14/2015	85 to 90	-72.4 to -77.4		711	4.88	149	7.85	18.4	--	<0.5	0.69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-C	PW-C-9-14	8/10/2011	9 to 14	3.5 to -1.5	12.5	745	0.23	111	6.63	18.7	19.1	<0.5	**7.76**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-C-22-26	8/11/2011	22 to 26	-9.5 to -13.5		791	0.2	-8	6.78	19.3	2,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-C-31-35	8/11/2011	31 to 35	-18.5 to -22.5		656	0.17	-31	6.82	19.4	889	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-C-62-66	5/4/2015	62 to 66	-49.5 to -53.5		647	1.22	-232	7.66	18.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-C-62-66-DUP	5/4/2015	62 to 66	-49.5 to -53.5		647	1.22	-232	7.66	18.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-D	PW-D-8-13	8/9/2011	8 to 13	4.6 to -0.4	12.6	778	2.14	67	6.96	18.8	2,000	<0.5	1.28	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<50	<50
	PW-D-20-24	8/9/2011	20 to 24	-7.4 to -11.4		--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-D-25-29	8/9/2011	25 to 29	-12.4 to -16.4		--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<50	<100
PW-E	PW-E-6-11	8/9/2011	6 to 11	6.6 to 1.6	12.6	738	0.41	102	6.37	18.5	623	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-E-18-22	8/9/2011	18 to 22	-5.4 to -9.4		742	0.33	46	6.74	19	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-E-24-28	8/9/2011	24 to 28	-11.4 to -15.4		--	--	--	--	--	--	<0.5	**20**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-F	PW-F-10-15	8/24/2011	10 to 15	2.6 to -2.4	12.6	--	--	--	--	--	--	<400	**46,400**	**1,340**	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	ND	--	--
	PW-F-21-25	8/23/2011	21 to 25	-8.4 to -12.4		--	--	--	--	--	--	<2,000	**155,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--	<50
	PW-F-32-36	8/24/2011	32 to 36	-19.4 to -23.4		1,374	2.72	-14	6.81	23.8	520	<1,000	**171,000**	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	ND	--	--
	PW-F-38-42	8/23/2011	38 to 42	-25.4 to -29.4		694	1.83	-56	7.32	21	1,343	<500	**41,100**	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	ND	--	--
	PW-F-46-50	8/24/2011	46 to 50	-33.4 to -37.4		--	--	--	--	--	--	<50	**7,230**	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	--	--
	PW-F-62-66	5/14/2015	62 to 66	-49.4 to -53.4		635	3.75	20	7.74	20.6	--	<0.5	**6.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-F-84-88	5/14/2015	84 to 88	-71.4 to -75.4		640	3.86	-19	7.77	19.8	--	<0.5	**45.3**	1.19	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-G	PW-G-7-12	8/23/2011	7 to 12	5.6 to 0.6	12.6	--	--	--	--	--	--	<2.5	**254**	**59**	**14.2**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	ND	--	--
	PW-G-28-32	8/23/2011	28 to 32	-15.4 to -19.4		769	0.64	-54	6.93	19.4	2,000	<100	**11,600**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	--	--
	PW-G-33-37	8/23/2011	33 to 37	-20.4 to -24.4		603	0.95	-100	9.55	19.2	1,101	<250	**47,700**	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	ND	--	<50
	PW-G-45-49	8/23/2011	45 to 49	-32.4 to -36.4		--	--	--	--	--	--	<0.5	**18.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-G-62-66	5/13/2015	62 to 66	-49.4 to -53.4		677	2.77	-55.5	7.45	20.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-H	PW-H-18-22	8/23/2011	18 to 22	-5.4 to -9.4	12.6	--	--	--	--	--	--	<40	**3,420**	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	ND	--	--
	PW-H-24-28	8/23/2011	24 to 28	-11.4 to -15.4		635	0.8	-51	7.1	19.4	5,999	<0.5	3.29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-H-39-44	8/22/2011	39 to 44	-26.4 to -31.4		584	1	2	6.9	20.4	442	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-I	PW-I-10-15	8/22/2011	10 to 15	2.6 to -2.4	12.6	742	0.98	46	6.62	18.8	68.8	<0.5	1.72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-I-27-32	8/22/2011	27 to 32	-14.4 to -19.4		563	1.16	-14	6.87	19.8	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-I-37-42	8/22/2011	37 to 42	-24.4 to -29.4		--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-J	PW-J-10-15	8/23/2011	10 to 15	2.6 to -2.4	12.6	956	6.51	33	6.9	19.8	2,000	<10	**1,040**	**301**	**43.9**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND	--	--
	PW-J-20-24	8/24/2011	20 to 24	-7.4 to -11.4		839	3.68	-22	7	17	347	<2,000	**268,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--	--
	PW-J-30-34	8/24/2011	30 to 34	-17.4 to -21.4		1,247	4.7	26	6.93	16.3	702	<2,000	**274,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--	<50
	PW-J-61-65	5/15/2015	61 to 65	-48.4 to -52.4		648	3.86	20	7.42	17.4	--	<5	**581**	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	ND	--	--
	PW-J-85-90	5/14/2015	85 to 90	-72.4 to -77.4		666	3.19	99	7.76	21.2	--	<1	**130**	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	ND	--	--
PW-K	PW-K-10-15	8/22/2011	10 to 15	2.6 to -2.4	12.6	856	5.71	45	6.95	19	5,999	<0.5	**5.67**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-K-21-25	8/22/2011	21 to 25	-8.4 to -12.4		647	4.85	23	6.98	19.3	2,000	<0.5	2.04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	PW-K-27-31	8/22/2011	27 to 31	-14.4 to -18.4		613	3.33	35	7.06	19.5	5,999	<0.5	0.85	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
MCLs (CCR, 2015)						**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**1**	**na**	**80 (d)**	**na**	**150**	**1200**	**5**	**5**	**6**	**600**	**na**	**na**	**na**

TABLE 3-1a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR DETECTED VOCs AND TPH FOR GRAB GROUNDWATER SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Location ID	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Field Parameters (c)						Analytical Results (a,b)																		
												VOCs (ug/L)																	TPH (ug/L)	
						Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (°C)	Turbidity (NTU)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	Bromomethane	Chloroform	Naphthalene	Toluene	Trichlorotrifluoroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	Other VOCs	TPH-g	TEPH
Former Marchant/Whitney Site																														
PW-L	PW-L-23-27	8/11/2011	23 to 27	-11.4 to -15.4	11.6	1,387	0.47	65	6.56	17.7	2,000	<0.5	3.22	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<50	<50
	PW-L-28-32	8/11/2011	28 to 32	-16.4 to -20.4		1,106	0.48	34	6.76	18.3	929	<200	**24,500**	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	ND	4,510 CO	<50
	PW-L-37-41	8/11/2011	37 to 41	-25.4 to -29.4		723	0.26	-47	6.99	18.8	881	<10	**1,260**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND	--	--
	PW-L-62-66	5/19/2015	62 to 66	-50.4 to -54.4		658	3.43	-55	7.54	20.5	--	<0.5	0.67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-M	PW-M-22-26	8/25/2011	22 to 26	-10.2 to -14.2	11.8	--	--	--	--	--	--	<2,000	**205,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--	<50
	PW-M-30-34	8/25/2011	30 to 34	-18.2 to -22.2		1,168	1.22	-4	6.88	20	699	<400	**51,200**	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	ND	--	--
	PW-M-38-42	8/25/2011	38 to 42	-26.2 to -30.2		643	0.46	53	6.96	19.9	588	<50	**6,140**	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	--	--
PW-N	PW-N-22-26	8/26/2011	22 to 26	-10.1 to -14.1	11.9	--	--	--	--	--	--	<1,000	**100,000**	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	ND	--	--
PW-O	PW-O-22-26	8/26/2011	22 to 26	-9.9 to -13.9	12.1	--	--	--	--	--	--	<5,000	**838,000**	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	ND	--	--
	PW-O-29-33	8/26/2011	29 to 33	-16.9 to -20.9		161	5.82	147	7.01	24.8	757	<2,500	**431,000**	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	ND	68,100 CO	<50
	PW-O-36-40	8/26/2011	36 to 40	-23.9 to -27.9		788	0.29	94	6.99	20.2	882	<250	**21,900**	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	ND	5,050 CO	<50
PW-P	PW-P-20-24	8/12/2011	20 to 24	-7.6 to -11.6	12.4	264	4.46	57	6.6	20.7	2,000	<10	**920**	**125**	<10	**13.5**	<10	<10	<10	<10	<10	148	<10	**12.4**	**86.6**	<10	ND	355 CO	<50
	PW-P-29-33	8/12/2011	29 to 33	-16.6 to -20.6		188	0.56	-56	6.59	24.9	312	<1	**111**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ND	--	--
	PW-P-38-42	8/12/2011	38 to 42	-25.6 to -29.6		--	--	--	--	--	--	<0.5	**6.72**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-Q	PW-Q-8-13	8/8/2011	8 to 13	4.6 to -0.4	12.6	--	--	--	--	--	--	<10	**970**	**30.2**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND	--	--
	PW-Q-22-26	8/8/2011	22 to 26	-9.4 to -13.4		1,274	0.81	5	6.74	21.2	367	<100	**11,600**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	3,690 CO	963
	PW-Q-29-33	8/8/2011	29 to 33	-16.4 to -20.4		1,157	0.25	40	6.83	21.4	2,000	<2,000	**461,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	75,300 CO	250
	PW-Q-38-42	8/10/2011	38 to 42	-25.4 to -29.4		--	--	--	--	--	--	<25	**3,890**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	ND	--	--
PW-R	PW-R-17-21	8/9/2011	17 to 21	-4.3 to -8.3	12.7	915	0.27	5	6.73	19.8	686	<0.5	**59.4**	**10.1**	0.53	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68	<0.5	ND	--	--
	PW-R-25-29	8/9/2011	25 to 29	-12.3 to -16.3		639	5.7	116	6.23	20.1	5,999	<0.5	0.53	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-S	PW-S-8-13	8/8/2011	8 to 13	5.4 to 0.4	13.4	--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<50	<50
	PW-S-22-26	8/8/2011	22 to 26	-8.6 to -12.6		635	1.72	21	6.76	20.4	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<50	<50
	PW-S-27-31	8/8/2011	27 to 31	-13.6 to -17.6		637	5.85	65	7.53	25.1	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
PW-NN	PW-NN-51-53	12/17/2013	51 to 53	-39 to -41	12.0	--	--	--	--	--	--	<50	**5,260**	<50	<50	<50	<50	<50	<50	<100	<50	<50	<50	<50	<50	<50	ND	--	--
HL1	HL1-74-78	4/29/2015	74 to 78	-61.7 to -65.7	12.3	689	0.09	-458	7.43	22.1	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
South Bayfront																														
ACPT-A	ACPT-A-16-20	3/12/2012	16 to 20	-6.5 to -10.5	9.5	--	--	--	--	--	--	<0.500	**17.5**	1.93	<0.5	<0.5	0.51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-A-21-25	3/12/2012	21 to 25	-11.5 to -15.5		--	3.54	-24	7.35	15.25	--	<1.00	2.94	1.53	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ND	--	--
	ACPT-A-39-45	3/12/2012	39 to 45	-29.5 to -35.5		--	5.04	-26	7.18	17.33	--	<0.500	**5.18**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-A-60-64	3/12/2012	60 to 64	-50.5 to -54.5		--	4.82	-11	7.39	14.63	--	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-B	ACPT-B-18-22	3/12/2012	18 to 22	-8.1 to -12.1	9.9	942	4.39	23	6.30	17.47	--	<0.500	0.98	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-B-24-28	3/12/2012	24 to 28	-14.1 to -18.1		1,095	1.33	23	6.81	17.84	--	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-B-29-33	3/12/2012	29 to 33	-19.1 to -23.1		1,066	0.90	-27	6.79	17.72	--	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-B-36-45	3/12/2012	36 to 45	-26.1 to -35.1		758	4.45	13	7.00	17.97	--	<0.500	**22.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-B-62-66	3/13/2012	62 to 66	-52.1 to -56.1		--	3.01	140	5.86	12.41	--	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-C	ACPT-C-17-22	3/13/2012	17 to 22	-5.2 to -10.2	11.8	958	8.41	77	7.7	9.5	--	<0.500	0.99	0.54	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-C-27-32	3/16/2012	27 to 32	-15.2 to -20.2		785	0.83	-224	7.27	14.69	--	<0.5	1.07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-C-39-44	3/13/2012	39 to 44	-27.2 to -32.2		375	5.58	72	7.95	8.46	--	<0.500	**1,700**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-C-50-55	3/13/2012	50 to 55	-38.2 to -43.2		732	5.53	67	7.93	8.62	--	<0.500	1.35	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-C-64-68	3/13/2012	64 to 68	-52.2 to -56.2		702	1.79	2	7.92	8.95	--	<0.500	0.61	<0.5	<0.5	<0.5	0.81	<0.5	<0.5	<0.5	0.78	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-D	ACPT-D-9-15	3/16/2012	9 to 15	2.3 to -3.7	11.3	714	6.05	-43	7.28	15.19	--	<20	**2,250**	**377**	**58.4**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	ND	--	--
	ACPT-D-22-26	3/16/2012	22 to 26	-10.7 to -14.7		922	4.67	-74	7.24	14.41	--	<5	**820**	**25.7**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND	--	--
	ACPT-D-29-35	3/16/2012	29 to 35	-17.7 to -23.7		800	2.87	-73	7.3	14.55	--	<25	**4,960**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	ND	--	--
	ACPT-D-37-42	3/16/2012	37 to 42	-25.7 to -30.7		780	3.24	-87	7.63	14.21	--	<100	**16,300**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	--	--
	ACPT-D-62-67	3/16/2012	62 to 67	-50.7 to -55.7		656	2.79	-168	8.04	14.27	--	<0.5	**43.2**	**7.19**	0.88	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-E	ACPT-E-22-26	3/16/2012	22 to 26	-7.4 to -11.4	14.6	1,407	3.11	-113	7.11	16.09	--	<0.5	1.46	0.62	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-F	ACPT-F-20-26	3/14/2012	20 to 26	-4.8 to -10.8	15.3	1,036	5.24	37	7.76	15.72	--	<0.5	**15.7**	4.41	1.25	**0.70**	0.61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-G	ACPT-G-15-20	3/15/2012	15 to 20	-2.2 to -7.2	12.8	786	7.94	166	6.64	12.5	--	<20	**2,560**	**777**	**109**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	ND	--	--
	ACPT-G-33-37	3/15/2012	33 to 37	-20.2 to -24.2		1,152	8.61	140	7.12	12.54	--	<0.5	2.92	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-G-40-46	3/15/2012	40 to 46	-27.2 to -33.2		753	6.26	-36	7.63	12.67	--	<10	**1,860**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND	--	--
	ACPT-G-65-70	3/15/2012	65 to 70	-52.2 to -57.2		795	6.29	-44	10.44	12.7	--	<0.5	3.52	2.46	<0.5	<0.5	0.84	<0.5	<0.5	<0.5	0.61	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-H	ACPT-H-16-21	3/15/2012	16 to 21	-2.6 to -7.6	13.4	762	7.67	115	7.06	12.33	--	<20	**2,010**	**812**	**104**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	ND	--	--
	ACPT-H-25-30	3/15/2012	25 to 30	-11.6 to -16.6		1,616	5.78	2	7.21	12.52	--	<0.5	**92.9**	**61.1**	**10.5**	**1.83**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.98	<0.5	ND	--	--
	ACPT-H-45-50	3/15/2012	45 to 50	-31.6 to -36.6		722	9.06	-22	7.99	13.35	--	<0.5	3.24	0.85	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-H-65-70	3/15/2012	65 to 70	-51.6 to -56.6		930	5.08	-24	8.02	13.69	--	<0.5	**7.66**	3.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
MCLs (CCR, 2015)						**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**1**	**na**	**80 (d)**	**na**	**150**	**1200**	**5**	**5**	**6**	**600**	**na**	**na**	**na**

TABLE 3-1a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR DETECTED VOCs AND TPH FOR GRAB GROUNDWATER SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Location ID	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Field Parameters (c)						Analytical Results (a,b)																		
												VOCs (ug/L)																	TPH (ug/L)	
						Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (°C)	Turbidity (NTU)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	Bromomethane	Chloroform	Naphthalene	Toluene	Trichlorotrifluoroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	Other VOCs	TPH-g	TEPH
South Bayfront																														
ACPT-I	ACPT-I-12-18	3/14/2012	12 to 18	0.6 to -5.4	12.6	558	10.2	170	6.89	8.04	--	<25	**3,360**	**1,260**	**60.1**	**37.3**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	ND	--	--
	ACPT-I-29-35	3/14/2012	29 to 35	-16.4 to -22.4		956	11	130	7.99	8.00	--	<0.500	1.3	3.53	<0.5	**1.00**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-I-29-35DUP	3/14/2012		-16.4 to -22.4		--	--	--	--	--	--	<0.500	1.05	3.73	<0.5	**1.12**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-I-45-50	3/14/2012	45 to 50	-32.4 to -37.4		542	9.3	-43	7.99	8.11	--	<0.500	**67.7**	**34.6**	<0.5	<0.5	0.59	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-I-52-58	3/14/2012	52 to 58	-39.4 to -45.4		416	10.04	74	7.38	9.74	--	<0.500	0.82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-I-67-72	3/14/2012	67 to 72	-54.4 to -59.4		835	4.41	26	8.88	17.95	--	<0.5	**6.09**	3.57	<0.5	<0.5	0.60	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-J	ACPT-J-12-18	3/19/2012	12 to 18	-2.1 to -8.1	9.9	1,329	2.76	-141	7.19	15.64	--	<1	**140**	**26.7**	8.91	<1	<1	<1	<1	<1	<1	<1	1.1	<1	<1	ND	--	--
ACPT-K	ACPT-K-26-30	3/19/2012	26 to 30	-17 to -21	9.0	1,634	3.12	-148	6.98	16.86	--	<0.5	1.1	2.49	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-K-42-46	3/19/2012	42 to 46	-33 to -37		737	3.07	-184	7.48	16.24	--	<0.5	1.68	0.66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-K-62-66	3/19/2012	62 to 66	-53 to -57		1,026	2.67	-82	7.82	17.18	--	<0.5	0.56	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.70	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
ACPT-L	ACPT-L-21-27	3/19/2012	21 to 27	-10.5 to -16.5	10.5	2,288	2.45	-88	7.03	17.24	--	<0.5	**8.92**	**52.3**	**18.7**	**0.84**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.90	0.90	ND	--	--
	ACPT-L-29-33	3/19/2012	29 to 33	-18.5 to -22.5		2,096	3.86	-62	7.01	16.35	--	<0.5	<0.5	2.29	0.54	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-L-44-48	3/19/2012	44 to 48	-33.5 to -37.5		732	2.99	-143	7.31	16.61	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
	ACPT-L-67-72	3/19/2012	67 to 72	-56.5 to -61.5		1,036	3.45	-65	7.38	16.73	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--	--
MCLs (CCR, 2015)						**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**1**	**na**	**80 (d)**	**na**	**150**	**1200**	**5**	**5**	**6**	**600**	**na**	**na**	**na**

Abbreviations:
°C = degrees Celsius
"--" = not analyzed
<0.5 = Not detected above the stated laboratory reporting limit
CO = Hydrocarbon response in gasoline range but does not resemble gasoline (g)
EPA = Environmental Protection Agency
ft bgs = feet below ground surface
ft msl = feet above mean sea level
MCLs = California Department of Public Health Drinking Water Maximum Contaminant Levels
mg/L = milligrams per liter
mV = millivolts
na = not available
NTU = nephelometric turbidity unit
TEPH = total extractable petroleum hydrocarbons
TPH-g = total petroleum hydrocarbons, gasoline range organics
ug/L = micrograms per liter
uS/cm = microsiemens per centimeter
VOCs = Volatile Organic Compounds

Notes:
(a) Groundwater samples were analyzed using the following methods:
VOCs using EPA Method 8260B;
TPH-g using EPA Method 8015 (modified); and
TEPH (C12-C34) with silica gel cleanup using EPA Method 8015 (modified).
Analyses were performed by K-Prime, Inc., Santa Rosa, California.
(b) Concentrations that exceed the MCLs are shown in **bold** font.
(c) Field parameters were measured using a calibrated multi-parameter water quality meter.
(d) The MCL for chloroform is based on the standard for trihalomethanes.

References:
(1) CCR, 2015. California Maximum Contaminant Levels, Title 22, California Code of Regulations, 23 September 2015.

TABLE 3-1b
SUMMARY OF ANALYTICAL RESULTS FOR DISSOLVED METALS FOR GRAB GROUNDWATER SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Location ID	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Analytical Results (a)																	
						Dissolved Title 22 Metals (ug/L) (b)																	
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Hexavalent Chromium
Former Marchant/Whitney Site																							
PW-F	PW-F-21-25 (c)	8/23/2011	21 to 25	40778	12.6	<1	<1	285	<1	<1	<1	2.88	<1	<1	<0.2	7.05	11.1	<1	<1	<1	<1	1.08	--
PW-G	PW-G-7-12	8/23/2011	7 to 12	40778	12.6	<1	<1	123	<1	<1	7.16	3.16	5.92	<1	<0.2	57.0	13.7	<1	<1	<1	1.02	6.19	--
	PW-G-33-37	8/23/2011	33 to 37	40778		<1	<1	42.0	<1	<1	12.8	<1	1.33	<1	<0.2	34.0	1.99	<1	<1	<1	12.8	<1	--
PW-H	PW-H-18-22	8/23/2011	18 to 22	40778	12.6	<1	<1	129	<1	<1	1.79	9.56	1.46	<1	<0.2	13.2	13.4	<1	<1	<1	1.57	2.83	--
PW-J	PW-J-20-24 (c)	8/24/2011	20 to 24	40779	12.6	<1	<1	175	<1	<1	<1	4.61	<1	<1	<0.2	18.1	7.85	<1	<1	<1	<1	1.23	--
PW-M	PW-M-22-26	8/25/2011	22 to 26	40780	11.8	<1	<1	485	<1	<1	2.82	15.4	3.01	<1	<0.2	9.28	16.5	<1	<1	<1	1.74	5.51	--
PW-N	PW-N-11-16 (c)	8/25/2011	11 to 16	40780	11.9	<1	<1	69.2	<1	<1	2.65	19.2	4.44	<1	0.74	12.6	7.73	<1	<1	<1	<1	2.75	--
PW-O	PW-O-22-26 (c)	8/26/2011	22 to 26	40781	12.1	<1	<1	371	<1	<1	14.7	45.2	8.73	<1	<0.2	28.8	47.2	<1	<1	<1	<1	1.93	<0.2
	PW-O-29-33	8/26/2011	29 to 33	40781		<1	<1	547	<1	<1	5.04	1.84	3.55	<1	<0.2	13.2	4.27	<1	<1	<1	<1	1.49	<0.2
	PW-O-36-40	8/26/2011	36 to 40	40781		<1	<1	255	<1	<1	1.32	1.4	1.00	<1	<0.2	7.62	2.95	<1	<1	<1	<1	1.94	<0.2
MCLs (CCR, 2015)						**6**	**10**	**1,000**	**4**	**5**	**50**	**na**	**1,300**	**15**	**2**	**na**	**100**	**50**	**na**	**2**	**na**	**na**	**10**

Abbreviations:

"--" = not analyzed
<1 = Not detected above the stated laboratory reporting limit
EPA = Environmental Protection Agency
ft bgs = feet below ground surface
ft msl = feet above mean sea level
MCLs = Calfiornia Department of Public Health Drinking Water Maximum Contaminant Levels
na = not available
ug/L = micrograms per liter
um = micrometer

Notes:

(a) Groundwater samples were analyzed for Title 22 metals using EPA Methods 200.8/245.1. Select groundwater samples were analyzed for hexavalent chromium using EPA Method 7199. Analyses were performed by K-Prime, Inc., Santa Rosa, California.
(b) Samples were filtered through a 0.45 um filter in the field prior to analysis, unless otherwise indicated.
(c) Groundwater sample was filtered by the analytical laboratory prior to analysis.

References:

(1) CCR, 2015. California Maximum Contaminant Levels, Title 22, California Code of Regulations, 23 September 2015.

TABLE 3-2a
SUMMARY OF ANALYTICAL RESULTS FOR VOCs AND TEPH FOR GROUNDWATER MONITORING WELL SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Well Cluster ID	Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Analytical Results (a,b)																
						VOCs (ug/L)																TEPH (ug/L)
						Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Benzene	Bromomethane	Chloroform	Naphthalene	Toluene	Trichlorotrifluoroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichlorobenzene	Other VOCs	
Former Marchant/Whitney Site																						
--	FMW01	FMW01	3/13/2012	7.3 to 35.3	5.3 to -22.8	<0.500	**36.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<52
--	FMW02	FMW02 (c)	3/14/2012	7.6 to 35.6	4.6 to -23.4	<5,000	**612,000**	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<10,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	ND	<52
			8/20/2013			<20	**710,000**	**2,500**	**180**	**42.0**	<10	<200	**130**	<400	<20	<200	**150**	<20	<20	<20	ND	--
W1	FMW03	FMW03	3/13/2012	7.3 to 17.3	5.8 to -4.2	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.630	<1	<0.500	<0.500	<0.5	<0.500	<0.500	<0.500	ND	<51
	FMW04	FMW04	3/13/2012	20.5 to 35.1	-7.4 to -22	<0.500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.500	<0.500	<0.500	ND	<51
W2	FMW05	FMW05	3/14/2012	7.3 to 17.3	4.4 to -5.6	<100	**9,720**	**1,340**	<100	<100	<100	<100	<100	<200	<100	<100	<100	<100	<100	<100	ND	<51
	FMW06	FMW06	3/14/2012	19.4 to 35.4	-7.7 to -23.7	<2,000	**173,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<4,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	<52
			8/20/2013			<20	**370,000**	**76.0**	**30.0**	<10	<10	<200	**93**	<400	<20	<200	**59**	<20	<20	<20	ND	--
			8/20/2013			<20	**380,000**	**75.0**	**32.0**	<10	<10	<200	**95**	<400	<20	<200	**62**	<20	<20	<20	ND	--
W3	FMW07	FMW07	3/13/2012	7.3 to 17.3	5.3 to -4.7	<0.500	**87.5**	**19.4**	4.25	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<51
	FMW08	FMW08	3/13/2012	19.6 to 35.6	-7 to -23	<250	**34,800**	<250	<250	<250	<250	<250	<250	<500	<250	<250	<250	<250	<250	<250	ND	<51
			8/20/2013			<20	**180,000**	**52.0**	<20	<10	<10	<200	37	<400	<20	<200	**37**	<20	<20	<20	ND	--
W4	FMW10	FMW10	7/27/2015	20.3 to 35.3	-7.3 to -23.3	<4,000	**576,000**	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<8,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	ND	--
			12/13/2015			**51.1**	**725,000**	**1,230**	**218**	**61.2**	<50	<50	**298**	<100	<50	--	**132**	<50	**57.7**	<50	ND	--
W5	FMW11	FMW11	7/23/2015	8 to 18	4.6 to -5.4	<5,000	**435,000**	**16,500**	<5,000	<5,000	<5,000	<5,000	<5,000	<10,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	ND	--
			12/13/2015			**98.1**	**790,000**	**12,300**	**1,390**	**642**	<50	<50	**659**	<100	<50	--	**225**	<50	**83.5**	<50	(d)	--
	FMW12	FMW12	7/22/2015	23 to 35	-10.4 to -22.4	<5,000	**197,000**	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<10,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	ND	--
W6	FMW13	FMW13	7/23/2015	7 to 19	5.6 to -6.4	<200	**28,300**	**5,750**	**760**	**231**	<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	ND	--
	FMW14	FMW14	7/24/2015	23 to 38	-10.4 to -25.4	<2,000	**380,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<4,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--
W7	FMW15	FMW15	7/24/2015	7 to 19	5.6 to -6.4	<2,000	**188,000**	**2,010**	<2,000	<2,000	<2,000	<2,000	<2,000	<4,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--
	FMW16	FMW16	7/24/2015	23 to 38	-10.4 to -25.4	<4,000	**291,000**	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<8,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	ND	--
W8	FMW17	FMW17	7/24/2015	7 to 19	5.6 to -6.4	<4,000	**211,000**	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<8,000	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	ND	--
			12/13/2015			<50	**270,000**	**5,960**	**575**	**299**	<50	<50	**94.8**	<100	<50	--	<50	<50	**46.3 J**	<50	ND	--
	FMW18	FMW18	7/24/2015	23 to 38	-10.4 to -25.4	<400	**63,500**	<400	<400	<400	<400	<400	<400	<800	<400	<400	<400	<400	<400	<400	ND	--
W9	FMW19	FMW19	7/23/2015	7 to 15	5.6 to -2.4	0.58	**76.0**	1.04	0.65	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--
	FMW20	FMW20	7/23/2015	23 to 38	-10.4 to -25.4	<1,000	**69,800**	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<2,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	ND	--
W10	FMW21	FMW21	7/22/2015	7 to 19	5.6 to -6.4	<500	**32,400**	**5,840**	**821**	<500	<500	<500	<500	<1,000	<500	<500	<500	<500	<500	<500	ND	--
	FMW22	FMW22	7/22/2015	21 to 36	-8.4 to -23.4	<500	**26,400**	<500	<500	<500	<500	<500	<500	<1,000	<500	<500	<500	<500	<500	<500	ND	--
W11	FMW23	FMW23	7/22/2015	7 to 17	5.6 to -4.4	<0.5	**6.05**	0.61	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--
	FMW24	FMW24	7/23/2015	22 to 37	-9.4 to -24.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--
W12	FMW25	FMW25	7/24/2015	7 to 19	5.6 to -6.4	<2,000	**253,000**	**5,440**	<2,000	<2,000	<2,000	<2,000	<2,000	<4,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--
	FMW26	FMW26	7/24/2015	23 to 38	-10.4 to -25.4	<2,000	**142,000**	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<4,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	ND	--
	FMW27	FMW27	7/24/2015	40 to 55	-27.4 to -42.4	<5	**857**	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	ND	--
W13	FMW28	FMW28	7/22/2015	7 to 15	5.6 to -2.4	<1,000	**83,800**	**20,200**	**2,320**	**1,380**	<1,000	<1,000	<1,000	<2,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	ND	--
	FMW29	FMW29	7/22/2015	21 to 36	-8.4 to -23.4	<500	**44,000**	<500	<500	<500	<500	<500	<500	<1,000	<500	<500	<500	<500	<500	<500	ND	--
	FMW30	FMW30	7/22/2015	42 to 57	-29.4 to -44.4	<10	**693**	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<10	<10	ND	--
W14	FMW31	FMW31	7/23/2015	8 to 18	4.6 to -5.4	<20	**2,150**	<20	<20	<20	<20	<20	<20	<40	<20	<20	<20	<20	<20	<20	ND	--
			12/13/2015			3.7	**1,370**	**364**	**54.9**	**5.1**	<1	<1	<1	<2	<1	--	0.70 J	<1	1.2	<1	ND	--
	FMW32	FMW32	7/23/2015	26 to 41	-13.4 to -28.4	<200	**20,600**	<200	<200	<200	<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	ND	--
		FMW32-DUP	7/23/2015			<200	**20,200**	<200	<200	<200	<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	ND	--
	FMW33	FMW33	7/23/2015	43 to 58	-30.4 to -45.4	<100	**9,490**	<100	<100	<100	<100	<100	<100	<200	<100	<100	<100	<100	<100	<100	ND	--
W15	FMW34	FMW34	7/23/2015	7 to 17	5.6 to -4.4	<100	**16,100**	**3,520**	**565**	**214**	<100	<100	<100	<200	<100	<100	<100	<100	<100	<100	ND	--
	FMW35	FMW35	7/24/2015	22 to 37	-9.4 to -24.4	<200	**16,800**	<200	<200	<200	<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	ND	--
			12/13/2015			<50	**17,800**	**33.3 J**	<50	<50	<50	<50	<50	<100	<50	--	<50	<50	<50	<50	ND	--
W16	FMW36	FMW36	7/21/2015	7 to 17	5.6 to -4.4	<10	**947**	**179**	**44.9**	<10	<10	<10	<10	<20	<10	<10	<10	<10	<10	<10	ND	--
	FMW37	FMW37	7/21/2015	26 to 41	-13.4 to -28.4	<100	**8,380**	<100	<100	<100	<100	<100	<100	<200	<100	<100	<100	<100	<100	<100	ND	--
			12/13/2015			<1	**1,830**	**99.3**	0.54 J	0.34 J	<1	<1	<1	<2	<1	--	0.75 J	<1	0.73 J	<1	ND	--
	FMW38	FMW38	7/21/2015	43 to 58	-30.4 to -45.4	<0.5	**9.25**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--
	FMW43	FMW43	7/22/2015	60 to 70	-47.4 to -57.4	<0.5	**56.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--
			12/13/2015			<1	2.7	0.26 J	<1	<1	<1	<1	<1	<2	<1	--	<1	<1	<1	<1	ND	--
W18 (5677 Horton)	FMW41	FMW41	7/21/2015	8 to 20	3.4 to -8.6	<20	**2,050**	**335**	**118**	<20	<20	<20	<20	<40	<20	<20	<20	<20	<20	<20	ND	--
	FMW42	FMW42	7/21/2015	27 to 42	-15.6 to -30.6	<50	**4,490**	<50	<50	<50	<50	<50	<50	<100	<50	<50	<50	<50	<50	<50	ND	--
			12/12/2015			0.41 J	**4,920**	4.2	1.4	0.32 J	<1	<1	0.67 J	<2	<1	--	<1	<1	0.63 J	<1	ND	--
	FMW44	FMW44	7/21/2015	60 to 70	-48.6 to -58.6	<0.5	**42.4**	0.80	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--
			12/12/2015			<1	2.60	0.59 J	<1	<1	<1	<1	<1	<2	<1	--	<1	<1	<1	<1	(e)	--
WOS1 (Old RR track)	FMWOS1	FMWOS1	7/21/2015	5 to 15	7.3 to -2.7	<0.5	0.69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--
	FMWOS2	FMWOS2	7/21/2015	20 to 35	-7.7 to -22.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	--
MCLs (CCR, 2015)						**5**	**5**	**6**	**10**	**0.5**	**1**	**na**	**80 (f)**	**na**	**150**	**1,200**	**5**	**5**	**6**	**600**	**na**	**na**

TABLE 3-2a
SUMMARY OF ANALYTICAL RESULTS FOR VOCs AND TEPH FOR GROUNDWATER MONITORING WELL SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Abbreviations:
"--" = not analyzed
<0.5 = Not detected above the stated laboratory reporting limit
ft bgs = feet below ground surface
ft msl = feet above mean sea level
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MCLs = California Department of Public Health Drinking Water Maximum Contaminant Levels
na = not available
TEPH - total extractable petroleum hydrocarbons
ug/L = micrograms per liter
VOCs = Volatile Organic Compounds

Notes:
(a) Groundwater samples were analyzed for the following analytes using the following
VOCs using EPA Method 8260B;
TEPH (C12-C34) with silica gel cleanup using EPA Method 8015 (modified);
Analyses were performed by K-Prime, Inc., Santa Rosa, California, Calscience Environmental Laboratories, Inc., Garden Grove, California, or Pace Analytical in Greensburg, Pennsylvania.
(b) Concentrations detected above the MCLs are shown in **bold** font.
(c) FMW10 replaced FMW02 on 18 December 2013.
(d) Other VOC detections include: Chlorobenzene detected at 133 ug/L and Methylene Chloride detected at 917 ug/L.
(e) Other VOC detections include: Acetone detected at 83.7 ug/L and 2-Butanone detected at 6.2 J ug/L.
(f) The MCL for chloroform is based on the standard for trihalomethanes.

References:
(1) CCR, 2015. California Maximum Contaminant Levels, Title 22, California Code of Regulations, 23 September 2015.

TABLE 3-2b
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Well Cluster ID	Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters (c)						Analytical Results (a,b)											
												Geochemical Parameters (mg/L)											
													Major Anions						Major Cations				
						Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (°C)	Turbidity (NTU)	Total Dissolved Solids	Nitrate as Nitrogen	Sulfate	Bromide	Chloride	Fluoride	Alkalinity, total as CaCO3	Calcium, total	Potassium, total	Magnesium, total	Sodium, total	Hardness (as CaCO3)
Former Marchant/Whitney Site																							
--	FMW01	FMW01	3/13/2012	7.3 to 35.3	5.3 to -22.8	631	0.16	107	6.88	17.57	27	363	<0.5	27.4	<0.5	54.9	--	192	32.3	0.859	20.2	41.4	--
--	FMW02	FMW02 (d)	3/14/2012	7.6 to 35.6	4.6 to -23.4	2,482	8.31	103	6.84	17.78	12	1440	<0.5	66.4	1.72	632	--	341	183	7.58	117	182	--
			8/20/2013			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W1	FMW03	FMW03	3/13/2012	7.3 to 17.3	5.8 to -4.2	2,010	4.19	195	7.47	17.69	14	1160	0.695	94.8	1.1	442	--	235	55.5	13	49	237	--
	FMW04	FMW04	3/13/2012	20.5 to 35.1	-7.4 to -22	673	0.81	86	7.24	17.89	4.7	377	<0.5	34.7	<0.5	51.3	--	230	42.1	2.55	24.6	53.3	--
W2	FMW05	FMW05	3/14/2012	7.3 to 17.3	4.4 to -5.6	2,222	2.34	200	7.53	17.22	97	1270	<0.5	165	1.17	376	--	479	108	7.88	75.8	293	--
	FMW06	FMW06	3/14/2012	19.4 to 35.4	-7.7 to -23.7	1,312	2.19	117	7.16	17.59	16	748	<0.5	55.4	0.859	283	--	173	59.2	6.09	45.8	119	--
			8/20/2013			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			8/20/2013			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W3	FMW07	FMW07	3/13/2012	7.3 to 17.3	5.3 to -4.7	1,297	0.58	106	6.85	18.92	25	746	7.86	73.2	<0.5	144	--	329	69	7.61	46.3	137	--
	FMW08	FMW08	3/13/2012	19.6 to 35.6	-7 to -23	724	1.03	128	6.88	19.19	4.9	406	<0.5	39.7	<0.5	67.2	--	219	44.2	2.94	27.3	57.3	--
			8/20/2013			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W4	FMW10	FMW10	7/27/2015	20.3 to 35.3	-7.3 to -23.3	2,310	0.41	155	6.56	22.11	15	--	--	--	--	--	--	--	--	--	--	--	--
			12/13/2015			2,437	0.97	-50.6	6.14	17.23	--	--	--	--	--	--	--	--	--	--	--	--	--
W5	FMW11	FMW11	7/23/2015	8 to 18	4.6 to -5.4	2,420	1.34	161	7	19.65	14	1460	0.461	170	0.452	361	0.221	660	152	7.87	106	241	816
			12/13/2015			2,330	1.6	1	6.28	18.18	--	--	--	--	--	--	--	--	--	--	--	--	--
	FMW12	FMW12	7/22/2015	23 to 35	-10.4 to -22.4	1,255	0.09	-2	6.99	19.49	14	678	<0.1	43.2	0.343	210	0.144	284	87.5	3.94	54.5	77.2	443
W6	FMW13	FMW13	7/23/2015	7 to 19	5.6 to -6.4	1,530	0.1	-39	7.1	19.01	8	--	--	--	--	--	--	--	--	--	--	--	--
	FMW14	FMW14	7/24/2015	23 to 38	-10.4 to -25.4	1,810	0.13	112	6.72	18.61	23	--	--	--	--	--	--	--	--	--	--	--	--
W7	FMW15	FMW15	7/24/2015	7 to 19	5.6 to -6.4	1,209	0.15	37	6.99	19.91	3	--	--	--	--	--	--	--	--	--	--	--	--
	FMW16	FMW16	7/24/2015	23 to 38	-10.4 to -25.4	1,201	0.22	8	7	19.4	5	--	--	--	--	--	--	--	--	--	--	--	--
W8	FMW17	FMW17	7/24/2015	7 to 19	5.6 to -6.4	1,760	0.7	123	6.92	18.9	6	--	--	--	--	--	--	--	--	--	--	--	--
			12/13/2015			1,765	0.75	-47.2	6.31	18.02	--	--	--	--	--	--	--	--	--	--	--	--	--
	FMW18	FMW18	7/24/2015	23 to 38	-10.4 to -25.4	883	0.14	79	7.07	18.8	4	--	--	--	--	--	--	--	--	--	--	--	--
W9	FMW19	FMW19	7/23/2015	7 to 15	5.6 to -2.4	750	0.18	94	6.87	20.45	0	--	--	--	--	--	--	--	--	--	--	--	--
	FMW20	FMW20	7/23/2015	23 to 38	-10.4 to -25.4	684	0.22	15	7.25	20.52	0	--	--	--	--	--	--	--	--	--	--	--	--
W10	FMW21	FMW21	7/22/2015	7 to 19	5.6 to -6.4	1,452	0.51	137	6.76	18.49	0	772	0.398	116	<0.1	108	0.108	505	97.7	7.29	62.3	126	500
	FMW22	FMW22	7/22/2015	21 to 36	-8.4 to -23.4	1,160	0.28	123	7.17	18.66	4	626	2.95	61.8	0.186	163	0.249	241	70.9	4.04	44.9	81.3	362
W11	FMW23	FMW23	7/22/2015	7 to 17	5.6 to -4.4	953	0.44	237	7.05	20.3	0	517	3.87	58.1	<0.1	30.9	0.18	366	71	4.9	44.4	56.3	360
	FMW24	FMW24	7/23/2015	22 to 37	-9.4 to -24.4	638	0.18	261	7.2	20.07	0	371	<0.1	24.7	<0.1	63.9	0.263	201	40.9	2	25.2	51.4	206
W12	FMW25	FMW25	7/24/2015	7 to 19	5.6 to -6.4	2,080	0.22	123	7.1	19.22	3	--	--	--	--	--	--	--	--	--	--	--	--
	FMW26	FMW26	7/24/2015	23 to 38	-10.4 to -25.4	1,213	0.28	65	7.04	19.24	121	--	--	--	--	--	--	--	--	--	--	--	--
	FMW27	FMW27	7/24/2015	40 to 55	-27.4 to -42.4	593	0.16	-90	7.14	19.22	8	--	--	--	--	--	--	--	--	--	--	--	--
W13	FMW28	FMW28	7/22/2015	7 to 15	5.6 to -2.4	1,970	0.09	161	6.79	18.43	5	1,200	<0.1	153	0.117	168	0.108	671	131	4.31	86.5	198	684
	FMW29	FMW29	7/22/2015	21 to 36	-8.4 to -23.4	725	0.11	-11	7.02	18.75	7	431	<0.1	28.4	<0.1	106	0.271	185	48.7	1.35	28.6	55.3	239
	FMW30	FMW30	7/22/2015	42 to 57	-29.4 to -44.4	611	0.19	-46	7.3	19.12	27	307	<0.1	23.4	<0.1	66.2	0.266	195	36.9	1.92	25.9	49.1	199
W14	FMW31	FMW31	7/23/2015	8 to 18	4.6 to -5.4	796	0.11	124	6.87	18.76	38	482	2.63	49.7	<0.1	33.3	0.157	318	55.3	5.84	36	119	286
			12/13/2015			932	0.58	11.8	6.45	18.58	--	--	--	--	--	--	--	--	--	--	--	--	--
	FMW32	FMW32	7/23/2015	26 to 41	-13.4 to -28.4	832	0.12	37	7.25	19.01	4	501	<0.1	37.5	0.131	124	0.251	215	51.3	3.23	33.4	68	265
		FMW32-DUP	7/23/2015									490	<0.1	37.4	0.122	124	0.262	214	52.4	3.23	33.6	68.2	269
	FMW33	FMW33	7/23/2015	43 to 58	-30.4 to -45.4	666	0.19	-112	7.37	18.94	13	386	<0.1	20.2	<0.1	80.2	0.223	205	41.4	2.7	27.7	56.1	217
W15	FMW34	FMW34	7/23/2015	7 to 17	5.6 to -4.4	1,311	2.4	117	7.05	18.69	0	--	--	--	--	--	--	--	--	--	--	--	--
	FMW35	FMW35	7/24/2015	22 to 37	-9.4 to -24.4	670	0.1	254	7.06	18.59	0	--	--	--	--	--	--	--	--	--	--	--	--
			12/13/2015			712	0.53	-84.7	6.37	17.64	--	--	--	--	--	--	--	--	--	--	--	--	--
W16	FMW36	FMW36	7/21/2015	7 to 17	5.6 to -4.4	807	0.21	122	6.71	19.06	0	--	--	--	--	--	--	--	--	--	--	--	--
	FMW37	FMW37	7/21/2015	26 to 41	-13.4 to -28.4	691	0.37	70	7.07	19.37	0	--	--	--	--	--	--	--	--	--	--	--	--
			12/13/2015			618	0.51	-55.2	6.29	18.41	--	--	--	--	--	--	--	--	--	--	--	--	--
	FMW38	FMW38	7/21/2015	43 to 58	-30.4 to -45.4	661	0.39	-20	7.34	19.26	0	--	--	--	--	--	--	--	--	--	--	--	--
	FMW43	FMW43	7/22/2015	60 to 70	-47.4 to -57.4	777	0.31	-86	7.35	18.97	0	363	<0.1	19.5	<0.1	97.9	0.29	197	39.2	4.55	28	65.3	213
			12/13/2015			621	0.54	-62.2	6.5	18.21	--	--	--	--	--	--	--	--	--	--	--	--	--
W18 (5677 Horton)	FMW41	FMW41	7/21/2015	8 to 20	3.4 to -8.6	1,435	2.3	258	7.24	21.83	88	769	0.244	141	<0.1	89.9	0.32	369	57.5	7.74	42.9	146	320
	FMW42	FMW42	7/21/2015	27 to 42	-15.6 to -30.6	814	0.08	88	7.05	20.43	133	312	<0.1	20	<0.1	101	0.272	172	44	1.45	25.9	55	217
			12/12/2015			695	0.38	-15	6.91	18.82	--	--	--	--	--	--	--	--	--	--	--	--	--
	FMW44	FMW44	7/21/2015	60 to 70	-48.6 to -58.6	838	0.14	-50	7.45	21.36	57	352	<0.1	23.5	<0.1	95.1	0.329	190	36.8	3.98	25.9	62.1	199
			12/12/2015			19	1.14	-10.2	11.85	19.0	--	--	--	--	--	--	--	--	--	--	--	--	--
WOS1 (Old RR track)	FMWOS1	FMWOS1	7/21/2015	5 to 15	7.3 to -2.7	1,730	3.8	120	7.04	21.89	4	393	5.25	90.9	0.232	189	0.261	311	64.2	12.1	50.2	152	367
	FMWOS2	FMWOS2	7/21/2015	20 to 35	-7.7 to -22.7	654	0.17	67	6.98	20.7	21	735	<0.1	28.6	<0.1	60.5	0.301	187	40.5	1.68	23.7	52.2	199
MCLs (CCR, 2015)						**na**	**na**	**na**	**na**	**na**	**na**	**na**	**10**	**na**	**na**	**na**	**2**	**na**	**na**	**na**	**na**	**na**	**na**

TABLE 3-2b
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Abbreviations:
"--" = not analyzed
°C = degrees Celsius
<0.5 = Not detected above the stated laboratory reporting limit
$CaCO_3$ = calcium carbonate
EPA = Environmental Protection Agency
ft bgs = feet below ground surface
ft msl = feet above mean sea level
MCLs = California Department of Public Health Drinking Water Maximum Contaminant Levels
mg/L = milligrams per liter
mV = millivolts
na = not available
NTU = nephelometric turbidity unit
uS/cm = microsiemens per centimeter

Notes:
(a) Groundwater samples were analyzed for the following analytes using the following methods:
Total Dissolved Solids using SM 2540C;
Nitrate, Sulfate, Bromide, Chloride, and Fluoride using EPA Method 300.0;
Alkalinity using SM 2320B;
Calcium, Potassium, Magnesium, and Sodium using EPA 200.8/130.2; and
Hardness using EPA 200.8/130.2.
Analyses were performed by K-Prime, Inc., Santa Rosa, California, or Calscience Environmental Laboratories, Inc., Garden Grove, California.
(b) Concentrations detected above the MCLs are shown in **bold** font.
(c) Field parameters were measured using a calibrated multi-parameter water quality meter.
(d) FMW10 replaced FMW02 on 18 December 2013.

References:
(1) CCR, 2015. California Maximum Contaminant Levels, Title 22, California Code of Regulations, 23 September 2015.

TABLE 3-3
SUMMARY OF ANALYTICAL RESULTS FOR SEPARATE PHASE LIQUID SAMPLES
Former Marchant/Whitney Site
Emeryville, California

Sample Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Analytical Results (a)					
					VOCs (mg/kg)				TPH (mg/kg)	
					Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Other VOCs	TPH-g	TEPH
PW-N	PW-N-30-34-SPL (b)	8/25/2011	30 to 34	-18.1 to -22.1	815,000	<6,850	<6,850	ND	256,000 CO	124,000 AJ
FSB1	FSB-1 (c)	12/12/2012	8.5 to 9	4.1 to 3.6	7,350	469	80.9	ND	3,260 (d)	486,000 AC
FMW02	FMW02 (b)	3/26/2013	30 to 34	-17.8 to -21.8	627,000	<10,960	<10,960	ND	164,000 CO	168,000 AC
FMW10	FMW10SPL (b)	7/27/2015	34 to 35	-21.7 to -22.7	614,000	<110,000	<110,000	ND	466,000 AE,CO	172,000 AC

Abbreviations:

<6,850 = Not detected above the stated laboratory reporting limit
AC = heavier hydrocarbon contributing to diesel range quantitation (e)
AE = unknown hydrocarbon with a single peak
AJ = heavier hydrocarbon than diesel (e)
CO = hydrocarbon response in gasoline range but does not resemble gasoline (f)
EPA = Environmental Protection Agency
ft bgs = feet below ground surface
ft msl = feet above mean sea level
g/ml = grams per milliliter
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
ND = not detected
SPL = separate phase liquid
TPH = total petroleum hydrocarbons
TPH-g = TPH, gasoline range
TEPH = total extractable petroleum hydrocarbons
VOCs = volatile organic compounds

Notes:

(a) The SPL samples were analyzed for the following analytes using the
VOCs using EPA Method 8260B;
TPH-g using EPA Method 8015 (modified); and
TEPH (C12-C34) with silica gel cleanup using EPA Method 8015 (modified).
Analyses were performed by K-Prime, Inc., Santa Rosa, California.

(b) Analytical results for PW-N-30-34-SPL, FMW02, and FMW10SPL were provided in mg/L and were converted to mg/kg based on an assumed free product (predominantly trichloroethene) density of 1.46 g/mL, equivalent to the density of trichloroethene. The SPL for samples PW-N-30-34-SPL, FMW02, and FMW10SPL was observed at the bottom of a collection bottle below the aqueous phase.

(c) The SPL for sample FSB-1 was observed at the top of a collection bottle above the aqueous phase.

(d) A review of the TPH-g chromatogram for FSB-1 indicates that there is a hydrocarbon response in gasoline range but the response pattern does not predominantly resemble gasoline.

(e) Explanation of diesel range organic pattern as stated in the analytical laboratory report.

(f) Explanation of gasoline range organic pattern as stated in the analytical laboratory report for PW-N-30-34-SPL, FMW02, and FMW10SPL is "The sample chromatograph response is in the gasoline hydrocarbon range, but response pattern does not resemble gasoline".

TABLE 4-1a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR VOCs AND TPH FOR GRAB GROUNDWATER SAMPLES
Site B Project Area
Emeryville, California

Sample Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Analytical Results (a,b)																									
						Field Parameters						VOCs (ug/L, unless otherwise specified)																	TPH (mg/L)			
						Conductivity (uS/cm)	DO	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichlorobenzene	Naphthalene	Toluene	Trichlorotrifluoroethane	Other VOCs	TPH-g	TPH Diesel	TPH Motor Oil	TEPH
Site B																															
ACPT1	ACPT1-6-10.5	6/9/2009	6 to 10.5	-3.8 to -8.3	2.2	2,266	--	--	6.6	--	--	**650**	**2,100**	**470**	**82.0**	**32.0**	26.1	<13	<13	**45.0**	**18.0**	<13	<13	<50	<13	<50	ND	--	--	--	--
	ACPT1-14-18	6/9/2009	14 to 18	-11.8 to -15.8		>4,000	--	--	6.3	--	--	0.60	**2.3**	0.60	<0.5	<0.5	0.03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	--	--	--	--
	ACPT1-25-29	2/8/2010	25 to 29	-22.8 to -26.8		4,000	--	--	6.43	17.3	--	0.80	**2.9**	1.2	<0.5	<0.5	0.04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
ACPT2	ACPT2-18-22	6/9/2009	18 to 22	-12.4 to -16.4	5.6	2,296	--	--	6.96	--	--	<0.5	**5.4**	0.80	<0.5	<0.5	0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	--	--	--	--
	ACPT2-22-26	6/9/2009	22 to 26	-16.4 to -20.4		1,703	--	--	6.73	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	--	--	--	--
ACPT3	ACPT3-7-11	6/9/2009	7 to 11	0.1 to -3.9	7.1	916	--	--	7.01	--	--	**170**	**260**	**81.0**	**17.0**	**7.6**	4.14	<2	<2	**26.0**	**6.9**	<2	<2	<8	<2	<8	ND	--	--	--	--
	ACPT3-18-22	6/9/2009	18 to 22	-10.9 to -14.9		1,366	--	--	6.68	--	--	<0.5	0.50	<0.5	<0.5	<0.5	0.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	--	--	--	--
CCPT1	CCPT1-20-24	6/9/2009	20 to 24	-16.3 to -20.3	3.7	3,425	--	--	6.61	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	--	--	--	--
	CCPT1-26-30	6/9/2009	26 to 30	-22.3 to -26.3		2,910	--	--	6.79	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	--	--	--	--
KCPT1	KCPT1-22-26.5	6/10/2009	22 to 26.5	-13.1 to -17.6	8.9	3,890	--	--	6.7	--	--	<5	**890**	**190**	**170**	**23.0**	10.9	<5	<5	<5	<5	<5	<5	<20	<5	<20	ND	0.24 V	<0.067	0.71	0.71
	KCPT1-64-68	6/10/2009	64 to 68	-55.1 to -59.1		972	--	--	10.6	--	--	<0.5	**3.5**	0.70	<0.5	<0.5	0.03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	<0.05	0.21	0.69	0.9
	KCPT1-92-96	6/10/2009	92 to 96	-83.1 to -87.1		756	--	--	7.45	--	--	**7.8**	**26.0**	3.5	2	**0.70**	0.31	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	<0.05	0.12	0.47	0.59
KCPT2	KCPT2-17.5-22	6/11/2009	17.5 to 22	-14.7 to -19.2	2.8	>4,000	--	--	6.36	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	<0.05	<0.05	<0.3	<0.35
	KCPT2-58-62	6/11/2009	58 to 62	-55.2 to -59.2		1,070	--	--	7.37	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	<0.05	<0.05	<0.3	<0.35
	KCPT2-84-88	6/11/2009	84 to 88	-81.2 to -85.2		766	--	--	9.11	--	--	<0.5	1.2	0.90	<0.5	<0.5	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	--	--	--	--
	KCPT2-108-112	6/11/2009	108 to 112	-105.2 to -109.2		531	--	--	7.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<2	ND	<0.05	<0.05	<0.3	<0.35
BCPT02	BCPT02-10-14	12/17/2009	10 to 14	-1.0 to -5.0	8.9	1,090	--	184	6.7	18	--	**1,770**	**749**	**338**	**59.9**	**65.1**	21.5	<10	<10	**181**	**84.6**	<10	42.5	<20	<10	<10	ND	1.09 V	--	--	--
	BCPT02-24-28	12/17/2009	24 to 28	-15.1 to -19.1		1,467	--	202	6.58	18.6	--	0.53	0.65	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.86**	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT02-24-28 DUP					--	--	--	--	--	--	**2.77**	**2.36**	0.66	<0.5	<0.5	0.04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT02-58-62	5/19/2015	58 to 62	-49.1 to -53.1		1,255	3.54	-37	7.36	17.6	--	<20	**213**	**507**	**252**	**87.3**	10.8	<20	<20	<20	<20	<20	<20	<40	<20	<20	ND	--	--	--	--
BCPT03	BCPT03-24-28	2/8/2010	24 to 28	-15.8 to -19.8	8.2	1,992	--	--	6.5	16.8	--	<0.5	**7.62**	<0.5	<0.5	<0.5	0.06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT53-24-28					--	--	--	--	--	--	<0.5	**8.86**	<0.5	<0.5	<0.5	0.07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT03-30-33	12/18/2009	30 to 33	-21.8 to -24.8		1,302	--	206	6.9	18.6	--	<50	**9,540**	<50	<50	<50	72.6	<50	<50	<50	<50	<50	<50	<100	<50	<50	ND	2.26 V	<0.05	--	<0.05
BCPT04	BCPT04-14-18	12/17/2009	14 to 18	-5.4 to -9.4	8.6	2,095	--	169	5.26	17.9	--	<40	**3,760**	**483**	**166**	<40	35.3	<40	<40	<40	<40	<40	<40	<80	<40	<40	ND	1.25 V	0.071	--	0.071
	BCPT04-20-24	12/17/2009	20 to 24	-11.4 to -15.4		>4,000	--	170	6.31	18	--	<1	**126**	**21.1**	6.58	<1	1.24	<1	<1	<1	<1	<1	<1	<2	<1	<1	ND	0.052 V	0.07	--	0.07
	BCPT04-28-32	12/17/2009	28 to 32	-19.4 to -23.4		>4,000	--	228	6.3	18.5	--	<0.5	**1.94**	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT05	BCPT05-22-24	2/8/2010	22 to 24	-13.8 to -15.8	8.2	3,942	--	--	5.45	17.7	--	<2	**73.1**	**295**	**198**	**63.9**	6.66	<2	<2	**4.24**	3.3	<2	<2	<4	<2	<2	ND	0.172	--	--	--
	BCPT05-23-28	12/18/2009	23 to 28	-14.8 to -19.8		>4,000	--	225	6.33	15.6	--	<0.5	**1.85**	**10.8**	**22.7**	**0.66**	0.37	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT06	BCPT06-25-30	12/18/2009	25 to 30	-16.0 to -21.0	9.0	>4,000	--	219	6.5	17.1	--	<0.5	**1.73**	**6.72**	**10.4**	**0.62**	0.20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT08	BCPT08-11-15	12/18/2009	11 to 15	-2.1 to -6.1	9.0	570	--	191	7.06	19.2	--	**11.6**	**791**	**82.2**	**54.3**	<5	7.50	<5	<5	**17.9**	**8.25**	<5	<5	<10	<5	<5	ND	0.227 V	<0.05	--	<0.05
	BCPT08-16-20	12/18/2009	16 to 20	-7.0 to -11.0		758	--	191	6.94	18.5	--	<0.5	**2.66**	3.82	0.75	**2.57**	0.11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT08-16-20 DUP					--	--	--	--	--	--	<0.5	**3.09**	4.55	0.97	**2.61**	0.12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	--	--	--
	BCPT08-22-26	12/18/2009	22 to 26	-13.0 to -17.0		716	--	200	6.88	17.4	--	<0.5	1.24	5.26	1.55	<0.5	0.08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT08-29-32	12/18/2009	29 to 32	-20.0 to -23.0		745	--	207	6.88	16.8	--	**122**	**106**	**96.6**	**34.5**	<1	2.89	<1	<1	<1	1.22	<1	<1	<2	<1	<1	ND	0.113 V	<0.05	--	<0.05
	BCPT08-58-62	5/19/2015	58 to 62	-49.0 to -53.0		770	5.38	48	8.04	16.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT09	BCPT09-23-27	12/18/2009	23 to 27	-13.9 to -17.9	9.1	645	--	155	6.94	18.3	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT09-31-33	12/18/2009	31 to 33	-21.9 to -23.9		645	--	190	7.13	18.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT10	BCPT10-24-28	12/18/2009	24 to 28	-14.5 to -18.5	9.5	660	--	219	6.57	15	--	<0.5	**38.4**	<0.5	<0.5	<0.5	0.29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT12	BCPT12-24-28	12/17/2009	24 to 28	-15.0 to -19.0	9.0	653	--	163	6.9	18.6	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT14	BCPT14-20-25	12/18/2009	20 to 25	-11.7 to -16.7	8.3	>4,000	--	217	6.98	16.7	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT14-25-30	12/18/2009	25 to 30	-16.7 to -21.7		>4,000	--	202	6.77	16.8	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT15	BCPT15-12-16	12/18/2009	12 to 16	-4.0 to -8.0	8.0	716	--	239	6.84	17.7	--	**42.2**	**642**	**63.5**	**30.1**	**15.5**	6.35	<4	<4	**10.7**	**4.67**	<4	<4	<8	<4	<4	ND	0.202 V	<0.05	--	<0.05
	BCPT15-16-20	12/18/2009	16 to 20	-8.0 to -12.0		792	--	234	6.56	18.4	--	<0.5	**9.35**	**6.98**	1.11	<0.5	0.15	<0.5	<0.5	0.60	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT15-28-30	12/18/2009	28 to 30	-20.0 to -22.0		915	--	223	6.62	17.4	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT16	BCPT16-22-26	12/17/2009	22 to 26	-13.4 to -17.4	8.6	873	--	0	7.05	18.5	--	<0.5	<0.5	1.66	<0.5	<0.5	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
	BCPT16-30-33	12/17/2009	30 to 33	-21.4 to -24.4		885	--	197	6.98	19	--	<0.5	<0.5	**46.4**	5.57	<0.5	0.54	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	<0.05	--	<0.05
BCPT17	BCPT17-22-26	12/18/2009	22 to 26	-14.0 to -18.0	8.0	--	--	--	--	--	--	<400	<400	<400	<400	<400	ND	<400	<400	<400	<400	<400	<400	<800	<400	<400	ND	77.8	1,500	--	1,500
BCPT19	BCPT19-25-29	2/8/2010	25 to 29	-17.7 to -21.7	7.3	4,000	--	--	6.31	16.6	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.05	--	--	--
	BCPT19-60-64	5/20/2015	60 to 64	-52.7 to -56.7		848	2.76	202	7.47	19.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT20	BCPT20-10-16	11/29/2011	10 to 16	-1.3 to -7.3	8.7	1,640	4.49	34	6.86	14.95	2,000	<20	**2,320**	**547**	**89.1**	**24.5**	24.6	<20	<20	<20	<20	<20	<20	<40	<20	<20	ND	--	--	--	--
	BCPT20-21-26	11/28/2011	21 to 26	-12.3 to -17.3		1,900	0.32	69	6.55	18.49	5,999	<1	**137**	<1	<1	<1	1.04	<1	<1	<1	<1	<1	<1	<2	<1	<1	ND	--	--	--	--
Site B Groundwater Remedial Goals (EKI, 2013)						**na**	**na**	**na**	**na**	**na**	**na**	**1.3**	**1.5**	**6**	**10**	**0.5**	**na**	**0.71**	**na**	**3.4**	**6**	**na**	**na**	**0.05**	**150**	**na**	**na**	**na**	**na**	**na**	**na**

TABLE 4-1a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR VOCs AND TPH FOR GRAB GROUNDWATER SAMPLES
Site B Project Area
Emeryville, California

Sample Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Analytical Results (a,b)																									
						Field Parameters						VOCs (ug/L, unless otherwise specified)																TPH (mg/L)			
						Conductivity (uS/cm)	DO	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichlorobenzene	Naphthalene	Toluene	Trichlorotrifluoroethane	Other VOCs	TPH-g	TPH Diesel	TPH Motor Oil	TEPH
Site B																															
BCPT20	BCPT20-28-32	11/28/2011	28 to 32	-19.3 to -23.3	8.7	1,550	0.37	65	6.49	18.9	2,000	<250	**45,700**	<250	<250	<250	347.8	<250	<250	<250	<250	<250	<250	<500	<250	<250	ND	--	--	--	--
	BCPT20-38-42	11/28/2011	38 to 42	-29.3 to -33.3		(c)						<100	**16,300**	<100	<100	<100	124.0	<100	<100	<100	<100	<100	<100	<200	<100	<100	ND	--	--	--	--
	BCPT20-60-64	5/18/2015	60 to 64	-51.3 to -55.3		975	2.73	-51.1	7.17	18.9	--	<1	**138**	**16.1**	4.38	**2.97**	1.31	<1	<1	<1	<1	<1	<1	<2	<1	<1	ND	--	--	--	--
	BCPT20-84-88	5/18/2015	84 to 88	-75.3 to -79.3		744	2.80	-129.7	7.49	18.9	--	<0.5	**3.95**	<0.5	<0.5	<0.5	0.03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT21	BCPT21-10-15	11/29/2011	10 to 15	-1.2 to -6.2	8.8	846	6.17	36	7.19	14.42	5,999	**19.3**	**885**	**226**	**37.5**	<10	9.57	<10	<10	<10	<10	<10	<10	<20	<10	<10	ND	--	--	--	--
	BCPT21-22-26	11/28/2011	22 to 26	-13.2 to -17.2		950	0.44	18	6.7	18.84	843	<1	**100.0**	1.54	<1	<1	0.78	<1	<1	<1	<1	<1	<1	<2	<1	<1	ND	--	--	--	--
	BCPT21-27-32	11/28/2011	27 to 32	-18.2 to -23.2		1,299	0.50	13	6.76	19.76	5,999	<50	**4,620**	<50	<50	<50	35.2	<50	<50	<50	<50	<50	<50	<100	<50	<50	ND	--	--	--	--
	BCPT21-37-42	11/28/2011	37 to 42	-28.2 to -33.2		935	0.56	32	6.95	18.4	5,999	<100	**12,000**	<100	<100	<100	91.3	<100	<100	<100	<100	<100	<100	<200	<100	<100	ND	--	--	--	--
	BCPT21-60-64	5/18/2015	60 to 64	-51.2 to -55.2		707	3.00	106.1	7.13	16.3	--	<0.5	<0.5	<0.5	<0.5	**2.49**	0.04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT21-80-84	5/18/2015	80 to 84	-71.2 to -75.2		(c)						<0.5	0.61	<0.5	<0.5	<0.5	0.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT22	BCPT22-10-15	11/30/2011	10 to 15	-0.7 to -5.7	9.3	537	7.50	38	6.57	13.32	5,999	<0.5	0.94	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT22-19-24	11/29/2011	19 to 24	-9.7 to -14.7		920	0.41	-41	6.52	18.1	5,999	<0.5	**66.1**	3.86	0.75	<0.5	0.55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT22-28-32	11/29/2011	28 to 32	-18.7 to -22.7		773	0.64	-21	6.83	17.94	2,000	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT22-38-43	11/29/2011	38 to 43	-28.7 to -33.7		738	0.39	-4	6.96	18.32	5,999	<20	**1,660**	<20	<20	<20	12.6	<20	<20	<20	<20	<20	<20	<40	<20	<20	ND	--	--	--	--
BCPT23	BCPT23-10-16	11/30/2011	10 to 16	-2.3 to -8.3	7.7	1,245	8.74	43	7.19	12.38	2,000	<0.5	**40.2**	5.23	2.05	<0.5	0.38	<0.5	<0.5	<0.5	0.50	0.50	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT23-19-23	11/30/2011	19 to 23	-11.3 to -15.3		6,450	0.72	44	6.35	18.63	2,000	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT23-26-31	11/30/2011	26 to 31	-18.3 to -23.3		4,500	0.34	66	6.24	18.8	2,000	<100	**16,400**	<100	<100	<100	124.8	<100	<100	<100	<100	<100	<100	<200	<100	<100	ND	--	--	--	--
	BCPT23-38-43	12/2/2011	38 to 43	-30.3 to -35.3		1,077	1.24	28	6.57	19.39	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT24	BCPT24-12-17	11/29/2011	12 to 17	-3.6 to -8.6	8.4	1,620	0.79	-59	6.59	18.14	142	<0.5	**16.4**	4.79	1.07	<0.5	0.19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT24-20-24	11/29/2011	20 to 24	-11.6 to -15.6		4,720	0.25	6	6.63	18.59	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT24-28-32	11/29/2011	28 to 32	-19.6 to -23.6		(c)						<0.5	0.70	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT24-38-42	11/29/2011	38 to 42	-29.6 to -33.6		807	0.24	-40	7.05	18.34	5,999	<40	**4,640**	<40	<40	<40	35.3	<40	<40	<40	<40	<40	<40	<80	<40	<40	ND	--	--	--	--
BCPT25	BCPT25-12-18	11/30/2011	12 to 18	-4.1 to -10.1	7.9	4,370	9.55	63	7.32	18.49	5,999	<0.5	**5.41**	<0.5	<0.5	<0.5	0.04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT25-21-25	11/30/2011	21 to 25	-13.1 to -17.1		8,220	0.61	40	7.38	20.1	5,999	<0.5	**35.7**	<0.5	<0.5	<0.5	0.27	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT25-27-32	11/30/2011	27 to 32	-19.1 to -24.1		3,880	0.71	48	6.71	19.95	2,000	<200	**30,100**	<200	<200	<200	229.1	<200	<200	<200	<200	<200	<200	<400	<200	<200	ND	--	--	--	--
	BCPT25-40-44	12/2/2011	40 to 44	-32.1 to -36.1		2,640	0.67	-29	6.47	21.32	721	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT25-62-66	5/20/2015	62 to 66	-54.1 to -58.1		961	1.28	-60	7.59	20.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT25-80-84	5/20/2015	80 to 84	-72.1 to -76.1		705	1.63	-8	7.36	20.4	--	<0.5	**2.28**	<0.5	<0.5	<0.5	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT26	BCPT26-12-17	12/1/2011	12 to 17	-3.4 to -8.4	8.6	2,640	0.65	55	7.35	20.85	5,999	<0.5	**6.28**	**21.2**	1.64	**25.0**	0.68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT26-24-28	12/1/2011	24 to 28	-15.4 to -19.4		4,640	0.25	-10	6.34	20.65	5,999	<0.5	0.77	1.61	<0.5	<0.5	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT26-30-34	12/1/2011	30 to 34	-21.4 to -25.4		7,000	0.19	-55	6.38	20.36	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT26-41-45	12/1/2011	41 to 45	-32.4 to -36.4		(c)						<0.5	**2.8**	**15.9**	0.72	**5.75**	0.28	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	7.4	<0.5	ND	--	--	--	--
BCPT27	BCPT27-12-17	12/1/2011	12 to 17	-3.6 to -8.6	8.4	(c)						<0.5	**1.88**	4.06	<0.5	**0.77**	0.07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT27-21-25	11/30/2011	21 to 25	-12.6 to -16.6		12,030	0.44	-100	6.61	21.16	1,646	<0.5	0.80	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT27-27-31	11/30/2011	27 to 31	-18.6 to -22.6		9,250	0.19	-75	6.59	21.06	5,999	<0.5	**8.91**	<0.5	<0.5	<0.5	0.07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT27-42-47	11/30/2011	42 to 47	-33.6 to -38.6		3,220	0.31	-41	6.61	20.41	2,000	<0.5	<0.5	0.71	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT28	BCPT28-13-18	12/1/2011	13 to 18	-4.1 to -9.1	8.9	954	0.59	-75	6.99	18.57	541	<5	**869**	**203**	**41.8**	**5.55**	9.23	<5	<5	<5	<5	<5	<5	<10	<5	<5	ND	--	--	--	--
	BCPT28-21-26	12/1/2011	21 to 26	-12.1 to -17.1		8,130	0.29	117	6.31	18.25	5,999	<0.5	**35.8**	**9.85**	2.67	<0.5	0.40	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT28-27-31	12/1/2011	27 to 31	-18.1 to -22.1		6,980	0.34	-27	6.4	18.52	482	<0.5	**3.75**	1.01	<0.5	<0.5	0.04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT28-39-44	12/1/2011	39 to 44	-30.1 to -35.1		1,357	4.64	50	6.58	21.14	5,999	<0.5	**5.99**	1.44	<0.5	<0.5	0.06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT28-62-66	5/19/2015	62 to 66	-53.1 to -57.1		1,097	5.23	84	7.53	17.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT29	BCPT29-12-17	12/2/2011	12 to 17	-2.8 to -7.8	9.2	1,267	3.95	-71	6.91	18.81	5,999	<0.5	0.54	3.13	<0.5	**3.7**	0.10	0.62	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT29-23-27	12/2/2011	23 to 27	-13.8 to -17.8		2,760	4.63	-25	6.83	19.13	2,000	<0.5	**8.25**	**16.5**	6.17	<0.5	0.30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT29-28-33	12/2/2011	28 to 33	-18.8 to -23.8		2,820	0.32	58	6.34	19.36	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT29-28-33DUP					(c)						<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT29-38-42	12/2/2011	38 to 42	-28.8 to -32.8		1,391	4.13	-58	7.17	19.35	5,999	<0.5	0.59	1.85	<0.5	<0.5	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT30	BCPT30-42-46	5/20/2015	42 to 46	-33.6 to -37.6	8.4	3,598	2.96	-17	7.24	21.3	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT30-64-68	5/20/2015	64 to 68	-55.6 to -59.6		1,083	2.38	-144	7.4	20.8	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT31	BCPT31-30-35	5/19/2015	30 to 35	-20.8 to -25.8	9.2	10,020	1.24	-107	6.67	20.3	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	BCPT31-65-70	5/20/2015	65 to 75	-55.8 to -60.8		1,142	2.42	-57	8.1	20	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
BCPT32	BCPT32-58-62	5/18/2015	58 to 62	-49.3 to -53.3	8.7	1,078	2.84	-35.8	7.15	18.9	--	<0.5	**27.2**	**77.9**	**36.7**	**10.1**	1.55	<0.5	<0.5	<0.5	0.76	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
Site B Groundwater Remedial Goals (EKI, 2013)						**na**	**na**	**na**	**na**	**na**	**na**	**1.3**	**1.5**	**6**	**10**	**0.5**	**na**	**0.71**	**na**	**3.4**	**6**	**na**	**na**	**0.05**	**150**	**na**	**na**	**na**	**na**	**na**	**na**

TABLE 4-1a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR VOCs AND TPH FOR GRAB GROUNDWATER SAMPLES
Site B Project Area
Emeryville, California

Sample Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Analytical Results (a,b)																									
						Field Parameters						VOCs (ug/L, unless otherwise specified)																TPH (mg/L)			
						Conductivity (uS/cm)	DO	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichlorobenzene	Naphthalene	Toluene	Trichlorotrifluoroethane	Other VOCs	TPH-g	TPH Diesel	TPH Motor Oil	TEPH
East Powell																															
PCPT1	PCPT1-10-15	8/7/2009	10 to 15	1.8 to -3.2	11.8	--	--	--	--	--	--	<0.5	<0.5	1.21	<0.5	**1.94**	0.04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	PCPT1-16-20	8/6/2009	16 to 20	-4.2 to -8.2		648	--	--	6.74	--	--	<0.5	2.47	1.04	<0.5	<0.5	0.03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	PCPT1-28-33	8/6/2009	28 to 33	-16.2 to -21.2		712	--	--	6.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
PCPT2	PCPT2-11-16	8/7/2009	11 to 16	-0.1 to -5.1	10.9	929	--	--	6.21	--	--	<5	**566**	**60.0**	<5	**18.6**	5.22	<5	<5	<5	<5	<5	<5	<10	<5	<5	ND	--	--	--	--
	PCPT2-19-24	8/7/2009	19 to 24	-8.1 to -13.1		786	--	--	6.91	--	--	<20	**2,210**	**102**	<20	<20	17.9	<20	<20	<20	<20	<20	<20	<40	<20	<20	ND	--	--	--	--
	PCPT2-32-36	8/7/2009	32 to 36	-21.1 to -25.1		775	--	--	6.87	--	--	<0.5	1.9	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
PCPT3	PCPT3-9-14	8/7/2009	9 to 14	1.3 to -3.7	10.3	698	--	--	6.41	--	--	<0.5	**4.91**	3.46	1.7	<0.5	0.09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	PCPT3-20-20.5	8/6/2009	20 to 20.5	-9.7 to -10.2		1,054	--	--	6.53	--	--	<20	**1,830**	**70.3**	<20	<20	14.7	<20	<20	<20	<20	<20	<20	<40	<20	<20	ND	--	--	--	--
	PCPT3-32-36	8/6/2009	32 to 36	-21.7 to -25.7		758	--	--	6.65	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
PCPT4	PCPT4-24-28	8/5/2009	24 to 28	-13.8 to -17.8	10.2	1,057	--	--	6.28	--	--	<0.5	2.49	<0.5	<0.5	<0.5	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	2.49	ND	--	--	--	--
	PCPT4-32-36	8/6/2009	32 to 36	-21.8 to -25.8		834	--	--	6.74	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	1.01	ND	--	--	--	--
PCPT5	PCPT5-14-19	6/7/2010	14 to 19	-3.4 to -8.4	10.6	680	--	--	6.79	17.6	--	<10	**1,530**	**90.7**	<10	<10	12.6	<10	<10	<10	<10	<10	<10	<20	<10	<10	ND	--	--	--	--
	PCPT5-20-24 (d)	6/7/2010	20 to 24	-9.4 to -18.4		808	--	--	7.21	18.4	--	<0.5	**33.1**	**11.8**	<0.5	**1.38**	0.40	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
PCPT6	PCPT6-12-17	6/4/2010	12 to 17	-2.0 to -7.0	10.0	1,012	--	--	6.72	18.2	--	<20	**2,950**	**303**	<20	**64.3**	26.6	<20	<20	<20	<20	<20	<20	<40	<20	<20	ND	--	--	--	--
	PCPT6-18-20	6/4/2010	18 to 20	-8.0 to -10.0		925	--	--	7.26	18.6	--	<100	**16,200**	**1,110**	<100	**177**	137.6	<100	<100	<100	<100	<100	<100	<200	<100	<100	ND	--	--	--	--
	PCPT6-33-35	6/4/2010	33 to 35	-23.0 to -25.0		729	--	--	7.24	18.1	--	<0.5	1.59	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
PCPT7	PCPT7-13-17	6/4/2010	13 to 17	-3.3 to -7.3	9.7	701	--	--	7.05	19.6	--	<5	**837**	**23.4**	<5	<5	6.61	<5	<5	<5	<5	<5	<5	<10	<5	<5	ND	--	--	--	--
	PCPT7-18-27	6/4/2010	18 to 27	-8.3 to -17.3		880	--	--	7.08	18.9	--	<10	**1,500**	**72.9**	<10	<10	12.2	<10	<10	<10	<10	<10	<10	<20	<10	<10	ND	--	--	--	--
PCPT8	PCPT8-23-27	6/3/2010	23 to 27	-13.5 to -17.5	9.5	849	--	--	7.16	19	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
PCPT9	PCPT9-20-24	6/7/2010	20 to 24	-8.5 to -12.5	11.5	711	--	--	6.81	16.7	--	<2.5	**437**	**54.0**	<2.5	**10.5**	4.05	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	ND	--	--	--	--
	PCPT9-30-35	6/7/2010	30 to 35	-18.5 to -23.5		673	--	--	9.07	18.1	--	<0.5	1.00	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
PCPT11	PCPT11-18-20.5	6/3/2010	18 to 20.5	-8.5 to -11.0	9.5	988	--	--	7.06	19.7	--	<80	**11,500**	**449**	<80	<80	92.2	<80	<80	<80	<80	<80	<80	<160	<80	<80	ND	--	--	--	--
	PCPT11-31-35	6/3/2010	31 to 35	-21.5 to -25.5		951	--	--	7.42	20	--	<0.5	**63.6**	3.76	<0.5	<0.5	0.52	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
PCPT12	PCPT12-23-27	6/4/2010	23 to 27	-13.5 to -17.5	9.5	897	--	--	7.05	18.1	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	PCPT12-30-35	6/4/2010	30 to 35	-20.5 to -25.5		807	--	--	7.29	18.4	--	<0.5	**6.55**	0.95	<0.5	<0.5	0.06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
Under Powell Street Overpass on East Side of Horton Street																															
PCPT13	PCPT13-28-33	5/15/2015	28 to 33	-15.3 to -20.3	12.7	1,052	0.57	-274	7.5	15.8	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	PCPT13-45-50	5/15/2015	45 to 50	-32.3 to -37.3		839	3.52	-128	7.51	16.2	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
Horton Street																															
H-A	H-A-8-13	8/24/2011	8 to 13	3.4 to -1.6	11.4	424	0.42	158	6.15	21.34	424	3.15	**52.6**	1.14	<0.5	<0.5	0.43	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	1.26 CO	--	--	41.8
	H-A-18-22	8/24/2011	18 to 22	-6.6 to -10.6		1331	3.28	29	6.93	21.02	618	<1	**199**	<1	<1	<1	1.51	<1	<1	<1	<1	<1	<1	<2	<1	<1	ND	0.148 CO	--	--	0.151
	H-A-29-33	8/24/2011	29 to 33	-17.6 to -21.6		(c)						<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	0.054 CO	--	--	<0.050
	H-A-45-50	8/24/2011	45 to 50	-33.6 to -38.6		861	0.31	-49	6.93	19.89	2,000	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.050	--	--	0.171
	H-A-55-60	5/14/2015	55 to 60	-43.6 to -48.6		765	1.35	-232	7.52	18	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
H-B	H-B-12-17	8/24/2011	12 to 17	-0.8 to -5.8	11.2	538	0.40	120	6.74	20.63	5,999	2.02	**27.8**	1.51	<0.5	<0.5	0.24	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.050	--	--	--
	H-B-31-35	8/24/2011	31 to 35	-19.8 to -23.8		689	1.14	-60	7.07	20.27	106	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.050	--	--	--
H-C	H-C-8-13	8/24/2011	8 to 13	3.1 to -1.9	11.1	456	0.32	121	6.32	21.42	266	<10	**1,120**	<10	<10	<10	8.52	<10	<10	<10	<10	<10	<10	<20	<10	<10	ND	0.35 CO	--	--	<0.050
	H-C-21-25	8/24/2011	21 to 25	-9.9 to -13.9		662	0.30	-29	7.16	19.43	5,999	<1	**229**	<1	<1	<1	1.74	<1	<1	<1	<1	<1	<1	<2	<1	<1	ND	--	--	--	--
	H-C-31-35	8/24/2011	31 to 35	-19.9 to -23.9		650	3.68	-28	7.89	19.01	1,335	<0.5	**8.17**	<0.5	<0.5	<0.5	0.06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	H-C-44-48	8/24/2011	44 to 48	-32.9 to -36.9		793	0.47	-80	7.05	19.93	2,000	<2.5	**311**	<2.5	<2.5	<2.5	2.37	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	ND	--	--	--	--
	H-C-55-60	5/14/2015	55 to 60	-43.9 to -48.9		744	0.22	-248	7.23	19.2	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
H-D	H-D-8-13	8/25/2011	8 to 13	3.2 to -1.8	11.2	497	3.22	71	6.83	24.75	135	2.41	**15.0**	0.61	<0.5	<0.5	0.13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.050	--	--	--
	H-D-22-26	8/25/2011	22 to 26	-10.8 to -14.8		631	1.87	9	7.05	23.85	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	H-D-33-37	8/25/2011	33 to 37	-21.8 to -25.8		(c)						<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	H-D-43-47	8/25/2011	43 to 47	-31.8 to -35.8		723	3.63	-27	7.03	28.33	145	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
H-E	H-E-8-13	8/25/2011	8 to 13	3.3 to -1.7	11.3	672	4.09	113	6.79	20.78	444	0.74	**25.4**	3.15	0.79	<0.5	0.24	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.050	--	--	--
	H-E-23-29	8/25/2011	23 to 29	-11.7 to -17.7		625	0.37	-102	7.08	20.74	5,999	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
H-F	H-F-11-16	8/25/2011	11 to 16	0.4 to -4.6	11.4	(c)						<10	**847**	**44.2**	**41.5**	<10	7.33	<10	<10	**24.0**	<10	<10	<10	<20	<10	**1,910**	ND	0.315 CO	--	--	<0.050
	H-F-21-25	8/25/2011	21 to 25	-9.6 to -13.6		(c)						<0.5	**13.8**	3.35	1.66	<0.5	0.16	<0.5	<0.5	1.55	<0.5	<0.5	<0.5	<1	<0.5	49.4	ND	--	--	--	--
	H-F-37-41	8/26/2011	37 to 41	-25.6 to -29.6		642	0.38	-45	6.92	19.11	757	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<0.050	--	--	--
	H-F-55-60	5/14/2015	55 to 60	-43.6 to -48.6		633	1.26	-223	7.47	18.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
MCLs (CCR, 2015)						**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**na**	**1**	**na**	**5**	**6**	**0.5**	**600**	**na**	**150**	**1200**	**na**	**na**	**na**	**na**	**na**

TABLE 4-1a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR VOCs AND TPH FOR GRAB GROUNDWATER SAMPLES
Site B Project Area
Emeryville, California

Sample Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Analytical Results (a,b)																									
						Field Parameters						VOCs (ug/L, unless otherwise specified)																	TPH (mg/L)			
						Conductivity (uS/cm)	DO	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichlorobenzene	Naphthalene	Toluene	Trichlorotrifluoroethane	Other VOCs	TPH-g	TPH Diesel	TPH Motor Oil	TEPH
Horton Street																															
H-G	H-G-18-22	5/5/2015	18 to 22	-6.2 to -10.2	11.83	1448	3.1	-133.6	7.12	19.4	--	<10	**1,440**	**165**	**92.9**	**16.5**	13.9	<10	<10	**18.4**	<10	<10	<10	<20	<10	10.9	ND	490	<51	--	--
	H-G-36-40	5/5/2015	36 to 40	-24.2 to -28.2		622	4.06	-150.5	8.56	19.7	--	<0.5	0.82	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	H-G-60-65	5/5/2015	60 to 65	-48.2 to -53.2		744	0.32	-396.8	7.02	20.4	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	H-G-60-65-DUP	5/5/2015	60 to 65			744	0.32	-396.8	7.02	20.4	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
H-H	H-H-19-24	5/5/2015	19 to 24	-6.8 to -11.8	12.22	(c)						<10	**1,530**	**185**	**123**	**10.6**	15.0	<10	<10	<10	<10	**24.1**	<10	<20	<10	<10	ND	781	403	--	--
	H-H-28-32	5/5/2015	28 to 32	-15.8 to -19.8		1,372	0.16	-402	6.82	22	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	**2.92**	<0.5	<0.5	<0.5	<0.5	<0.5	35.9	<0.5	<0.5	(e)	--	--	--	--
	H-H-42-46	5/6/2015	42 to 46	-29.8 to -33.8		652	0.22	-268.2	7.19	21.3	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
H-I	H-I-22-26	5/6/2015	22 to 26	-9.6 to -13.6	12.44	(c)						<0.5	1.29	2.84	0.52	<0.5	0.04	<0.5	<0.5	<0.5	<0.5	**3.83**	<0.5	<1	<0.5	<0.5	ND	<50	<161	--	--
	H-I-29-33	5/6/2015	29 to 33	-16.6 to -20.6		761	3.9	-166.7	6.92	20.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	H-I-42-46	5/6/2015	42 to 46	-29.6 to -33.6		(c)						<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	H-I-42-46-DUP	5/6/2015	42 to 46			(c)						<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	H-I-58-62	5/8/2015	58 to 62	-45.6 to -49.6		(c)						<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
Emeryville Greenway																															
G1	G1-21-26	5/8/2015	21 to 26	-7.4 to -12.4	13.6	649	0.58	-297	7.22	21.1	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	G1-40-42	5/8/2015	40 to 42	-26.4 to -28.4		666	0.68	-245	7.63	20.7	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	G1-58-62	5/6/2015	58 to 62	-44.4 to -48.4		643	3.22	-132.1	7.29	19.6	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
G4	G4-9-14	5/21/2015	9 to 14	7.5 to 2.5	16.5	972	2.18	16.4	6.79	20	--	<10	**1,230**	**267**	<10	<10	12.1	<10	<10	<10	<10	<10	<20	<10	<10	ND	--	--	--	--
	G4-21-26	5/21/2015	21 to 26	-4.5 to -9.5		1,131	2.31	81	7.26	18.5	--	2.57	**34.7**	5.96	0.81	**1.4**	0.37	**5.99**	1.32	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
G5	G5-9-14	5/21/2015	9 to 14	7.4 to 2.4	16.41	1,113	6.08	185	7.21	20.3	--	1.82	**46.3**	2.04	<0.5	<0.5	0.38	<0.5	0.77	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
G6	G6-30-35	5/21/2015	30 to 35	-13.5 to -18.5	16.54	745	2.3	-119	7.17	18.7	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
G7	G7-11-16	5/21/2015	11 to 16	5.4 to 0.4	16.36	560	4	-148	8.38	19.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	G7-20-25	5/21/2015	20 to 25	-3.6 to -8.6		946	0.18	-148	7.49	17.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
Haruff Street																															
HF1	HF1-10-14	5/12/2015	10 to 14	2.9 to -1.1	12.92	718	0.29	-259	7.01	16.6	--	1.99	**11.3**	1.68	<0.5	<0.5	0.12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	HF1-55-60	5/12/2015	55 to 60	-42.1 to -47.1		768	2.6	-85.1	7.51	22.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
HF2	HF2-10-15	5/12/2015	10 to 15	4.3 to -0.7	14.27	1,135	3.1	-26.5	6.89	17.1	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	HF2-22-26	5/12/2015	22 to 26	-7.7 to -11.7		999	0.08	-393	7.58	18.7	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
5677 Horton Street																															
NM1	NM1-20-25	5/15/2015	20 to 25	-8.6 to -13.6	11.38	1,353	2.68	-90	7.08	16.6	--	<1	**151**	27	4.35	**1.8**	1.50	<1	<1	<1	1.11	**1.24**	<1	<2	<1	<1	ND	--	--	--	--
	NM1-30-35	5/15/2015	30 to 35	-18.6 to -23.6		1,017	2.9	-0.5	7.04	15.1	--	<4,000	**441,000**	<4,000	<4,000	<4,000	3356	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<8,000	<4,000	<4,000	ND	--	--	--	--
	NM1-30-35-DUP	5/15/2015	30 to 35			1,017	2.9	-0.5	7.04	15.1	--	<4,000	**490,000**	<4,000	<4,000	<4,000	3729	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<8,000	<4,000	<4,000	ND	--	--	--	--
	NM1-61-66	5/15/2015	61 to 66	-49.6 to -54.6		684	3.16	75.3	8.12	18.3	--	<0.5	0.75	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
NM2	NM2-20-25	5/15/2015	20 to 25	-8.6 to -13.6	11.37	1,705	3.82	-27	7.03	19	--	<200	**26,200**	<200	<200	<200	199.4	<200	<200	<200	<200	<200	<200	<400	<200	<200	ND	--	--	--	--
	NM2-30-35	5/15/2015	30 to 35	-18.6 to -23.6		857	4.93	46	7.16	19.8	--	<4,000	**437,000**	<4,000	<4,000	<4,000	3326	<4,000	<4,000	<4,000	<4,000	<4,000	<4,000	<8,000	<4,000	<4,000	ND	--	--	--	--
	NM2-61-66	5/15/2015	61 to 66	-49.6 to -54.6		665	4.68	9.5	8.53	19.3	--	<0.5	**43.7**	<0.5	<0.5	<0.5	0.33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
Along East Side of Railroad Tracks																															
OSN1	OSN1-14-19	4/30/2015	14 to 19	-4.4 to -9.4	9.61	744	1.22	-125	6.88	18.5	--	**10.9**	**72.3**	**14.2**	3.23	**5.77**	0.89	<1	<1	1.52	<1	<1	<1	<2	<1	<1	ND	--	--	--	--
	OSN1-30-35	4/30/2015	30 to 35	-20.4 to -25.4		731	0.14	-251	6.97	18.2	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN1-42-46	4/30/2015	42 to 46	-32.4 to -36.4		709	0.31	-326	7.27	21.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN1-55-59	5/19/2015	55 to 59	-45.4 to -49.4		772	2.7	199	7.48	17.6	--	<0.5	<0.5	<0.5	<0.5	**3.17**	0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
OSN2	OSN2-9-14	4/30/2015	9 to 14	0.5 to -4.5	9.54	760	2.22	-173	7.01	18	--	**180**	**199**	**92.2**	**21.6**	<2.5	3.77	<2.5	<2.5	**8.83**	4.03	<2.5	<2.5	<5	<2.5	<2.5	ND	--	--	--	--
	OSN2-18-23	4/30/2015	18 to 23	-8.5 to -13.5		851	3.57	-101.9	7.32	21.3	--	0.64	<0.5	2.61	5.01	<0.5	0.08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN2-28-32	5/1/2015	28 to 32	-18.5 to -22.5		751	0.16	-473	7.02	20.1	--	1.88	<0.5	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN2-56-60	4/29/2015	56 to 60	-46.5 to -50.5		738	0.43	-218	7.05	21.2	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
OSN3	OSN3-8-13	4/29/2015	8 to 13	1.5 to -3.5	9.47	778	4.52	-118	7.13	20	--	**628**	**66.0**	**176**	**18.0**	<5	6.29	<5	<5	**32.8**	**6.61**	<5	<5	<10	<5	<5	ND	--	--	--	--
	OSN3-30-34	5/1/2015	30 to 34	-20.5 to -24.5		847	0.41	-341	7.05	19.2	--	**1,950**	**26.0**	**42.8**	<20	<20	12.4	<20	<20	<20	<20	<20	<20	<40	<20	<20	ND	--	--	--	--
	OSN3-56-60	5/19/2015	56 to 60	-46.5 to -50.5		735	2.23	-135	7.35	17.8	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
OSN4	OSN4-11-15	4/28/2015	11 to 15	-1.3 to -5.3	9.66	(c)						**2,980**	**389**	**183**	**61.1**	<25	23.4	<25	<25	**25.4**	<25	<25	<25	<50	<25	<25	ND	--	--	--	--
	OSN4-30-34	4/28/2015	30 to 34	-20.3 to -24.3		1,104	4.82	-56	7.64	19	--	4.34	1.17	5.26	1.01	<0.5	0.10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN4-30-34-DUP	4/28/2015	30 to 34			1,104	4.82	-56	7.64	19	--	4.47	1.26	4.88	0.89	<0.5	0.10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN4-30-34	5/1/2015	30 to 34	-20.3 to -24.3		848	0.38	-344	7.16	18.9	--	**394**	**9.02**	**13.9**	3.02	<2.5	2.62	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	ND	--	--	--	--
	OSN4-56-60	4/28/2015	55 to 60	-46.3 to -50.3		852	0.17	-495	7.3	20.4	--	<0.5	**10.9**	2.79	2.87	<0.5	0.14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN4-78-82	4/28/2015	78 to 82	-68.3 to -72.3		993	0.3	-392	7.54	21	--	<0.5	**45.1**	**19.3**	**11.2**	**1.54**	0.68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
					MCLs (CCR, 2015)	**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**na**	**1**	**na**	**5**	**6**	**0.5**	**600**	**na**	**150**	**1200**	**na**	**na**	**na**	**na**	**na**

TABLE 4-1a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR VOCs AND TPH FOR GRAB GROUNDWATER SAMPLES
Site B Project Area
Emeryville, California

Sample Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevation (ft msl)	Analytical Results (a,b)																									
						Field Parameters						VOCs (ug/L, unless otherwise specified)																	TPH (mg/L)			
						Conductivity (uS/cm)	DO	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichlorobenzene	Naphthalene	Toluene	Trichlorotrifluoroethane	Other VOCs	TPH-g	TPH Diesel	TPH Motor Oil	TEPH
Along East Side of Railroad Tracks																															
OSN5	OSN5-10-15	5/1/2015	10 to 15	-0.4 to -5.4	9.63	1,365	4.19	-12.1	6.95	17.1	--	**399**	**1,700**	**281**	**131**	**63.5**	20.6	<10	<10	**173**	**51.4**	<10	<10	<20	<10	<10	ND	--	--	--	--
	OSN5-22-27	5/1/2015	22 to 27	-12.4 to -17.4		854	0.14	-523	7.02	17.6	--	**820**	<10	<10	<10	<10	4.94	<10	<10	<10	<10	<10	<10	<20	<10	<10	ND	--	--	--	--
	OSN5-30-35	5/1/2015	30 to 35	-20.4 to -25.4		(c)						**267**	**9.12**	2.71	<2.5	<2.5	1.71	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	ND	--	--	--	--
	OSN5-56-61	5/19/2015	56 to 61	-46.4 to -51.4		780	2.43	-160	7.42	15.9	--	**5.62**	2.42	<0.5	0.56	<0.5	0.06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
OSN6	OSN6-10-15	5/11/2015	10 to 15	3 to -2	13	1,318	1.53	-45	7.12	22.4	--	<10	**1,390**	**180**	**76.0**	**16.5**	13.5	<10	<10	**29.5**	<10	<10	<10	<20	<10	<10	ND	--	--	--	--
	OSN6-18-23	5/11/2015	18 to 23	-5 to -10		1,312	1.01	-211	6.89	18.2	--	<50	**4,260**	**634**	**169**	<50	40.7	<50	<50	<50	<50	<50	<50	<100	<50	<50	ND	--	--	--	--
	OSN6-31-35	5/11/2015	31 to 35	-18 to -22		899	0.39	-276	7.24	18.7	--	<0.5	1.13	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN6-31-35-DUP	5/11/2015	31 to 35			899	0.39	-276	7.24	18.7	--	<0.5	0.74	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
OSN7	OSN7-14-19	5/7/2015	14 to 19	-0.9 to -5.9	13.1	(c)						<2.5	**300**	**102**	**64.5**	**19.4**	4.31	<2.5	<2.5	**70.6**	2.81	<2.5	3.09	<5	<2.5	<2.5	ND	--	--	--	--
	OSN7-29-34	5/7/2015	29 to 34	-15.9 to -20.9		632	0.13	-433	9.08	20.3	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN7-52-56	5/7/2015	52 to 56	-38.9 to -42.9		685	0.45	-241	7.5	20.1	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
OSN8	OSN8-18-23	5/8/2015	18 to 23	-5.2 to -10.2	12.82	(c)						<50	**7,280**	**479**	**88.0**	<50	61.3	<50	<50	<50	<50	<50	<50	<100	<50	<50	ND	--	--	--	--
	OSN8-30-34	5/7/2015	30 to 34	-17.2 to -21.2		787	0.78	-277	7.1	19	--	<0.5	0.80	<0.5	<0.5	<0.5	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	OSN8-52-56	5/7/2015	52 to 56	-39.2 to -43.2		699	0.43	-276	7.47	19.6	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
Peladeau Street																															
P2	P2-18-23	5/12/2015	18 to 23	-3.2 to -8.2	14.84	880	0.6	-265	7.29	20.4	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	P2-28-32	5/13/2015	28 to 32	-13.2 to -17.2		840	0.2	-212.3	7.41	19.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	P2-28-32-DUP	5/13/2015	28 to 32			840	0.2	-212.3	7.41	19.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
P3	P3-9-14	5/12/2015	9 to 14	6.0 to 1.0	15	(c)						<0.5	**3.77**	5.72	0.56	<0.5	0.09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	P3-20-24	5/12/2015	20 to 24	-5.0 to -9.0		697	2.23	-53.2	7.72	19	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
P4	P4-10-15	5/12/2015	10 to 15	5.1 to 0.1	15.07	624	3.45	-16.3	7.22	18.9	--	1.26	1.58	<0.5	<0.5	<0.5	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	P4-19-24	5/12/2015	19 to 24	-3.9 to -8.9		687	0.44	-253	7.26	20.3	--	<0.5	**42.2**	<0.5	<0.5	<0.5	0.32	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
P5	P5-9-14	5/13/2015	9 to 14	6.1 to 1.1	15.13	(c)						4.93	1.84	<0.5	<0.5	<0.5	0.04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	<50	<238	--	<238
	P5-18-23	5/13/2015	18 to 23	-2.9 to -7.9		656	0.58	-148	7.08	20.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	P5-18-23-DUP	5/13/2015	18 to 23			656	0.58	-148	7.08	20.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
	P5-38-42	5/13/2015	38 to 42	-22.9 to -26.9		751	0.14	-309	7.21	20.3	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	ND	--	--	--	--
MCLs (CCR, 2015)						**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**na**	**1**	**na**	**5**	**6**	**0.5**	**600**	**na**	**150**	**1200**	**na**	**na**	**na**	**na**	**na**

Abbreviations:

"--" = not analyzed
>4,000 = Greater than stated concentration
<0.5 = Not detected above the stated laboratory reporting limit
CCR = California Code of Regulations
CO = Hydrocarbon response in gasoline range but does not resemble gasoline
CVOCs = Chlorinated Volatile Organic Compounds
DO = Dissolved Oxygen
ft bgs = feet below ground surface
ft msl = feet above mean sea level
MCLs = California Department of Public Health Maximum Contaminant Levels
mg/L = milligrams per liter
mV = millivolts
na = not available
uS/cm = microsiems per centimeter
TEPH - total extractable petroleum hydrocarbons
TPH-g - total petroleum hydrocarbons, gasoline range
ug/L = micrograms per liter
uS/cm = microsiems per centimeter
V = The reported concentrations may be partially or completely representative of VOCs
VOCs = Volatile Organic Compounds

Notes:

(a) Groundwater samples were selectively analyzed for one or more of the following chemical analytes using the following methods:
TPH-g (C6-C11) using EPA Method 8015 (modified) by K-Prime and TPH-g (C7-C12) using EPA Method 8015B by Curtis & Tompkins;
TEPH (C11-C36) with silica gel cleanup using EPA Method 8015 (modified); and
VOCs using EPA Methods 8260B.
Analyses were performed by 1) K-Prime, Inc., Santa Rosa, California, 2) Curtis & Tompkins, Berkeley, California, and 3) Calscience Environmental Laboratories, Inc., Garden Grove, California.
(b) Concentrations that exceed the Site B groundwater remedial goals for groundwater samples collected at Site B are shown in **bold**. Concentrations that exceed the MCLs for groundwater samples collected at locations not at Site B are shown in **bold**.
(c) Field parameters were not collected at certain sampling intervals at certain locations due to lack of sufficient water.
(d) PCPT5-20-24 was previously incorrectly listed by the analytical laboratory as PCPT5-20-29.
(e) Other VOCs detected in sample H-H-28-32 were 1,2,4-Trimethylbenzene at 15.9 ug/L, 1,3,5-Trimethylbenzene at 4.58 ug/L, O-Xylene at 5.12 ug/L, Xylenes, M & P at 15 ug/L, n-Butylbenzene at 2.14 ug/L, n-Propylbenzene at 1.82 ug/L, and sec-Butylbenzene at 1.09 ug/L.

References:

(1) EKI, 2013. *Final Remedial Action Plan Amendment and Remedial Design and Implementation Plan for Shallow Groundwater*, Site B Project Area, Emeryville, California, June 2013.
(2) CCR, 2015. California Maximum Contaminant Levels, Title 22, California Code of Regulations, 23 September 2015.

TABLE 4-1b
SUMMARY OF ANALYTICAL RESULTS FOR DISSOLVED TITLE 22 METALS FOR GRAB GROUNDWATER SAMPLES
Site B Project Area
Emeryville, California

Sample Location	Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Elevation (ft msl)	Ground Surface Elevations (ft msl)	Analytical Results (a,b)																	
						Title 22 Metals (ug/L) (c)																	Hexavalent Chromium
						Antimony, dissolved	Arsenic, dissolved	Barium, dissolved	Beryllium, dissolved	Cadmium, dissolved	Chromium, dissolved	Cobalt, dissolved	Copper, dissolved	Lead, dissolved	Mercury, dissolved	Molybdenum, dissolved	Nickel, dissolved	Selenium, dissolved	Silver, dissolved	Thallium, dissolved	Vanadium, dissolved	Zinc, dissolved	
Emeryville Greenway																							
G4	G4-9-14	5/21/2015	9 to 14	7.5 to 2.5	16.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**48,600**
	G4-21-26	5/21/2015	21 to 26	-4.5 to -9.5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**73,300**
G5	G5-9-14	5/21/2015	9 to 14	7.4 to 2.4	16.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**39,700**
Horton Street																							
H-A	H-A-8-13	8/24/2011	8 to 13	3.4 to -1.6	11.4	<1	<1	85	<1	<1	**323**	1.73	5.01	<1	<0.2	2.69	24.8	<1	<1	<1	<1	6.09	**339**
	H-A-18-22	5/15/2015	18 to 22	-6.6 to -10.6		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
H-B	H-B-12-17	8/24/2011	12 to 17	-0.8 to -5.8	11.2	<1	<1	94.2	<1	<1	**360**	<1	2.99	<1	<0.2	1.07	6.81	<1	<1	<1	<1	1.92	**399**
H-C	H-C-8-13	8/24/2011	8 to 13	3.1 to -1.9	11.1	<1	<1	111	<1	1.58	19.1	3.14	3.38	<1	<0.2	2.97	24.8	<1	<1	<1	<1	5.78	24
H-D	H-D-8-13	8/25/2011	8 to 13	3.2 to -1.8	11.2	<1	<1	123	<1	<1	23.9	1.19	1.21	<1	<0.2	2.52	8.79	<1	<1	<1	<1	3.3	21.7
H-E	H-E-8-13	8/25/2011	8 to 13	3.3 to -1.7	11.3	<1	<1	130	<1	<1	<1	3.25	1.45	<1	<0.2	11	5.2	<1	<1	<1	<1	<1	0.445
H-F	H-F-11-16	5/15/2015	11 to 16	0.4 to -4.6	11.4	1.31	<1	66	<1	<1	<1	3.34	1.26	<1	<0.2	21.3	7.49	<1	<1	<1	1.5	8.82	--
H-G	H-G-18-22	5/5/2015	18 to 22	-6.2 to -10.2	11.8	<1	<1	86.7	<1	<1	<1	4.95	<1	<1	<0.2	12.4	11.1	<1	<1	<1	1.22	13	--
H-H	H-H-19-24	5/5/2015	19 to 24	-6.8 to -11.8	12.2	<1	<1	127	<1	<1	<1	17.4	1.36	<1	<0.2	25.5	16.6	<1	<1	<1	<1	13.4	--
H-I	H-I-22-26	5/6/2015	22 to 26	-9.6 to -13.6	12.4	<1	<1	181	<1	<1	<1	3	1.19	<1	<0.2	56.4	1.57	<1	<1	<1	<1	6.44	--
Haruff Street																							
HF1	HF1-10-14	5/12/2015	10 to 14	2.9 to -1.1	12.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.25
HF2	HF2-10-15	5/12/2015	10 to 15	4.3 to -0.7	14.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
Along UPRR Tracks																							
OSN1	OSN1-14-19	4/30/2015	14 to 19	-4.4 to -9.4	9.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**292**
	OSN1-30-35	4/30/2015	30 to 35	-20.4 to -25.4		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
OSN2	OSN2-9-14	4/30/2015	9 to 14	0.5 to -4.5	9.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
	OSN2-18-23	4/30/2015	18 to 23	-8.5 to -13.5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
	OSN2-28-32	5/1/2015	28 to 32	-18.5 to -22.5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
Peladeau Street																							
P2	P2-18-23	5/12/2015	18 to 23	-3.2 to -8.2	14.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
P3	P3-9-14	5/12/2015	9 to 14	6.0 to 1.0	15.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
	P3-20-24	5/12/2015	20 to 24	-5.0 to -9.0		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
P4	P4-10-15	5/12/2015	10 to 15	5.1 to 0.1	15.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19.5
	P4-19-24	5/12/2015	19 to 24	-3.9 to -8.9		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
P5	P5-18-23	5/13/2015	18 to 23	-2.9 to -7.9	15.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
	P5-18-23-DUP	5/13/2015	18 to 23	-2.9 to -7.9		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2
MCLs (CCR, 2015)						**6**	**10**	**1,000**	**4**	**5**	**50**	**na**	**1,300**	**15**	**2**	**na**	**100**	**50**	**na**	**2**	**na**	**na**	**100**

TABLE 4-1b
SUMMARY OF ANALYTICAL RESULTS FOR DISSOLVED TITLE 22 METALS FOR GRAB GROUNDWATER SAMPLES
Site B Project Area
Emeryville, California

Abbreviations:
"--" = not analyzed
<0.5 = Not detected above the stated laboratory reporting limit
ft bgs = feet below ground surface
ft msl = feet above mean sea level
MCLs = California Department of Public Health Maximum Contaminant Levels
na = not available
ug/L = micrograms per liter

Notes:
(a) Groundwater samples were selectively analyzed for the following analytes using the following methods:
Title 22 Metals (dissolved) using EPA Method 200.8/245.1; and
Hexavalent Chromium (dissolved) using EPA Method 7199.
Analyses were performed by K-Prime, Inc., Santa Rosa, California.
(b) Detected concentrations that exceed the MCLs are in **bold**.
(c) Dissolved samples were either filtered through a 0.45 micrometer filter in the field or filtered by the analytical laboratory.

References:
(1) CCR, 2015. California Maximum Contaminant Levels, Title 22, California Code of Regulations, 23 September 2015.

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																						
												VOCs (ug/L, unless otherwise specified)																						
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
Site B Groundwater Monitoring Wells - S10 Unit (c)																																	
BMW01	BMW01	3/18/2010	9 to 14	-0.6 to -5.6	1,237	0.24	63.4	6.88	17.1	2.78	5.31	**905**	**4320**	**840**	**124**	**50.1**	49	<40	<40	<40	<40	<40	<40	<40	<40	<40	<800	<40	<40	<40	<40	<40	ND
	BMW01	10/21/2010			1,125	0.77	35.5	6.83	20.7	13	--	**874**	**3280**	**948**	**129**	**70.9**	42	<25	<25	<25	<25	<25	<25	**79.6**	**34.8**	<25	--	<25	<25	<25	<25	<25	ND
	BMW01	12/20/2010			1,101	0.26	12	7.63	18.27	24.4	5.27	**952**	**3680**	**703**	**150**	**61.5**	44	<25	<25	<25	<25	<25	<25	**36.6**	<25	<25	--	<25	<25	<25	<25	<25	ND
	BMW01	2/16/2011			1,241	0.13	-188.1	6.89	16.28	5.41	--	<40	<40	**4640**	**161**	**72.5**	51	<40	<40	<40	<40	<40	<40	**40.6**	<40	<40	--	<40	<40	<40	<40	<40	ND
	BMW01	3/16/2011			1,175	0.19	-150	6.74	16.56	0	6.47	<25	**55.8**	**4080**	**162**	**70.8**	45	<25	<25	<25	<25	<25	<25	**28.3**	<25	<25	--	<25	<25	<25	<25	<25	ND
	BMW01	4/19/2011			1,168	0.17	-158	6.66	17.52	3.7	5.22	<40	<40	**4170**	**146**	**99.9**	46	<40	<40	<40	<40	<40	<40	<40	<40	<40	--	<40	<40	<40	<40	<40	ND
	BMW01	5/19/2011			1,247	0.12	-169	6.72	17.75	2.6	5.52	<25	**35.9**	**4000**	**143**	**132**	45	<25	<25	<25	<25	<25	<25	**31.9**	<25	<25	--	<25	<25	<25	<25	<25	ND
	BMW01	8/4/2011			1,220	0.17	-110	6.82	20.36	5.1	5.37	<10	**16.2**	**2190**	**15.9**	**305**	28	<10	<10	<10	15.6	<10	<10	**13.0**	**16.7**	<10	--	<10	<10	<10	<10	<10	ND
	BMW01	9/28/2011			2,760	0.12	-125	5.5	23	42.4	1,280	<20	**102**	**3030**	**88.3**	**255**	37	<20	<20	<20	<20	<20	<20	**29.0**	<20	<20	--	<20	<20	<20	<20	<20	ND
	BMW01	11/14/2011			2,830	0.09	-125	5.54	20.98	125	1,190	<10	**51.7**	**1130**	**51.3**	**103**	14.2	<10	<10	<10	<10	<10	<10	**17.5**	<10	<10	--	<10	<10	<10	<10	<10	ND
	BMW01	2/6/2012			3,020	0.18	-131	6.49	17.01	146	297	<0.5	1.11	**26.2**	5.64	**5.6**	0.43	0.66	1.33	<0.5	4.85	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	13.7	<0.5	4.78	ND
	BMW01	5/11/2012			3,210	0.09	-146	6.83	18.71	301	--	<0.5	<0.5	1.86	1.11	**1.49**	0.054	<0.5	1.11	<0.5	6.61	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	7.79	<0.5	3.36	ND
	BMW01	2/20/2013			1,301	0.16	-202	6.58	17.76	37.1	17	<2	<2	**117**	<2	**242**	5.1	<2	<2	<2	7.46	<2	<2	**22.4**	<2	<2	--	<2	<2	17.4	<2	<2	ND
	BMW01	10/7/2013			2,280	0.74	-243	6.8	22.14	160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW01	2/5/2014			2,300	0.64	-145	6.89	17.37	67.4	12.9	<0.5	<0.5	1.44	0.98	**0.57**	0.034	<0.5	2.15	<0.5	7.89	<0.5	<0.5	1.5	<0.5	<0.5	--	<0.5	<0.5	3.2	<0.5	1.43	ND
	BMW01	4/30/2014			2,130	0.42	-122	6.73	19.5	42.2	7.74	<0.5	<0.5	0.78	<0.5	**1.02**	0.024	<0.5	3.42	<0.5	5.38	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	6.11	<0.5	0.63	ND
	BMW01	8/18/2014			2,390	0.25	-128.6	6.80	21.90	1.9	10.6	<0.5	<0.5	0.85	<0.5	**0.72**	0.020	<0.5	3.68	<0.5	4.34	<0.5	0.98	<0.5	<0.5	<0.5	--	<0.5	<0.5	2.43	<0.5	<0.5	ND
	BMW01	11/20/2014			2,354	0.06	-119	6.59	21.40	4.3	7.5	<0.5	<0.5	0.80	<0.5	**0.68**	0.019	<0.5	5.74	<0.5	6.44	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	1.6	<0.5	<0.5	ND
	BMW01	7/27/2015			1,640	0.10	-106	6.65	23.04	5.3	6.77	<2	<2	<2	<2	**219**	3.5	<2	8.02	<2	7.31	<2	<2	**16.2**	<2	<2	--	<2	<2	6.52	<2	<2	ND
BMW02	BMW02	3/18/2010	3.5 to 11	5.3 to -2.2	3,303	0.36	44.1	7.20	16.8	5.53	14.9	<0.5	<0.5	**37.2**	1.01	**129**	2.5	0.61	<0.5	<0.5	<0.5	<0.5	<0.5	**4.35**	<0.5	<0.5	17.7	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	10/20/2010			3,888	0.68	-17.2	7	21.1	13	--	<1	<1	**15.7**	1.94	**140**	2.4	<1	<1	<1	<1	<1	<1	**12.7**	<1	<1	--	<1	<1	<1	<1	<1	ND
	BMW02 DUP	10/20/2010									--	<1	<1	**16.2**	1.49	**155**	2.7	<1	<1	<1	<1	<1	<1	**5.22**	<1	<1	--	<1	<1	<1	<1	<1	ND
	BMW02	2/15/2011			2,612	0.52	--	7.04	16.73	2.42	--	<2	<2	**15.2**	<2	**240**	4.0	<2	<2	<2	<2	<2	<2	**12.7**	<2	<2	--	<2	<2	<2	<2	<2	ND
	BMW02 DUP	2/15/2011									--	<2	<2	**14.9**	<2	**269**	4.5	<2	<2	<2	<2	<2	<2	**14.0**	<2	<2	--	<2	<2	<2	<2	<2	ND
	BMW02	5/18/2011			2,910	0.11	-4	6.99	18.6	0.6	--	<0.5	**29.6**	**48.5**	2.81	**14.8**	0.99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.86	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	8/4/2011			2,690	0.21	-34	7.02	21.39	5.0	--	<0.5	**19.6**	**43.5**	0.81	**7.41**	0.72	0.60	<0.5	<0.5	<0.5	<0.5	<0.5	1.08	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02 DUP	8/4/2011									--	<0.5	**18.6**	**41.8**	0.78	**6.61**	0.69	**0.74**	<0.5	<0.5	<0.5	<0.5	<0.5	0.98	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	11/16/2011			2,210	0.21	-4	6.98	21.01	0.2	--	<0.5	**9.87**	**30.1**	3.68	**3.61**	0.48	0.70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	2/3/2012			2,070	0.15	-11	7.40	17.27	0	--	<0.5	**7.76**	**37.8**	2.64	**2.63**	0.52	**1.38**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	5/11/2012			2,010	0.14	-46	7.14	18.05	0	--	<0.5	**3.03**	**21.0**	2.03	**1.37**	0.28	**1.01**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	2/20/2013			2,060	0.2	-49	6.99	16.56	1	5.94	<0.5	**4.78**	**34.9**	1.2	**4.72**	0.48	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02-DUP	2/20/2013									--	<0.5	**6.29**	**42.0**	3.2	**5.16**	0.60	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	10/9/2013			1,800	0.35	-251	7.05	22.84	32.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW02	1/31/2014			2,030	0.32	-109	7.03	18.13	99	7.77	<0.5	<0.5	3.05	0.62	<0.5	0.038	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	5/1/2014			2,200	2.5	-91	6.99	19.45	23	10.0	<0.5	<0.5	1.66	0.60	**2.85**	0.069	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	8/15/2014			2,015	0.77	-48.7	6.96	24.1	1	7.31	<0.5	<0.5	1.25	<0.5	**0.54**	0.022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	11/19/2014			2,194	0.16	-66.1	6.99	21.50	1.9	6.91	<0.5	<0.5	1.06	<0.5	**0.95**	0.026	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW02	8/11/2015			1,937	--	--	6.96	22.9	2.3	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<2	<0.5	<1	<0.5	<0.5	ND
	BMW02-DUP	8/11/2015									--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<2	<0.5	<1	<0.5	<0.5	ND
BMW03	BMW03	3/18/2010	11.5 to 16.5	-3.7 to -8.7	1,194	0.29	100	6.86	17.1	0.56	4.97	**1,050**	**3290**	**724**	**106**	**52.2**	41	<20	<20	<20	<20	<20	<20	**35.4**	**22.4**	<20	<400	<20	<20	<20	<20	<20	ND
	BMW03	10/21/2010			1,239	0.7	41.2	6.80	20.9	5	--	**760**	**2330**	**488**	**105**	**48.4**	29	<20	<20	<20	<20	<20	<20	**42.0**	**38.7**	<20	--	<20	<20	<20	<20	<20	ND
	BMW03	12/20/2010			1,020	0.26	0	7.63	18.16	2	4.79	**1,090**	**2450**	**572**	**116**	**50.8**	33	<20	<20	<20	<20	<20	<20	**57.2**	**36.2**	<20	--	<20	<20	<20	<20	<20	ND
	BMW03	2/16/2011			3,290	0.09	-242	6.14	16.7	16.4	--	<40	<40	**5120**	**153**	**194**	57	<40	<40	<40	<40	<40	<40	**42.8**	<40	<40	--	<40	<40	<40	<40	<40	ND
	BMW03	3/16/2011			2,940	1.01	-179	6.36	16.04	9.1	118	<25	<25	**3530**	**99.4**	**142**	40	<25	<25	<25	<25	<25	<25	**34.7**	<25	<25	--	<25	<25	<25	<25	<25	ND
	BMW03	4/19/2011			3,510	0.22	-477	6.30	17.81	14.6	102	**1.47**	1.38	**98.5**	**34.5**	**43.3**	2.1	<0.50	0.94	<0.50	7.15	<0.50	<0.50	**25.6**	<0.50	<0.50	--	<0.50	1.54	<0.50	<0.50	<0.50	ND
	BMW03	5/19/2011			5,910	0.06	-538	6.27	17.63	13.2	128	<2	**26.6**	**140**	**18.8**	**22.5**	2.2	<2	<2	<2	2.58	<2	<2	**14.9**	<2	<2	--	<2	<2	<2	<2	<2	ND
	BMW03	8/4/2011			3,360	0.33	-132	6.38	19.62	13.8	569	<1	<1	<1	1.05	<1	0.011	<1	1.35	<1	8.34	<1	1.5	**9.91**	<1	<1	--	<1	<1	<1	<1	<1	ND
	BMW03	9/28/2011			4,850	0.06	-531	6.68	23.68	314	529	<0.5	1.1	**8.08**	2.55	**3.14**	0.17	<0.5	0.55	<0.5	2.7	<0.5	<0.5	**3.77**	<0.5	<0.5	--	<0.5	<0.5	8.53	<0.5	<0.5	ND
	BMW03	11/15/2011			5,070	0.02	-406	6.64	21.7	138	--	<2.5	**13.3**	**6.73**	<2.5	<2.5	0.17	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	BMW03	2/6/2012			3,610	0.04	-495	6.69	16.92	99	56.3	<0.5	1.01	1.81	0.61	**1.37**	0.055	<0.5	0.59	<0.5	2.56	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	5.19	<0.5	7.55	ND
	BMW03	5/11/2012			3,080	0.08	-152	6.81	18.74	104	--	<1	<1	1.99	<1	<1	0.021	<1	<1	<1	4.51	<1	<1	<1	<1	<1	--	<1	<1	6.36	<1	8.47	ND
	BMW03	2/15/2013			3,070	0.18	-112	6.70	18.04	38	6.15	<0.5	<0.5	1.10	0.60	**1.04**	0.034	<0.5	1.73	<0.5	1.98	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	3.62	<0.5	<0.5	ND
	BMW03	10/7/2013			2,780	0.47	-189	6.48	21.92	179	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	2/5/2014			4,180	0.68	-164	7.05	17.60	345	614	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	ND
	BMW03	4/30/2014			4,440	0.34	-143	6.97	20.19	620	74.1	<0.5	<0.5	0.81	<0.5	<0.5	0.008	<0.5	0.71	<0.5	2.89	<0.5	0.57	<0.5	<0.5	<0.5	--	<0.5	<0.5	1.96	<0.5	1.73	ND
	BMW03	8/18/2014			4,449	0.50	-116.6	6.96	22.00	53.9	55.6	<0.5	0.53	1.41	<0.5	**0.54**	0.027	<0.5	<0.5	<0.5	1.98	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	1.03	<0.5	1.92	ND
	BMW03	11/20/2014			5,244	0.09	-116	6.77	21.2	51	16	<0.5	<0.5	1.18	<0.5	**3.19**	0.063	<0.5	0.62	<0.5	2.7	<0.5	0.57	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	0.88	ND
	BMW03	7/27/2015			1,690	0.09	-106	6.62	23.46	49.7	7.30	<0.5	<0.5	0.590	<0.5	**3.55**	0.063	<0.5	5.76	<0.5	3.86	<0.5	1.03	<0.5	<0.5	<0.5	--	<0.5	<0.5	6.19	<0.5	0.61	ND
Site B Groundwater Remedial Goals (EKI, 2013)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.3**	**1.5**	**6**	**10**	**0.5**	**na**	**0.71**	**70**	**na**	**na**	**na**	**na**	**3.4**	**6**	**na**	**79**	**na**	**na**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																						
												VOCs (ug/L, unless otherwise specified)																						
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
Site B Groundwater Monitoring Wells - S10 Unit (c)																																	
BMW04	BMW04	3/18/2010	8 to 12	0.8 to -3.2	1,100	0.22	66.6	6.78	16.8	0.15	4.11	**1,780**	**545**	**316**	**38.6**	**36.8**	19.1	<10	<10	<10	43	<10	<10	**123**	**64.9**	<10	<200	<10	<10	<10	<10	<10	ND
	BMW04	10/21/2010			1,023	0.29	68.6	6.87	21.4	4	--	**1,250**	**266**	**602**	**40.8**	**33.2**	16.7	<10	<10	<10	34	<10	<10	**232**	**76.3**	<10	--	<10	<10	<10	<10	<10	ND
	BMW04	2/16/2011			998	0.1	17.2	6.82	16.6	1.89	--	**1,330**	**367**	**273**	**41.2**	**41.9**	14.7	<10	<10	<10	49.7	<10	<10	**124**	**65.8**	<10	--	<10	<10	<10	<10	<10	ND
	BMW04	5/19/2011			1,120	0.1	-164	6.8	17.84	0.1	--	**1,470**	**617**	**360**	**65.2**	**45.7**	18.7	<10	<10	<10	51.3	<10	11.1	**90.7**	**45.0**	<10	--	<10	<10	<10	<10	<10	ND
	BMW04	8/2/2011			1,050	0.11	81	6.80	20.76	0.4	--	**2,020**	**672**	**369**	**64.6**	**42.2**	22	<10	<10	<10	62.7	<10	<10	**88.2**	**44.2**	<10	--	<10	<10	<10	<10	<10	ND
	BMW04	11/15/2011			909	0.11	-266	6.72	20.35	28.2	--	**44.7**	**54.6**	**1250**	**57.5**	**70.0**	15.3	<10	<10	<10	25.0	<10	<10	**96.5**	**44.0**	<10	--	<10	<10	<10	<10	<10	ND
	BMW04	2/7/2012			914	0.14	-254	6.62	16.28	21.8	5.68	**12.1**	**27.6**	**964**	**30.9**	**157**	13.1	<5	<5	<5	31.3	<5	6.44	**98.8**	**30.4**	<5	--	<5	<5	<5	<5	<5	ND
	BMW04	5/10/2012			987	0.14	-188	6.77	17.75	13.5	--	<20	<20	**2170**	**44.3**	**319**	28	<20	<20	<20	22.2	<20	<20	**109**	**38.6**	<20	--	<20	<20	<20	<20	<20	ND
	BMW04	2/19/2013			859	1.59	-94	6.78	15.68	0.6	3.8	**206**	**171**	**912**	**31.4**	**60.2**	13.2	<5	<5	<5	48.6	<5	8.95	**79.4**	**36.4**	<5	--	<5	<5	<5	<5	<5	ND
	BMW04	10/8/2013			2,810	0.67	-172	6.34	22.1	309	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW04	2/5/2014			2,950	0.65	-130	6.91	17.11	154	45.6	<0.5	0.63	2.15	**2.9**	**0.95**	0.072	<0.5	2.52	<0.5	36.6	1.31	6.28	2.62	<0.5	<0.5	--	<0.5	1.33	26.3	1.44	<0.5	ND
	BMW04	4/29/2014			2,540	0.23	-136	6.64	18.94	37.6	73.8	0.88	0.55	**7.32**	1.35	**6.03**	0.20	<0.5	2.15	<0.5	35.9	1.12	6.09	2.66	<0.5	<0.5	--	<0.5	1.06	29.0	1.38	0.69	ND
	BMW04	8/12/2014			2,300	0.36	-133	6.83	22.51	1.7	52.1	<0.5	0.55	**18.0**	1.28	**21.1**	0.54	<0.5	1.97	<0.5	31.1	1.13	5.59	**4.46**	<0.5	<0.5	--	<0.5	0.930	26.8	1.24	2.35	ND
	BMW04	11/18/2014			1,935	0.40	-89	6.73	21.80	21.4	12.4	<0.5	<0.5	**28.6**	1.26	**66.1**	1.4	<0.5	2.43	<0.5	36.5	1.06	6.69	**7.54**	<0.5	<0.5	--	<0.5	0.780	16.7	1.26	2.54	ND
	BMW04	7/27/2015			1,080	0.14	-85	6.59	23.25	13.5	3.70	<5	<5	**61.2**	<5	**760**	12.8	<5	<5	<5	28.3	<5	5.37	**40.7**	<5	<5	--	<5	<5	<5	<5	<5	ND
BMW05	BMW05	3/18/2010	12 to 18	-3.5 to -9.5	913	0.36	28.5	6.33	18.8	51.8	3.59	**440**	**1510**	**368**	**87.9**	**26.6**	19.3	<10	<10	<10	<10	<10	<10	**26.6**	**13.5**	<10	<200	<10	<10	<10	<10	<10	ND
	BMW05	10/20/2010			817	0.56	3.3	6.33	20.8	13	--	**340**	**1480**	**339**	**138**	**31.6**	18.7	<10	<10	<10	<10	<10	<10	**49.3**	**15.9**	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	2/16/2011			914	0.1	-257	6.56	17.56	31.7	--	**55.8**	**265**	**1830**	**170**	**22.2**	23	<10	<10	<10	<10	<10	<10	**29.9**	**15.5**	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	3/16/2011			845	0.29	-165	6.45	17.22	948	3.80	**49**	**246**	**1640**	**218**	**26.4**	22	<10	<10	<10	<10	<10	<10	**24.1**	**14.7**	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	4/20/2011			904	0.18	-214	6.34	17.89	7.7	3.34	**39**	**109**	**1710**	**199**	**31.0**	21	<10	<10	<10	<10	<10	<10	**24.0**	**12.6**	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	5/19/2011			1198	0.13	-172	6.43	18.14	3.5	3.80	**35**	**152**	**2150**	**300**	**47.1**	27	<10	<10	<10	<10	<10	<10	**26.0**	**12.7**	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	8/2/2011			1740	0.15	-92	6.35	20.39	1.3	--	**35.8**	**147**	**1550**	**259**	**63.3**	21	<10	<10	<10	<10	<10	<10	**18.4**	<10	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	9/28/2011			3,000	0.15	-225	6.27	22.07	0	3.04	**6.3**	**25.9**	**1170**	**122**	**78.8**	14.8	<5	<5	<5	<5	<5	<5	**13.8**	**9.92**	<5	--	<5	<5	<5	<5	<5	ND
	BMW05	11/16/2011			4,090	0.16	-41	6.01	20.21	1.7	--	<10	**125**	**907**	**165**	**66.1**	13.1	<10	<10	<10	<10	<10	<10	**14.7**	<10	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	2/7/2012			2,340	1.78	8	6.08	17.46	0	--	**18.6**	**109**	**1250**	**250**	**102**	18.0	<10	<10	<10	<10	<10	<10	**18.6**	<10	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	5/11/2012			1,325	0.13	-29	6.36	18.2	31.3	--	**15.5**	**79.6**	**1900**	**438**	**691**	36	<10	<10	<10	<10	<10	<10	**30.8**	**11.4**	<10	--	<10	<10	<10	<10	<10	ND
	BMW05	2/21/2013			1,374	1.23	-22	6.28	17.96	0.5	5.62	**29.4**	**249**	**976**	**333**	**569**	25	<5	<5	<5	<5	<5	<5	**22.8**	**6.41**	<5	--	<5	<5	<5	<5	<5	ND
	BMW05	10/7/2013			3,310	0.49	-235	5.92	22.63	1,227	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW05	2/5/2014			5,230	1.37	-120	6.61	18.35	557	1,270	<4	<4	**77.3**	**62.1**	**88.9**	2.9	<4	<4	<4	<4	<4	<4	**7.03**	<4	<4	--	<4	<4	<4	<4	<4	ND
	BMW05	5/1/2014			4,170	0.19	-145	6.63	19.38	1,130	472	<5	<5	**71.1**	**22.1**	**79.5**	2.2	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	5.23	<5	<5	ND
	BMW05	8/13/2014			3,852	0.71	-112.8	6.52	22.90	2,196	113	**1.86**	**4.11**	**100.0**	**24.9**	**79.0**	2.6	**0.75**	<0.5	<0.5	<0.5	<0.5	<0.5	**7.25**	0.60	<0.5	--	<0.5	<0.5	3.78	<0.5	<0.5	0.540 (d)
	BMW-05	11/17/2014			3,834	0.09	-116	6.44	22.10	756	82	<0.5	1.29	**9.74**	5.3	**32.8**	0.69	0.56	<0.5	<0.5	<0.5	<0.5	<0.5	**4.00**	<0.5	<0.5	--	<0.5	<0.5	4.12	<0.5	<0.5	0.670 (d)
	BMW05	7/27/2015			2,940	0.05	-79	6.67	25.31	134	28.7	<0.5	0.66	1.17	0.55	**2.27**	0.059	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.74	<0.5	<0.5	--	<0.5	<0.5	2.55	<0.5	<0.5	ND
BMW06	BMW06	3/18/2010	10 to 15	-1.7 to -6.7	1,176	0.77	50.3	7.0	18.3	5.0	4.48	<40	**5990**	**1310**	**165**	**56.8**	62	<40	<40	<40	<40	<40	<40	<40	<40	<40	<800	<40	<40	<40	<40	<40	ND
	BMW06	10/21/2010			1,107	0.64	41.3	6.89	20.6	5.0	--	<40	**5940**	**1010**	**215**	**75.4**	59	<40	<40	<40	<40	<40	<40	<40	<40	<40	--	<40	<40	<40	<40	<40	ND
	BMW06	2/15/2011			1,163	0.84	184.1	6.93	16.75	--	--	<40	**5620**	**1080**	**207**	**43.3**	57	<40	<40	<40	<40	<40	<40	<40	<40	<40	--	<40	<40	<40	<40	<40	ND
	BMW06	5/19/2011			1,151	0.11	-191	7.03	17.84	1.4	--	<25	**4660**	**893**	**177**	**36.5**	47	<25	<25	<25	<25	<25	<25	<25	<25	<25	--	<25	<25	<25	<25	<25	ND
	BMW06	8/4/2011			1,108	0.33	48	6.98	21.00	0.9	--	<25	**4220**	**482**	**41.0**	<25	38	<25	<25	<25	<25	<25	<25	<25	<25	<25	--	<25	<25	<25	<25	<25	ND
	BMW06	11/15/2011			1,057	1.08	-89	6.99	20.69	0.5	--	<20	**271**	**4130**	**185**	**44.4**	47	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	<20	<20	<20	<20	<20	ND
	BMW06	2/3/2012			1,096	0.73	-26	7.15	17.53	2.8	4.15	<20	**267**	**3530**	**142**	**26.2**	40	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	<20	<20	<20	<20	<20	ND
	BMW06	5/10/2012			1,020	0.16	-67	6.95	17.87	14.4	--	<40	**336**	**4130**	**168**	**47.7**	48	<40	<40	<40	<40	<40	<40	<40	<40	<40	--	<40	<40	<40	<40	<40	ND
	BMW06	2/19/2013			928	0.64	16	6.97	15.79	11.9	4.09	<25	**911**	**2610**	**134**	**31.6**	36	<25	<25	<25	<25	<25	<25	<25	<25	<25	--	<25	<25	<25	<25	<25	ND
	BMW06	10/8/2013			2,170	0.63	-155	6.05	21.95	256	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW06	2/4/2014			2,700	1.42	-197	6.37	17.31	127	725	<2.5	<2.5	**376**	**70.8**	**216**	8.1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**5.49**	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	BMW06	4/29/2014			2,460	0.17	-110	6.40	19.26	147	397	0.64	0.56	**23.2**	8.25	**24.8**	0.73	0.64	<0.5	<0.5	<0.5	<0.5	<0.5	1.48	<0.5	<0.5	--	<0.5	<0.5	2.47	<0.5	<0.5	ND
	BMW06	8/18/2014			2,570	0.28	-114	6.67	22.29	238	364	<0.5	0.93	**11.3**	1.58	**15.4**	0.39	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.71	<0.5	<0.5	--	<0.5	<0.5	5.34	<0.5	<0.5	ND
	BMW06	11/18/2014			2,490	0.12	-100	6.58	22.00	91.3	135	<0.5	0.59	**48.9**	1.47	**93.7**	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.04	<0.5	<0.5	--	<0.5	<0.5	13.9	<0.5	0.59	ND
	BMW06	7/29/2015			2,630	0.10	-82	6.76	22.97	29.7	12.6	<0.5	<0.5	**12.0**	0.96	**68.5**	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.27	<0.5	<0.5	--	<0.5	<0.5	6.57	<0.5	1.30	ND
Site B Groundwater Remedial Goals (EKI, 2013)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.3**	**1.5**	**6**	**10**	**0.5**	**na**	**0.71**	**70**	**na**	**na**	**na**	**na**	**3.4**	**6**	**na**	**79**	**na**	**na**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																						
												VOCs (ug/L, unless otherwise specified)																						
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
Site B Groundwater Monitoring Wells - S10 Unit (c)																																	
BMW07	BMW07	3/18/2010	11 to 15	-2.2 to -6.2	1,277	0.17	64.4	6.53	18.1	1.74	4.79	**494**	**2200**	**749**	**156**	**60.9**	30	<20	<20	<20	<20	<20	<20	**45.7**	**24.4**	<20	<400	<20	<20	<20	<20	<20	ND
	BMW07	10/20/2010			1,134	0.55	21	6.61	21.5	25	--	**543**	**2270**	**671**	**204**	**83.6**	31	<20	<20	<20	<20	<20	<20	**94.2**	**34.8**	<20	--	<20	<20	<20	<20	<20	ND
	BMW07	2/17/2011			1,085	0.2	4.9	6.6	19.97	4.94	--	**495**	**2040**	**676**	**156**	**55.8**	28	<10	<10	<10	<10	<10	<10	**56.1**	**29.9**	<10	--	<10	<10	<10	<10	<10	ND
	BMW07	3/16/2011			1,113	0.24	-150	6.63	17.24	4.9	--	**457**	**1650**	**620**	**133**	**46.5**	24	<10	<10	<10	<10	<10	<10	**43.4**	**21.4**	<10	--	<10	<10	<10	<10	<10	ND
	BMW07	5/19/2011			1,273	0.1	-131	6.65	18.64	0.1	--	**463**	**1340**	**854**	**174**	**58.3**	25	<10	<10	<10	<10	<10	<10	**51.9**	**19.8**	<10	--	<10	<10	<10	<10	<10	ND
	BMW07	8/1/2011			1,350	0.17	70	6.56	20.55	1.0	--	**686**	**2580**	**1350**	**196**	**83.6**	41	<10	<10	<10	<10	<10	<10	**57.9**	**26.8**	<10	--	<10	<10	<10	<10	<10	ND
	BMW07	11/14/2011			1,378	0.2	46	6.45	20.56	0.1	--	**655**	**2230**	**1200**	**210**	**123**	37	<20	<20	<20	<20	<20	<20	**59.5**	**35.8**	<20	--	<20	<20	<20	<20	<20	ND
	BMW07	2/3/2012			1,580	0.23	66	6.54	18.21	0	--	**473**	**1980**	**1190**	**223**	**81.3**	34	<20	<20	<20	<20	<20	<20	**50.3**	**31.2**	<20	--	<20	<20	<20	<20	<20	ND
	BMW07	5/11/2012			1,720	0.16	41	6.50	17.9	8.8	--	**468**	**1760**	**1320**	**197**	**153**	34	<20	<20	<20	<20	<20	<20	**47.4**	**26.4**	<20	--	<20	<20	<20	<20	<20	ND
	BMW07	2/20/2013			2,220	0.51	63	6.33	17.15	5.9	6.87	**453**	**1360**	**827**	**100.0**	**130**	25	<10	<10	<10	<10	<10	<10	**28.6**	**15.7**	<10	--	<10	<10	<10	<10	<10	ND
	BMW07	10/7/2013			3,100	0.52	-218	6.16	23.42	415	--	**--**	**--**	**--**	**--**	**--**	--	**--**	**--**	--	--	--	--	**--**	**--**	--	--	--	--	--	--	**--**	--
	BMW07	2/3/2014			5,390	2.04	-178	6.46	17.76	874	1,630	<5	<5	**628**	**74.9**	**243**	11.1	<5	<5	<5	<5	<5	<5	**5.34**	<5	<5	--	<5	<5	9.26	<5	<5	ND
	BMW07	5/1/2014			4,310	0.36	-156	6.71	19.49	1,392	598	<5	<5	5.49	5.89	**20.7**	0.45	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	5.52	<5	<5	ND
	BMW07	8/15/2014			3,871	0.86	-109.8	6.81	24.50	716	146	<0.5	0.58	2.92	1.02	**4.43**	0.12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	2.16	<0.5	<0.5	ND
	BMW07	11/19/2014			3,698	0.09	-129	6.77	21.00	251	109	<0.5	<0.5	3.64	0.86	**7.77**	0.17	<0.5	0.62	<0.5	<0.5	<0.5	<0.5	0.52	<0.5	<0.5	--	<0.5	<0.5	2.25	<0.5	<0.5	ND
	BMW07	7/30/2015			3,480	0.11	-123	6.94	22.25	191	61.4	<0.5	<0.5	1.62	0.56	<0.5	0.022	<0.5	0.62	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	0.670	<0.5	<0.5	ND
BMW08	BMW08	3/17/2010	11 to 16	-1.4 to -6.4	711	0.15	60.4	6.65	18.4	0.05	2.53	**74.9**	**297**	**34.3**	3.33	<2	3.1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<40	2.3	<2	<2	<2	<2	ND
	BMW08	10/20/2010			666	0.31	113	6.66	19	18	--	**55.5**	**257**	**29.9**	4.7	**3.87**	2.7	<2	<2	<2	<2	<2	<2	<2	<2	<2	--	3.47	<2	<2	<2	<2	ND
	BMW08	2/15/2011			731	0.16	162.8	6.56	17.03	--	--	**65.6**	**218**	**47.2**	4.97	**4.79**	2.7	<2	<2	<2	<2	<2	<2	<2	<2	<2	--	5.31	<2	<2	<2	<2	ND
	BMW08	5/17/2011			719	0.11	153	6.48	16.29	3.7	--	**57**	**174**	**45.8**	4.16	**3.13**	2.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	2.25	<1	<1	<1	<1	ND
	BMW08	8/1/2011			672	0.15	136	6.59	18.56	2.5	--	**71.5**	**214**	**49.3**	5.23	**4.18**	2.7	<1	<1	<1	<1	<1	<1	1.04	<1	<1	--	2.23	<1	<1	<1	<1	ND
	BMW08	11/15/2011			612	0.86	173	6.38	18.7	6.4	--	**56.8**	**162**	**77.6**	6.12	**5.93**	2.5	<1	<1	<1	<1	<1	<1	1.33	<1	<1	--	2.57	<1	<1	<1	<1	ND
	BMW08	2/2/2012			605	0.19	117	6.17	17.52	3	--	**52.6**	**123**	**79.2**	5.75	**7.49**	2.2	<1	<1	<1	<1	<1	<1	1.09	<1	<1	--	1.89	<1	<1	<1	<1	ND
	BMW08	5/10/2012			635	0.19	132	6.54	18.4	27.9	--	**42.1**	**109**	**73.1**	5.43	**9.95**	2.1	<1	<1	<1	<1	<1	<1	1.01	<1	<1	--	1.78	<1	<1	<1	<1	ND
	BMW08	2/21/2013			563	0.23	93	6.58	17.77	0.0	3.75	**44.3**	**135**	**60.3**	3.06	**10.6**	2.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	1.26	<1	<1	<1	<1	ND
	BMW08	10/7/2013			2,040	0.55	-154	6.24	22.53	128	--	**--**	**--**	**--**	**--**	**--**	--	**--**	**--**	--	--	--	--	**--**	**--**	--	--	--	--	--	--	**--**	--
	BMW08	1/31/2014			2,130	1.47	-106	6.68	18.64	511	166	<0.5	0.54	5.87	2.66	**5.35**	0.18	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	0.82	<0.5	<0.5	ND
	BMW08	4/28/2014			2,150	0.35	-151	6.61	19.37	214	185	<0.5	<0.5	**6.45**	2.02	**3.92**	0.15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	0.88	<0.5	<0.5	ND
	BMW08	8/12/2014			2,330	0.78	-125	6.84	22.36	176	143	<0.5	<0.5	**1.95**	0.85	**0.63**	0.039	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	0.910	<0.5	1.62	ND
	BMW08	11/18/2014			2,155	0.14	-122	6.82	21.90	19.2	39.1	<0.5	<0.5	0.77	0.86	<0.5	0.017	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	1.05	<0.5	1.71	ND
	BMW08	7/27/2015			938.0	0.25	-111	6.49	23.73	133.0	3.61	<0.5	1.03	2.09	1.52	**8.20**	0.18	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.26	<0.5	<0.5	--	<0.5	<0.5	0.790	<0.5	1.71	ND
BMW10	BMW10	3/17/2010	11 to 20	-1.8 to -10.8	846	0.12	175	6.53	17.8	8.47	5.5	**85.8**	**73.3**	**19.2**	2.57	**1.16**	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.86	<0.5	<0.5	<10	1.73	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	10/20/2010			609	0.2	74.6	6.64	20.2	2	--	**100**	**93.9**	**26.2**	5.11	**1.36**	1.7	<0.5	<0.5	0.56	<0.5	<0.5	<0.5	1.72	1.13	<0.5	--	3.87	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	2/15/2011			773	0.19	163	6.52	16.7	--	--	**71.1**	**67.8**	**23.3**	4.02	**2.13**	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.98	0.97	<0.5	--	2.66	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	5/17/2011			939	0.14	145	6.49	16.8	4.1	--	**60.2**	**55.6**	**24.2**	3.59	**1.88**	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.66	<0.5	--	1.31	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	8/1/2011			887	0.12	99	6.59	19.67	0.7	--	**94.4**	**69.7**	**26.1**	4.28	**2.5**	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.3**	0.86	<0.5	--	1.22	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	11/15/2011			793	0.26	-29	6.39	19.66	2.2	--	**14.5**	**13.7**	**195**	7.83	**15.6**	2.5	<2	<2	<2	<2	<2	<2	**3.94**	<2	<2	--	<2	<2	<2	<2	<2	ND
	BMW10	2/2/2012			826	0.15	-4	6.41	17.63	6.5	7.19	**14.7**	**13.4**	**87.0**	5.82	**36.1**	1.7	<1	<1	<1	<1	<1	<1	3.36	<1	<1	--	<1	<1	<1	<1	<1	ND
	BMW10	5/10/2012			1,000	0.22	-12	6.51	19.86	29.6	--	**20**	**12.5**	**56.6**	5.12	**56.9**	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.03	0.54	<0.5	--	0.67	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	2/20/2013			654	0.25	-21	6.51	17.13	10.7	4.04	**23**	**13.9**	**103**	6.61	**31.0**	1.9	<1	<1	<1	<1	<1	<1	**7.94**	1.07	<1	--	<1	<1	<1	<1	<1	ND
	BMW10	10/7/2013			900	0.35	-234	6.63	22.11	196	--	**--**	**--**	**--**	**--**	**--**	--	**--**	**--**	--	--	--	--	**--**	**--**	--	--	--	--	--	--	**--**	--
	BMW10	1/30/2014			1,043	0.22	-113	6.69	18.51	55.2	4.34	<0.5	**5.95**	**29.4**	4.69	**21.1**	0.73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.01**	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	4/29/2014			1,331	1.6	-150	6.51	19.13	15.2	10.0	**2.47**	**1.74**	**11.2**	2.01	**11.8**	0.35	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4.29**	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	8/12/2014			1,200	0.82	-109	6.71	22.00	0.0	6.29	0.690	1.21	5.07	1.34	**22.0**	0.43	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.51**	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	11/18/2014			1,001	0.10	-73	6.63	21.90	2.7	3.96	<0.5	0.56	4.05	0.88	**70.2**	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**7.44**	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW10	7/27/2015			749.0	0.32	-32	6.41	23.54	17.4	4.46	<0.5	<0.5	5.13	0.50	**88.8**	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**7.88**	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BMW11	BMW11	10/20/2010	11 to 19	-2.4 to -10.4	1,696	0.25	-63.8	6.57	20.9	13	--	**54**	**522**	**514**	**59.1**	**97.3**	11.8	<10	<10	<10	<10	<10	<10	**14.3**	**10.1**	<10	--	<10	<10	<10	<10	<10	ND
	BMW11	2/15/2011			1,197	0.34	137.6	6.51	17.39	--	--	**46.8**	**358**	**617**	**118**	**88.9**	12.0	<5	<5	<5	<5	<5	<5	**21.8**	**9.62**	<5	--	<5	<5	<5	<5	<5	ND
	BMW11	5/17/2011			1,060	0.12	258	6.4	16.74	2.1	--	**18.1**	**570**	**552**	**206**	**43.2**	13.0	<5	<5	<5	<5	<5	<5	**13.9**	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW11	8/1/2011			1,910	0.29	117	6.43	20.52	30.6	--	**10.1**	**704**	**351**	**210**	**23.0**	11.6	<5	<5	<5	<5	<5	<5	**10.9**	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW11	11/15/2011			1,680	0.87	143	6.33	19.41	0	--	**11**	**598**	**379**	**211**	**39.1**	11.3	<5	<5	<5	<5	<5	<5	**14.3**	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW11	2/2/2012			1,930	0.64	138	6.37	17.77	0	--	**7.09**	**562**	**306**	**212**	**28.2**	10.1	<5	<5	<5	<5	<5	<5	**9.36**	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW11	5/9/2012			1,580	0.2	107	6.57	17.54	26.7	--	**12.8**	**467**	**478**	**216**	**170**	13.5	<5	<5	<5	<5	<5	<5	**17.1**	5.44	<5	--	<5	<5	<5	<5	<5	ND
	BMW11	2/21/2013			1,287	0.43	98	6.44	17.41	12.9	2.22	**17.2**	**343**	**380**	**78.6**	**181**	10.3	<5	<5	<5	<5	<5	<5	**8.06**	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW11	10/7/2013			3,000	0.53	-252	6.31	23.42	1,601	--	**--**	**--**	**--**	**--**	**--**	--	**--**	**--**	--	--	--	--	**--**	**--**	--	--	--	--	--	--	**--**	--
	BMW11	2/5/2014			2,800	1.41	-134	6.83	18.01	92.6	70.6	<0.5	1.18	1.35	**12.7**	**1.48**	0.18	0.50	<0.5	<0.5	<0.5	<0.5	<0.5	3.26	<0.5	<0.5	--	<0.5	<0.5	6.62	<0.5	<0.5	ND
	BMW11	4/30/2014			2,970	0.24	-223	6.71	19.57	149	37.4	<0.5	**6.17**	**41.3**	4.99	**32.1**	1.0	0.61	<0.5	<0.5	<0.5	<0.5	<0.5	**7.93**	0.54	<0.5	--	<0.5	<0.5	2.64	<0.5	<0.5	ND
	BMW11	8/14/2014			2,996	0.31	-135.6	6.76	22.60	21.0	23.0	<0.5	**5.92**	**13.3**	2.56	**13.0**	0.42	0.59	<0.5	<0.5	<0.5	<0.5	<0.5	**9.16**	<0.5	<0.5	--	<0.5	<0.5	3.59	<0.5	<0.5	ND
	BMW-11	11/17/2014			2,874	0.10	-120	6.48	21.80	4.9	16.7	<0.5	**2.83**	**26.7**	2.37	**37.5**	0.92	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**7.64**	<0.5	<0.5	--	<0.5	<0.5	3.94	<0.5	<0.5	ND
	BMW11	7/29/2015			2,530	0.12	-103	6.64	23.11	0.0	7.0	<0.5	0.93	**29.8**	2.07	**51.6**	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**7.37**	<0.5	<0.5	--	<0.5	<0.5	3.03	<0.5	<0.5	ND
Site B Groundwater Remedial Goals (EKI, 2013)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.3**	**1.5**	**6**	**10**	**0.5**	**na**	**0.71**	**70**	**na**	**na**	**na**	**na**	**3.4**	**6**	**na**	**79**	**na**	**na**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																						
												VOCs (ug/L, unless otherwise specified)																						
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
Site B Groundwater Monitoring Wells - S10 Unit (c)																																	
BMW12	BMW12	10/21/2010	9 to 19	-0.6 to -10.6	4,529	0.55	66.1	5.9	19.3	871	--	**11**	**1780**	**374**	**71.6**	**52.6**	19.1	<10	<10	<10	<10	<10	<10	**15.8**	**12.8**	<10	--	<10	<10	<10	<10	<10	ND
	BMW12	2/15/2011			4,309	0.33	148.1	5.7	17.63	--	--	**25.7**	**1840**	**430**	**192**	**61.7**	22	<20	<20	<20	<20	<20	<20	**28.0**	<20	<20	--	<20	<20	<20	<20	<20	ND
	BMW12	3/16/2011			4,160	0.49	-136	5.81	17.42	62	--	**21.9**	**1370**	**309**	**133**	**43.5**	15.8	<10	<10	<10	<10	<10	<10	**20.0**	<10	<10	--	<10	<10	<10	<10	<10	ND
	BMW12	5/17/2011			4,230	0.08	121	5.74	17.4	117	--	**19**	**1410**	**333**	**132**	**26.2**	16.1	<10	<10	<10	<10	<10	<10	**19.2**	<10	<10	--	<10	<10	<10	<10	<10	ND
	BMW12	8/2/2011			4,180	0.12	114	5.77	19.04	98.9	--	**20**	**1550**	**300**	**131**	**27.9**	16.8	<10	<10	<10	<10	<10	<10	**12.0**	<10	<10	--	<10	<10	<10	<10	<10	ND
	BMW12	11/15/2011			3,930	0.09	132	5.65	19.32	49.7	--	**19.7**	**1460**	**335**	**145**	**36.3**	16.8	<10	<10	<10	<10	<10	<10	**22.3**	**10.7**	<10	--	<10	<10	<10	<10	<10	ND
	BMW12	2/2/2012			3,850	0.10	92	5.70	18.14	136	--	**28.5**	**1590**	**379**	**161**	**47.5**	18.6	<10	<10	<10	<10	<10	<10	**22.7**	**14.8**	<10	--	<10	<10	<10	<10	<10	ND
	BMW12	5/9/2012			3,600	0.09	105	5.88	17.95	155	--	**31.5**	**1720**	**469**	**203**	**63.5**	21	<10	<10	<10	<10	<10	<10	**27.0**	**17.2**	<10	--	<10	<10	<10	<10	<10	ND
	BMW12-DUP	5/9/2012									--	**29.8**	**1880**	**435**	**179**	**59.6**	22	<10	<10	<10	<10	<10	<10	**30.1**	**17.3**	<10	--	<10	<10	<10	<10	<10	ND
	BMW12	2/15/2013			3,770	0.14	100	5.63	18.25	111	1.61	**27**	**1570**	**299**	**114**	**40.3**	17.0	<10	<10	<10	<10	<10	<10	**22.3**	**12.1**	<10	--	<10	<10	<10	<10	<10	ND
	BMW12	10/8/2013			4,400	1.19	-285	5.95	21.54	137	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW12	2/3/2014			4,770	2.26	-273	6.17	18.28	101	103	<5	**6.14**	**482**	**92.2**	**216**	9.4	<5	<5	<5	<5	<5	<5	<5	**11.6**	<5	--	<5	<5	<5	<5	<5	ND
	BMW12	4/30/2014			4,580	0.39	-252	6.18	19.08	121	28.4	<2.5	**11.6**	**277**	**70.8**	**110**	5.4	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**10.7**	<2.5	<2.5	--	<2.5	<2.5	2.71	<2.5	<2.5	ND
	BMW12	8/14/2014			4,995	0.86	-86.4	6.24	22.50	23.3	13.9	<0.5	**8.65**	**60.5**	**14.0**	**64.8**	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**6.32**	0.60	<0.5	--	<0.5	<0.5	4.64	<0.5	<0.5	ND
	BMW-12	11/17/2014			4,674	0.11	-89	6.17	21.70	21.4	5.76	<0.5	**4.28**	**22.9**	2.8	**50.6**	1.1	0.55	<0.5	<0.5	<0.5	<0.5	<0.5	**4.71**	<0.5	<0.5	--	<0.5	<0.5	6.64	<0.5	<0.5	ND
	BMW12	7/29/2015			5,620	0.07	-93	6.31	22.97	4.2	4.95	<1	<1	**11.6**	<1	**78.6**	1.4	<1	<1	<1	<1	<1	<1	**8.19**	<1	<1	--	<1	<1	3.98	<1	<1	ND
BMW13	BMW13	2/15/2011	11 to 13	-1.9 to -3.9	1,325	0.08	--	7.29	14.47	2.83	--	<5	<5	**443**	**14.9**	**397**	11.1	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW13	5/18/2011			1,379	0.1	-174	7.22	17.87	0	--	<2.5	**26.8**	**260**	**12.1**	**346**	8.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	BMW13	8/4/2011			1,384	0.13	-115	7.24	20.51	36.1	--	<2	<2	**73.1**	6.02	**301**	5.6	<2	<2	<2	<2	<2	<2	<2	<2	<2	--	<2	<2	<2	<2	<2	ND
	BMW13	11/15/2011			1,333	0.16	-227	7.23	20.41	2.1	--	<2.5	<2.5	**58.1**	5.23	**468**	8.1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	BMW13	2/7/2012			1,260	0.18	-107	7.11	16.46	0	--	<4	<4	**75.9**	8.37	**451**	8.1	<4	<4	<4	<4	<4	<4	<4	<4	<4	--	<4	<4	<4	<4	<4	ND
	BMW13	5/9/2012			1,257	0.2	-154	7.33	17.36	23.2	--	<5	<5	**33.4**	<5	**624**	10.3	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW13	2/15/2013			1,279	0.16	-111	7.30	17.68	6.7	4.07	<5	<5	**7.70**	<5	**461**	7.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW13	10/8/2013			1,900	0.32	-243	6.77	22.45	74.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW13	2/4/2014			2,220	1.95	-118	7.30	16.94	58.8	27.3	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW13	4/29/2014			2,220	0.67	-117	6.98	19.24	123	13.0	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	2.07	ND
	BMW13	8/12/2014			2,110	0.28	-141	7.12	23.19	1.8	10.1	<0.5	0.67	**6.21**	<0.5	<0.5	0.069	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW13	11/19/2014			2,325	0.11	-117	7.09	21.30	3.5	5.9	<0.5	<0.5	1.37	<0.5	**0.53**	0.023	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW13	7/30/2015			2,880	0.40	-99	7.06	22.57	2.8	6.43	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BMW14	BMW14	2/22/2013	10 to 20	-1.1 to -11.1	1,050	0.21	126	6.87	16.17	4.6	3.91	<20	**917**	**264**	**40.8**	<20	10.1	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	<20	<20	<20	<20	<20	ND
	BMW14	10/9/2013			1.042	0.31	-214	6.64	19.6	98.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW14	2/4/2014			1,353	2.09	-188	6.65	16.52	76.1	94.5	<0.5	1.75	**68.5**	1.2	**44.5**	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW14	4/29/2014			1,289	0.29	-138	6.67	18.13	64.1	36.2	<0.5	<0.5	**27.9**	0.51	**41.6**	0.96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW14	8/15/2014			1,183	1.10	-70.7	5.85	20.70	6.7	6.40	<0.5	<0.5	**211**	2.52	**244**	6.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW14	11/19/2014			1,150	0.07	-80	6.70	19.10	2.4	4.13	<5.0	<5.0	**420**	**11.3**	**306**	9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	ND
	BMW14	7/31/2015			1,426	0.08	-105	6.78	20.30	28.4	3.37	<5.0	<5.0	**69.6**	<0.5	**428**	7.6	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0	6.80	<5.0	<5.0	ND
BMW15	BMW15	2/22/2013	14 to 19	-4.9 to -9.9	974	0.31	155	6.74	17.32	46.7	1.89	<1	**12.7**	2.20	<1	<1	0.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	ND
	BMW15	10/9/2013			0.95	0.26	-286	6.75	20.07	76.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW15	2/4/2014			1,007	1.13	-319	6.96	17.33	7.8	7.15	<0.5	**3.15**	4.92	<0.5	<0.5	0.075	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW15	4/29/2014			978	0.33	-139	6.82	18.29	75.4	2.05	<0.5	**4.25**	3.32	<0.5	<0.5	0.067	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW15	8/15/2014			1,109	0.42	-51.6	6.40	19.90	1.3	1.38	<0.5	**5.06**	2.52	<0.5	<0.5	0.065	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW15	11/19/2014			1,084	0.10	-64	6.85	19.10	2.2	1.4	<0.5	**4.60**	2.80	<0.5	<0.5	0.064	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW15	7/31/2015			1,049	0.12	-47	6.87	20.35	5.6	1.28	<0.5	**2.31**	2.35	1.85	<0.5	0.061	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW15	12/12/2015			987	0.73	-43	6.18	19.23	--	--	0.36 J	**1.8**	1.90	1.70	<1	0.053	<1	<1	<1	<1	<1	<1	<1	<1	<5	--	<1	<1	<1	--	<1	ND
BMW16	BMW16	2/22/2013	17 to 22	-8.0 to -13.0	1,244	1.01	160	6.83	17.42	20.7	2.21	1.02	**44.4**	**7.11**	1.29	0.50	0.44	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW16	10/9/2013			1.403	0.26	-215	6.65	19.65	46.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW16	2/4/2014			1,590	1.33	-250	6.76	18.16	38.5	20.8	<0.5	**2.17**	**8.82**	1.36	**4.32**	0.19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	0.59	<0.5	<0.5	<0.5	ND
	BMW16	4/30/2014			1,353	0.41	-104	6.78	19.86	57.9	2.72	<0.5	**1.33**	**10.3**	1.10	**18.8**	0.43	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	0.59	<0.5	<0.5	<0.5	ND
	BMW16	8/12/2014			1,451	0.29	-124	6.85	20.51	0.0	2.38	<0.5	**2.69**	**25.1**	1.29	**11.6**	0.48	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW16	11/19/2014			1,367	0.14	-85	6.74	20.10	2.8	2.46	<0.5	<0.5	3.20	0.80	**15.5**	0.29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW16	7/31/2015			1,354	0.13	-79	6.83	20.98	13.8	2.05	<0.5	<0.5	0.89	<0.5	**3.54**	0.066	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BMW17	BMW17	2/21/2013	8 to 18	0.1 to -9.9	2,410	0.24	-112	6.61	17.42	18.5	2.88	<0.5	**2.69**	**7.69**	2.66	**58.8**	1.1	<0.5	0.70	<0.5	3.44	<0.5	0.6	2.01	<0.5	<0.5	--	<0.5	<0.5	0.58	<0.5	<0.5	ND
	BMW17	10/7/2013			4.43	0.49	-151	6.25	22.72	973	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW17	1/30/2014			4,700	0.28	-167	6.80	18.22	1,001	730	<2	<2	<2	<2	<2	ND	<2	<2	<2	2.38	<2	<2	<2	<2	<2	--	<2	<2	2.45	<2	<2	ND
	BMW17	4/30/2014			4,060	0.08	-184	6.79	19.87	1,982	388	<5	<5	<5	<5	<5	ND	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW17	8/13/2014			4,495	0.58	-130.1	6.67	22.80	322	102	<0.5	<0.5	0.760	<0.5	<0.5	0.008	<0.5	0.56	<0.5	1.47	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	0.600	<0.5	0.52	ND
	BMW17	11/20/2014			5,467	0.08	-140	6.74	21.20	19.0	42	<0.5	<0.5	2.66	0.70	**1.1**	0.053	<0.5	0.50	<0.5	1.63	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW17	7/31/2015			2,380	0.08	-87	6.76	22.44	145.0	11.8	<0.5	<0.5	1.36	0.53	**3.40**	0.074	<0.5	0.71	<0.5	1.45	<0.5	<0.5	0.77	<0.5	<0.5	--	<0.5	<0.5	0.750	<0.5	<0.5	ND
BMW18	BMW18	2/21/2013	12 to 17	-2.6 to -7.6	1,095	0.2	-8	6.80	17.89	20.7	4.52	**5.6**	**83.5**	**59.3**	6.24	**46.8**	2.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.65**	0.82	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BMW18	10/7/2013			1,800	0.44	-183	6.16	24	284	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW18	2/5/2014			5,180	1.71	-40	5.99	18.24	344	2,410	<5	<5	**31.0**	<5	<5	0.32	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW18	4/30/2014			3,480	0.26	-143	6.83	21.55	2,000	505	<5	<5	**7.11**	<5	<5	0.073	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	<5	<5	<5	ND
	BMW18	8/18/2014			3,815	0.11	-132.7	7.00	22.40	329	164	<0.5	<0.5	2.46	0.80	<0.5	0.034	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	1.59	ND
	BMW-18	11/17/2014			3,276	0.09	-104	6.60	21.70	149	54	<0.5	<0.5	1.03	0.72	<0.5	0.018	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.53	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	1.53	ND
	BMW18	7/29/2015			2,870	0.10	-164	6.90	23.14	155	15.4	<0.5	<0.5	0.720	0.53	<0.5	0.013	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.53	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	0.64	ND
Site B Groundwater Remedial Goals (EKI, 2013)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.3**	**1.5**	**6**	**10**	**0.5**	**na**	**0.71**	**70**	**na**	**na**	**na**	**na**	**3.4**	**6**	**na**	**79**	**na**	**na**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																						
												VOCs (ug/L, unless otherwise specified)																						
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
Site B - Groundwater Monitoring Wells - 1032 Unit (c)																																	
BDW01	BDW01A (e)	3/17/2010	23 to 32	-14.1 to -23.1	899	0.74	47.3	7	19.7	3.08	--	**143**	**39.7**	**51.8**	**10.6**	<1	1.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<20	<1	<1	<1	<1	<1	ND
	BDW01B (e)	3/17/2010			918	0.14	75.4	7	19.4	2.35	--	**143**	**38.0**	**48.8**	**10.8**	<1	1.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<20	<1	<1	<1	<1	<1	ND
	BDW-01	10/20/2010			923	0.21	83	7	18.7	17	--	**16.9**	**6.78**	**13.0**	3.66	<0.5	0.33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW01	2/15/2011			922	0.14	157.3	6.87	17.84	--	--	**203**	**49.9**	**62.0**	**16.8**	<1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	ND
	BDW01	5/17/2011			881	0.11	8	7	17.24	4.1	--	**156**	**48.8**	**54.8**	**15.1**	<1	2.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	ND
	BDW01	8/1/2011			903	0.80	64	7.07	19.19	14.3	--	**195**	**39.5**	**43.5**	8.46	<2	2.0	<2	<2	<2	<2	<2	<2	<2	<2	<2	--	<2	<2	<2	<2	<2	ND
	BDW01	11/15/2011			868	0.17	62	6.8	18.94	0.3	--	**306**	**61.0**	**58.9**	**24.0**	<2.5	3.2	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	BDW01	2/2/2012			862	0.25	79	6.85	18.39	0.0	--	**331**	**53.8**	**64.7**	**18.2**	<2.5	3.3	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	BDW01	5/10/2012			864	0.19	46	6.94	19.81	20.6	--	**248**	**39.4**	**51.1**	**15.0**	<2	2.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	--	<2	<2	<2	<2	<2	ND
	BDW01	2/20/2013			793	0.38	64	6.81	18.22	125	--	**394**	**66.0**	**59.6**	**21.4**	<5	3.7	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	<5	<5	<5	ND
	BDW01	10/9/2013			854	0.27	-60	7	20.75	78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BDW01	1/30/2014			891	0.18	27	7.07	18.65	4.4	1.18	**329**	**59.3**	**57.0**	**17.7**	<2	3.2	<2	<2	<2	<2	<2	<2	<2	<2	<2	--	<2	<2	<2	<2	<2	ND
	BDW01	4/29/2014			827	0.22	184	6.79	19.07	8.4	<1	**289**	**59.8**	**51.7**	**19.2**	<2.5	2.9	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	BDW01	8/12/2014			895	0.25	31	7.04	20.58	0.0	--	**185**	**42.6**	**39.4**	**14.3**	<2.5	2.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	BDW01	11/18/2014			945	0.06	-3	6.96	20.20	1.6	--	**44.8**	**11.1**	**11.1**	3.54	<0.5	0.51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW01	7/28/2015			782	0.80	61	6.92	23.10	2.5	--	**214**	**42.8**	**39.4**	**15.6**	<2	2.2	<2	<2	<2	<2	<2	<2	<2	<2	<2	--	<2	<2	<2	<2	<2	ND
BDW02	BDW02A (f)	3/18/2010	23 to 32	-14.8 to -23.8	1,480	0.5	46.4	6.77	21.7	0.6	--	<200	**29100**	<200	<200	<200	221	<200	<200	<200	<200	<200	<200	<200	<200	<4,000	<200	<200	<200	<200	<200	ND
	BDW02B (f)	3/18/2010			1,473	0.44	38.1	6.73	20.1	26.4	--	<200	**28400**	<200	<200	<200	216	<200	<200	<200	<200	<200	<200	<200	<200	<4,000	<200	<200	<200	<200	<200	ND
	BDW02B DUP (f)	3/18/2010			1,473	0.44	38.1	6.73	20.1	26.4	--	<200	**27800**	<200	<200	<200	212	<200	<200	<200	<200	<200	<200	<200	<200	<4,000	<200	<200	<200	<200	<200	ND
	BDW02	10/21/2010			1,409	0.59	40.6	6.65	20.3	235	--	<200	**26600**	<200	<200	<200	202	<200	<200	<200	<200	<200	<200	<200	<200	--	<200	<200	<200	<200	<200	ND
	BDW02	2/15/2011			1,429	0.41	--	6.67	17.34	39.2	--	<200	**25100**	<200	<200	<200	191	<200	<200	<200	<200	<200	<200	<200	<200	--	<200	<200	<200	<200	<200	ND
	BDW02	5/18/2011			1,433	0.12	70	6.75	18.38	7.8	--	<200	**20300**	<200	<200	<200	154	<200	<200	<200	<200	<200	<200	<200	<200	--	<200	<200	<200	<200	<200	ND
	BDW02	8/4/2011			1,394	0.19	62	6.70	19.87	16	--	<200	**22400**	<200	<200	<200	170	<200	<200	<200	<200	<200	<200	<200	<200	--	<200	<200	<200	<200	<200	ND
	BDW02	11/15/2011			1,346	0.14	-37	6.61	19.3	66.1	--	<200	**37400**	<200	<200	<200	285	<200	<200	<200	<200	<200	<200	<200	<200	--	<200	<200	<200	<200	<200	ND
	BDW02	2/3/2012			1,375	0.21	107	6.59	17.67	8.9	--	<200	**22900**	<200	<200	<200	174	<200	<200	<200	<200	<200	<200	<200	<200	--	<200	<200	<200	<200	<200	ND
	BDW02	5/10/2012			1,271	0.21	63	6.66	18.8	54	--	<200	**33500**	<200	<200	<200	255	<200	<200	<200	<200	<200	<200	<200	<200	--	<200	<200	<200	<200	<200	ND
	BDW02	2/19/2013			1,169	0.17	60	6.83	16.72	167	--	<250	**23400**	<250	<250	<250	178	<250	<250	<250	<250	<250	<250	<250	<250	--	<250	<250	<250	<250	<250	ND
	BDW02	10/9/2013			1.424	0.29	-201	6.8	19.97	80.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BDW02	2/4/2014			1,307	0.72	-298	6.92	18.29	19	13.9	<100	<100	**16400**	<100	**606**	179	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
	BDW02	4/29/2014			1,212	0.07	-144	6.76	19.76	89	2.20	<100	**229**	**15400**	<100	**486**	168	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
	BDW02	8/12/2014			1,312	0.22	-123	6.90	20.87	0.0	--	<200	**479**	**15300**	<200	<200	161	<200	<200	<200	<200	<200	<200	<200	<200	<200	--	<200	<200	<200	<200	<200	ND
	BDW02	11/18/2014			1,386	0.09	-76	6.76	20.30	8.1	--	<100	**168**	**12100**	<100	<100	126	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
	BDW02	7/28/2015			1,260	0.18	-86	6.73	23.67	11.1	--	<100	<100	**12800**	<100	<100	132	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
	BMW02 (g)	7/29/2015			1,600	0.10	-73.0	6.83	21.71	8.0	--	<100	**511**	**13900**	<100	<100	147	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
BDW03	BDW03	3/18/2010	22 to 29	-13.9 to -20.9	17,000	0.63	-29.3	6.37	18.7	171	--	<0.5	1.31	3.35	3.62	**0.59**	0.091	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW-03	10/20/2010			14,933	0.78	-0.3	6.26	19.4	43	--	<0.5	**4.23**	**9.43**	5.47	**4.1**	0.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.51	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	2/15/2011			16,007	0.43	--	6.26	18.44	29.4	--	<0.5	**3.51**	**7.92**	9.5	**3.3**	0.26	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	5/18/2011			17,100	0.32	-39	6.08	18.52	13	--	<0.5	<0.5	1.62	2.33	<0.5	0.041	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	8/2/2011			16,500	0.26	9	6.30	20.91	14.2	--	<0.5	<0.5	1.23	2.16	<0.5	0.035	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	11/16/2011			18,500	0.2	60	6.06	19.6	18	--	<0.5	<0.5	0.85	1.1	<0.5	0.020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	2/3/2012			17,100	0.29	45	6.36	18	3.7	--	<0.5	<0.5	0.76	1.4	<0.5	0.022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03DUP	2/3/2012									--	<0.5	<0.5	0.81	1.27	<0.5	0.021	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	5/9/2012			15,800	0.31	14	6.50	18.69	30.3	--	<0.5	1.11	1.10	1.6	<0.5	0.036	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	2/21/2013			14,320	0.45	15	6.24	18.81	37.6	--	<0.5	<0.5	1.39	2.43	<0.5	0.039	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	10/9/2013			12.09	0.33	-332	6.12	20.79	140	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND
	BDW03	2/5/2014			14,210	1.41	-112	6.45	19	8.1	--	<0.5	**3.20**	**7.10**	9.74	**1.38**	0.22	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03-DUP	2/5/2014									<1	<0.5	**3.32**	**7.41**	9.98	**1.38**	0.23	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	4/29/2014			13,230	0.09	-92	6.22	20	37.8	--	<0.5	**8.13**	**42.5**	**23.8**	**4.59**	0.82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.96	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03-DUP	4/29/2014									<1	<0.5	**8.10**	**42.2**	**22.4**	**4.33**	0.80	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.86	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	8/13/2014			15,760	0.75	-109.3	6.20	21.70	1.1	--	0.520	<0.5	1.98	3.10	<0.5	0.056	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03-DUP	8/13/2014									--	0.560	<0.5	1.75	2.68	<0.5	0.049	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	11/20/2014			15,754	0.13	6.3	6.37	20.30	1.6	--	<0.5	<0.5	1.62	2.1	<0.5	0.038	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW03	7/28/2015			15,200	0.23	-11.0	6.45	21.24	0.0	--	<0.5	<0.5	1.07	2.09	<0.5	0.033	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
Site B Groundwater Remedial Goals (EKI, 2013)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.3**	**1.5**	**6**	**10**	**0.5**	**na**	**0.71**	**70**	**na**	**na**	**na**	**na**	**3.4**	**6**	**na**	**79.0**	**na**	**na**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																								
												VOCs (ug/L, unless otherwise specified)																								
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
Site B - Groundwater Monitoring Wells - 1032 Unit (c)																																		
BDW04	BDW04	10/20/2010	21 to 28	-12.7 to -19.7	1,968	0.25	-167.7	6.98	19.8	20	--	<0.5	1.26	2.37	0.51	<0.5	0.039	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	2/15/2011			1,892	0.61	139.1	7.33	17.95	--	--	<0.5	0.51	<0.5	<0.5	<0.5	0.004	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	5/17/2011			1,960	0.11	107	7.02	17.28	8.5	--	0.79	**7.05**	0.5	<0.5	<0.5	0.064	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	8/2/2011			1,890	0.21	84	7.54	20.20	37.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	11/15/2011			1,820	0.45	130	6.8	19.15	13.3	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	2/2/2012			1,760	0.84	79	8.88	18.43	54.4	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	5/9/2012			1,720	0.75	91	7.53	18.66	335	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	2/15/2013			1,790	0.7	2	8.88	18.40	437	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	10/8/2013			1.85	0.44	-259	7.53	21.26	96.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND
	BDW04	2/3/2014			1,830	0.62	-133	6.92	18.32	31.9	<1	<0.5	<0.5	2.28	<0.5	<0.5	0.024	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	4/30/2014			1,630	0.59	-232	7.07	19.64	63.8	<1	<0.5	<0.5	2.15	<0.5	<0.5	0.022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	8/14/2014			1,999	0.76	-72.4	6.83	21.30	5.9	--	<0.5	<0.5	0.650	<0.5	<0.5	0.007	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW-04	11/17/2014			1,870	0.07	-66	6.67	22.10	4.8	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW04	7/29/2015			2,190	0.16	-74	7.26	22.33	9.1	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BDW05	BDW05	10/20/2010	22.5 to 32.5	-13.8 to -23.8	14,041	0.72	74.2	6.51	19.1	69	--	1.2	**4.96**	2.87	1.79	<0.5	0.093	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	2/15/2011			14,952	0.34	--	6.48	18.06	9.12	--	0.55	**2.22**	1.96	2.06	<0.5	0.062	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	5/19/2011			15,500	0.05	-133	6.37	19.41	8.2	--	**12.4**	**12.4**	2.13	2.08	<0.5	0.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	8/1/2011			14,520	0.10	73	6.47	20.86	2.6	--	<0.5	0.56	1.56	2.03	<0.5	0.041	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	11/14/2011			14,020	0.05	63	6.45	19.41	4.4	--	<0.5	1.38	1.35	1.72	<0.5	0.042	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	2/2/2012			13,930	0.09	82	6.40	18.97	17.0	--	<0.5	<0.5	1.33	1.89	<0.5	0.033	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	5/11/2012			13,710	0.15	120	6.45	18.69	15.0	--	<0.5	<0.5	1.40	1.86	<0.5	0.034	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	2/20/2013			13,180	0.57	110	6.34	18.11	30.1	--	<0.5	<0.5	1.81	1.19	<0.5	0.031	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	10/9/2013			14,390	0.33	-235	6.47	20.65	98.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND
	BDW05	1/31/2014			14,350	0.7	-66	6.52	19.54	28.3	1.2	<0.5	<0.5	2.37	3.18	<0.5	0.057	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	4/30/2014			14,870	0.53	-28	6.44	19.93	33.5	1.31	<0.5	<0.5	3.38	5.77	<0.5	0.094	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	8/15/2014			16,044	1.00	45.7	6.19	21.70	1.9	--	<0.5	<0.5	2.52	3.61	<0.5	0.063	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	11/20/2014			15,154	0.16	55	6.45	20.10	1.9	--	<0.5	<0.5	2.28	3.15	<0.5	0.056	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BDW05	7/29/2015			16,000	0.16	45	6.52	21.99	2.6	--	<0.5	<0.5	2.67	4.86	<0.5	0.078	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BDW06	BDW06	7/28/2015	24 to 34	-15.1 to -25.1	9,100	0.16	31	6.47	22.40	6.8	2.71	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BDW07	BDW07	7/28/2015	26 to 36	-18.1 to -28.1	1,790	0.08	28	6.73	22.41	3.5	1.42	<500	**44200**	<500	<500	<500	336	<500	<500	<500	<500	<500	<500	<500	<500	<500	--	<500	<500	<500	<500	<500	ND
	BDW07	12/12/2015			1,887	0.44	-9	6.22	19.38	--	--	**2.4**	**50300**	**499**	**15.7**	**1.2**	388	<1	0.38 J	4.3	<1	<1	<1	<1	**8.2**	<1	<5	--	<1	<1	--	<1	ND
BDW08	BDW08	7/28/2015	34 to 44	-25.2 to -35.2	1,084	0.16	-151	7.22	22.89	22.6	4.03	<50	**78.4**	**5010**	<50	<50	52	<50	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	ND
Site B - Groundwater Monitoring Wells - 4360 Unit (c)																																		
BFW01	BFW01	7/28/2015	60 to 70	-51.3 to -61.3	1,202	0.28	-154	7.48	21.99	45.2	--	<0.5	**3.57**	<0.5	<0.5	<0.5	0.027	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BFW01	12/12/2015			1,159	0.48	-118	6.78	18.42	--	--	<1	0.65 J	4.80	<1	<1	0.054	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	--	<1	<1	--	<1	ND
BFW02	BFW02	7/28/2015	56 to 66	-47.4 to -57.4	829	0.13	-97	7.17	22.81	3.7	--	<0.5	**12.0**	5.46	<0.5	<0.5	0.15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	BFW02	12/12/2015			927	0.63	-83	6.47	18.66	--	--	0.8 J	0.97 J	3.70	<1	<1	0.050	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	--	<1	<1	--	<1	ND
Site B Groundwater Remedial Goals (EKI, 2013)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.3**	**1.5**	**6**	**10**	**0.5**	**na**	**0.71**	**70**	**na**	**na**	**na**	**na**	**3.4**	**6**	**na**	**79**	**na**	**na**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																								
												VOCs (ug/L, unless otherwise specified)																								
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
East Powell Groundwater Monitoring Wells - S10 Unit (Emeryville) (c)																																		
EPW01	EPW01	10/21/2010	19 to 24	-8.4 to -13.4	1,224	0.32	100	7.31	17	4	--	<100	**12400**	**476**	<100	<100	99	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
	EPW01	2/17/2011			1,091	0.56	9.8	7.09	15.57	4.6	--	<80	**10500**	**640**	<80	<80	87	<80	<80	<80	<80	<80	<80	<80	<80	--	<80	<80	<80	<80	<80	ND
	EPW01	5/18/2011			1,170	0.46	145	7.09	15.75	0.3	2.52	<100	**9190**	**564**	<100	<100	76	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
	EPW01	8/2/2011			1,117	0.15	162	7.05	16.3	1.8	--	<100	**9740**	**535**	<100	<100	80	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
	EPW01	11/14/2011			1,130	0.65	-78	8.13	16.73	11.8	--	<10	**1270**	**78.4**	<10	<10	10.5	<10	<10	<10	<10	<10	<10	<10	<10	--	<10	<10	<10	<10	<10	ND
	EPW01	2/1/2012			1,178	0.07	-234	6.56	16.29	8.2	56.1	<50	**1210**	**5490**	<50	**70.2**	67	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	ND
	EPW01	5/8/2012			1,090	0.09	-175	6.82	16.18	0	75	<40	**197**	**8010**	<40	**251**	88	<40	<40	<40	<40	<40	<40	<40	<40	--	<40	<40	<40	<40	<40	ND
	EPW01	10/17/2012			4,320	0.08	-152	6.46	17.42	24.1	1,160	<10	<10	**12.9**	<10	<10	0.13	<10	<10	<10	<10	<10	<10	<10	<10	--	<10	<10	<10	<10	<10	ND
	EPW01	2/14/2013			3,280	0.14	-148	6.84	16.89	268	413	<2.5	<2.5	**12.0**	2.86	**17.1**	0.43	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	EPW01	1/30/2014			2,070	0.32	-152	6.89	16.48	125	44.8	<0.5	0.58	1.04	<0.5	**1.22**	0.035	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	0.8	<0.5	<0.5	ND
	EPW01	4/28/2014			1,920	0.96	-131	6.84	16.49	80.9	34.0	<0.5	1.00	5.62	<0.5	**0.59**	0.075	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	0.91	<0.5	<0.5	ND
	EPW01	8/14/2014			1,930	0.73	-126.8	6.69	17.10	7.2	28.1	<0.5	<0.5	4.63	<0.5	**0.59**	0.057	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	1.21	<0.5	<0.5	ND
	EPW01	11/21/2014			1,731	0.12	-105	6.95	17.60	14.2	17.5	<0.5	<0.5	3.12	<0.5	**0.71**	0.044	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	1.33	<0.5	<0.5	ND
	EPW01	7/20/2015			2,110	0.09	-141	6.90	17.95	155.0	--	<0.5	<0.5	1.40	<0.5	**0.52**	0.023	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	2.09	<0.5	<0.5	ND
EPW02	EPW02	10/21/2010	19 to 24	-8.6 to -13.6	1,391	0.45	120	7.18	16.9	10	--	<50	**8340**	**199**	<50	<50	66	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	ND
	EPW02	2/17/2011			1,182	0.98	21.5	7.14	15.49	1.37	--	<40	**6060**	**262**	<40	<40	49	<40	<40	<40	<40	<40	<40	<40	<40	--	<40	<40	<40	<40	<40	ND
	EPW02	5/18/2011			1,293	0.83	129	7.18	16.07	1	2.23	<50	**4540**	**208**	<50	<50	37	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	ND
	EPW02	8/2/2011			1,233	0.59	152	7.16	16.15	5.9	--	<50	**5920**	**199**	<50	<50	47	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	ND
	EPW02	11/14/2011			1,154	0.17	58	7.03	16.6	1.5	--	<100	**8330**	**304**	<100	<100	67	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	ND
	EPW02	2/1/2012			1,036	0.36	-70	6.74	15.91	1.4	2.13	<50	**4490**	**262**	<50	<50	37	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	ND
	EPW02	5/8/2012			953	0.32	-24	7.13	16.22	0	2.18	<50	**4060**	**640**	<50	<50	38	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50	ND
	EPW02	10/17/2012			3,840	0.15	-122	6.46	17.10	23.2	916	<10	<10	**241**	<10	**80.8**	3.8	<10	<10	<10	<10	<10	<10	<10	<10	--	<10	<10	<10	<10	<10	ND
	EPW02	2/14/2013			3,360	0.11	-121	6.71	16.61	487	409	<2	2.02	**75.3**	3.01	**21.1**	1.2	<2	<2	<2	<2	<2	<2	<2	<2	--	<2	<2	<2	<2	<2	ND
	EPW02	1/30/2014			2,920	0.64	-122	6.82	16.45	194	51.1	<0.5	1.43	2.54	<0.5	**1.61**	0.063	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	4.34	<0.5	<0.5	ND
	EPW02	4/28/2014			2,640	1.69	-94	6.77	16.32	144	54.5	<0.5	1.43	5.15	<0.5	**1.16**	0.083	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	6.61	<0.5	<0.5	ND
	EPW02	8/14/2014			2,868	0.80	-87.9	6.64	17.10	28.9	46.7	<0.5	2.15	**8.50**	<0.5	**0.66**	0.11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	10.4	<0.5	<0.5	ND
	EPW02-DUP	11/21/2014			2,741	0.20	-76	6.83	17.60	23.3	--	<0.5	1.76	**6.07**	<0.5	**0.69**	0.087	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	8	<0.5	<0.5	ND
	EPW02	11/21/2014			2,741	0.20	-76	6.83	17.60	23.3	35.8	<0.5	1.76	5.38	<0.5	**0.77**	0.081	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	8.43	<0.5	<0.5	ND
	EPW02	7/20/2015			2,650	0.13	-109	6.85	17.83	15.3	--	<0.5	0.87	1.79	<0.5	**1.37**	0.047	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	4.30	<0.5	<0.5	ND
EPW04	EPW04	10/21/2010	18.5 to 24.5	-7.1 to -13.1	933	0.99	3.9	6.97	17.2	12	--	<5	**774**	**80.6**	<5	**15.8**	7.0	<5	<5	<5	<5	<5	<5	<5	<5	--	<5	<5	<5	<5	<5	ND
	EPW04	2/17/2011			806	0.67	11.4	6.99	15.92	0.48	--	<1	**140**	**25.5**	<1	**6.13**	1.4	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	ND
	EPW04	5/18/2011			848	0.47	340	7.03	16	0	<1	<1	**107**	**20.8**	<1	**2.67**	1.1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	ND
	EPW04	8/2/2011			827	0.21	134	7.01	16.33	1.1	--	<0.5	**84.8**	**17.3**	<0.5	**1.87**	0.85	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	EPW04	11/14/2011			819	0.23	128	6.86	16.74	1.8	--	<2.5	**249**	**35.1**	<2.5	**6.23**	2.4	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	EPW04	2/1/2012			3,730	0.15	-176	5.86	16.37	127	1,320	<10	**910**	**261**	<10	**27.1**	10.1	<10	<10	<10	<10	<10	<10	<10	<10	--	<10	<10	<10	<10	<10	ND
	EPW04	5/8/2012			2,810	0.17	-103	6.22	16.2	105	749	<10	**40.9**	**1110**	<10	**279**	16.2	<10	<10	<10	<10	<10	<10	<10	<10	--	<10	<10	<10	<10	<10	ND
	EPW04	10/17/2012			3,850	0.07	-167	6.62	17.61	1,533	596	<10	<10	**103**	<10	**53.2**	1.9	<10	<10	<10	<10	<10	<10	<10	<10	--	<10	<10	<10	<10	<10	ND
	EPW04	2/14/2013			2,410	1.73	-149	6.79	16.81	1,125	67.9	<0.5	<0.5	1.17	<0.5	**1.44**	0.035	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	EPW04	1/30/2014			1,168	0.26	-92	6.68	16.59	109	2.52	<0.5	<0.5	0.61	<0.5	**0.56**	0.015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	EPW04	4/28/2014			966	0.56	-125	6.73	16.62	5.1	1.17	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	EPW04	8/14/2014			1,012	1.21	-63.2	6.58	17.30	6.0	1.00	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	EPW04	11/21/2014			1,014	0.07	-44	7.09	17.80	11.9	1.35	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	EPW04	7/20/2015			1,041	0.12	-119	6.83	17.69	38.9	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MCLs (CCR, 2015)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**na**	**1**	**70**	**na**	**600**	**na**	**5**	**5**	**6**	**1**	**na**	**1200**	**0.5**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																						
												VOCs (ug/L, unless otherwise specified)																						
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
East Powell and Vicinity Groundwater Monitoring Wells - S10 Unit (Chevron) (c)																																	
MW-17	MW-17-W-090624	6/24/2009	4 to 12	6.7 to -1.3	--	--	--	--	--	--	--	4	**8**	2.00	<0.8	<1	0.11	**--**	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	--	<2	<0.5	<1	<1	<0.5	ND
	MW-17	5/19/2010			405	0.08	170	6.22	16.9	3.7	1.7	5	**7**	1.00	<0.8	<1	0.094	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-17-DUP	5/19/2010			--	--	--	--	--	--	1.8	5	**6**	1.00	<0.8	<1	0.086	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-17-W-101028	10/28/2010			478	7.73	21.3	6.42	18.2	1.7	1.9	5	**8**	1.00	<0.8	<1	0.10	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-17-W-110609	6/9/2011			--	--	--	--	--	--	1.8	5	**7**	1.00	<0.8	<1	0.094	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	**--**	<0.5	<1	<1	<0.5	ND
	MW-17-W-111201	12/1/2011			456	1.14	-63.7	6.06	17.59	0.3	2	5	**8**	1.00	<0.8	<1	0.10	<0.5	<0.8	<0.8	<1	<1	<1	<1	<1	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-17-W-121227	12/27/2012			568	--	161.9	6.11	16.87	1	<0.5	5	**15**	2.00	<0.8	<1	0.16	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-17-W-150720	7/20/2015			522	--	--	6.39	19.8	--	2.4	4	**6**	1.00	<0.5	<0.5	0.080	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	--	<2	<0.5	<0.5	<1	<0.5	ND
MW-18	MW-18-W-090624	6/24/2009	4 to 11	6.1 to -0.9	--	--	--	--	--	--	--	**6**	**8**	1.00	<0.8	<1	0.11	**--**	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	--	<2	<0.5	<1	<1	<0.5	ND
	MW-18	5/18/2010			436	630	179	6.22	16.7	0.9	1.6	**7**	**16**	1.00	<0.8	<1	0.17	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-18-W-101027	10/27/2010			534	8.75	106	6.52	17.6	0.4	1.9	**7**	**10**	<0.8	<0.8	<1	0.12	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-18-W-110607	6/7/2011			--	--	--	--	--	--	1.7	**7**	**28**	2.00	1.00	<1	0.29	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	**--**	<0.5	<1	<1	<0.5	ND
	MW-18-W-111202	12/2/2011			501	1.44	-149.9	6.27	17.24	-0.2	1.5	**6**	**12**	<0.8	<0.8	<1	0.13	<0.5	<0.8	<0.8	<1	<1	<1	<1	<1	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-18-W-121227	12/27/2012			525	--	51.3	6.42	15.51	5	0.61	**10.0**	**32**	**22.0**	3	**4**	0.63	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-18-W-150720	7/20/2015			507	--	--	6.33	19.5	--	0.96	**8**	**24**	3.00	<0.5	<0.5	0.26	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	--	<2	<0.5	<0.5	<1	<0.5	ND
MW-19A	MW-19A-W-090624	6/24/2009	3 to 15	6.4 to -5.6	--	--	--	--	--	--	--	**310**	**42**	**13.0**	2	<1	2.3	**--**	<0.8	<0.8	<1	<1	<1	<1	<0.8	1.00	--	<2	<0.5	<1	<1	<0.5	ND
	MW-19A	5/19/2010			355	0.0	145	7.09	15.6	9	3.5	**400**	**54**	**100.0**	4	**2**	3.9	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	1.00	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-19A-DUP	5/19/2010			--	--	--	--	--	--	--	**481**	**56.4**	**93.2**	<5	<5	4.3	<5	<5	<5	<5	<5	<5	<5	<5	<5	<100	<5	<4	<5	<1	<0.5	ND
	MW-19A-W-101027	10/27/2010			431	7.18	69.2	5.39	18.2	2.8	11	**360**	**45**	**110**	4	**2**	3.7	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	**2**	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-19A-W-110608	6/8/2011			--	--	--	--	--	--	6.3	**290**	**26**	**54.0**	3	<1	2.5	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	1.00	<5	**--**	<0.5	<1	<1	<0.5	ND
	MW-19A-W-111201	12/1/2011			396	0.83	-144.7	6.87	16.98	-0.7	4.6	**340**	**56**	**89.0**	4	**1.00**	3.5	<0.5	<0.8	<0.8	<1	<1	<1	<1	<1	**3**	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-19A	2/2/2012			837	0.14	-203	6.46	14.49	97.3	200	<2.5	**7.36**	**214**	<2.5	**15.6**	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	MW-19A	5/8/2012			1,454	0.19	-100	6.78	17.00	426	280	<1	<1	2.98	2.22	**5.46**	0.14	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	ND
	MW-19A-W-120627	6/27/2012			1,738	1.11	-64.2	6.52	16.89	90.4	470	<0.8	<1	**73.0**	2	**3**	0.82	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	4,400 (h)
	MW-19A-W-121226	12/26/2012			1,192	--	-91.9	6.75	15.72	58	47.7	**10.0**	2	**22.0**	<0.8	**4**	0.37	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	0.60	8 (g)
	MW-19A-W-150720	7/20/2015			851	--	--	7.05	18.2	--	4.5	1.00	0.7	6.00	<0.5	**15.0**	0.31	<0.5	<0.5	<0.5	<1	<1	<1	1	<0.5	<0.5	--	<2	0.50	<0.5	<1	<0.5	ND
MWX-2	DUP-W-090624	6/24/2009	2.5 to 13	7.2 to -3.3	--	--	--	--	--	--	--	**23.0**	**60**	**91.0**	4	**17.0**	1.8	**--**	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	--	<2	<0.5	<1	<1	<0.5	ND
	MWX-2-W-090624	6/24/2009			--	--	--	--	--	--	--	**20.0**	**69**	**38.0**	3	**6**	1.2	**--**	<0.8	0.9	<1	<1	<1	<1	<0.8	<1	--	<2	<0.5	<1	<1	<0.5	ND
	MW-X2	5/19/2010			366	0.0	-50	6.77	16.6	17.3	4.8	**130**	**43**	**230**	5	**62.0**	4.5	<0.5	1.00	<0.8	<1	<1	<1	<1	0.90	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X2-W-101027	10/27/2010			377	6.63	123	4.64	19.4	3.1	19.7	**760**	**48**	**150**	2	<1	6.5	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	**11.0**	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X2-W-110609	6/9/2011			--	--	--	--	--	--	8.5	**310**	**30**	**130**	2	**8**	3.6	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	**3**	<5	**--**	<0.5	<1	<1	<0.5	ND
	MW-X2-W-111202	12/2/2011			364	0.73	-154.7	6.46	17.39	2.7	6.6	**480**	**45**	**130**	2	**3**	4.6	<0.5	<0.8	<0.8	<1	<1	<1	<1	<1	**7**	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X2-W-121227	12/27/2012			236	--	93.7	6.67	14.44	14	3.3	**420**	**34**	**100.0**	3	**4**	3.9	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	**6**	<5	<2	<0.5	<1	<1	<0.5	ND
MWX-3	MWX-3-W-090624	6/24/2009	2.5 to 13	8.4 to -2.1	--	--	--	--	--	--	--	<2	**2,100**	**670**	**22.0**	**24.0**	24	**--**	<2	<2	<2	<2	<2	3	2	<2	--	<4	<1	<2	<1	<0.5	ND
	MW-X3	5/19/2010			559	1.75	167	6.89	14.8	52.6	4.5	<0.8	**490**	**480**	10.0	**12.0**	9.0	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X3-DUP	5/19/2010			--	--	--	--	--	--	--	<5	**641**	**581**	**12.1**	**14.7**	11.2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<100	<5	<4	<5	<1	<0.5	ND
	MW-X3-W-101027	10/27/2010			720	5.89	89.3	5.43	16.1	1.9	8.8	<0.8	**330**	**500**	8	**5**	7.8	<0.5	<0.8	1	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X3-W-110607	6/7/2011			--	--	--	--	--	--	5.1	<0.8	**430**	**630**	**14.0**	**8**	10.0	<0.5	<0.8	1	<1	<1	<1	<1	0.80	<1	<5	**--**	<0.5	<1	<1	<0.5	ND
	MW-X3-W-111202	12/2/2011			718	0.9	-201.5	6.62	16.67	-0.6	5.9	<0.8	**630**	**430**	**12.0**	**13.0**	9.6	<0.5	<0.8	<0.8	<1	<1	<1	1	1.00	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MWX-3	2/1/2012			1,530	0.15	-196	6.16	14.50	80.5	149	<10	<10	**1570**	**12.2**	**89.8**	17.8	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	<10	<10	<10	<10	<10	ND
	MWX-3	5/8/2012			1,620	0.25	-105	6.45	15.15	87.9	185	<0.5	1	**6.18**	**27.5**	**9.49**	0.51	<0.5	<0.5	4.27	<0.5	<0.5	<0.5	3.01	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	MWX-3-W-121227	12/27/2012			2,044	--	-77.2	6.57	15.94	560	55.2	<0.8	<1	4.00	2	**2**	0.094	0.60	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	3	<1	<0.5	15 (h)
	MWX-3-W-150720	7/20/2015			1,493	--	--	6.61	18.4	--	5.2	<0.5	2	**62.0**	1.00	**19.0**	0.97	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	--	<2	<0.5	<0.5	<1	<0.5	ND
MCLs (CCR, 2015)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**na**	**1**	**70**	**na**	**600**	**na**	**5**	**5**	**6**	**1**	**na**	**1200**	**0.5**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Field Parameters						Analytical Results (a,b)																								
												VOCs (ug/L, unless otherwise specified)																								
					Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Temperature (Celsius)	Turbidity (NTU)	Organic Carbon, total (mg/L)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Total CVOCs (umol/L) (Sum of PCE, TCE, cDCE, tDCE, & VC)	Benzene	Chlorobenzene	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,2,2-Tetrachloroethane	Tert-butyl Alcohol	Trichlorotrifluoroethane	1,2-Dichloroethane	Chloroethane	2-Chlorotoluene	Toluene	Other VOCs
East Powell and Vicinity Groundwater Monitoring Wells - S10 Unit (Chevron) (c)																																		
MWX-6	MWX-6-W-090624	6/24/2009	2.5 to 13	6.4 to -4.1	--	--	--	--	--	--	--	<0.8	<1	1.00	<0.8	<1	0.010	--	<0.8	<0.8	<1	<1	1.00	<1	<0.8	<1	--	<2	<0.5	<1	<1	<0.5	ND
	MW-X6	5/20/2010			600	0.0	84	6.75	15.7	1.3	5.2	<0.8	<1	2.00	<0.8	<1	0.021	<0.5	<0.8	<0.8	<1	1	1.00	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X6-W-101026	10/26/2010			547	4.34	48	6.9	18.1	5.8	4.9	<0.8	<1	2.00	<0.8	<1	0.021	<0.5	<0.8	<0.8	<1	<1	2	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X6-W-110608	6/8/2011			--	--	--	--	--	--	5.8	<0.8	<1	1.00	<0.8	<1	0.010	<0.5	<0.8	<0.8	<1	<1	1.00	<1	<0.8	<1	<5	--	<0.5	<1	<1	<0.5	ND
	MW-X6-W-111130	11/30/2011			678	7.4	-129.5	6.72	18.11	1.0	5.1	<0.8	<1	1.00	<0.8	<1	0.010	<0.5	<0.8	<0.8	<1	<1	1.00	<1	<1	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X6-W-121226	12/26/2012			660	--	74.5	6.88	18.28	0	5.8	<0.8	<1	1.00	<0.8	<1	0.010	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MWX-6-W-150720	7/20/2015			577	--	--	6.74	19.3	--	3.4	<0.5	<0.5	0.8	<0.5	<0.5	0.008	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	--	<2	<0.5	<0.5	<1	<0.5	ND
MWX-8	MWX-8-W-090624	6/24/2009	2.5 to 13	7.8 to -2.7	--	--	--	--	--	--	--	**260**	**64**	**84.0**	3	**6**	3.0	--	<0.8	<0.8	<1	<1	<1	<1	<0.8	**2**	--	<2	<0.5	<1	<1	<0.5	ND
	MW-X8	5/18/2010			342	0.0	113	7.1	15.6	0.0	3.2	**260**	**67**	**91.0**	3	**6**	3.1	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	1.00	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X8-W-101026	10/26/2010			315	4.47	48.7	6.92	18.2	1.6	6.3	**290**	**170**	**230**	5	**19.0**	5.8	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X8-W-110608	6/8/2011			--	--	--	--	--	--	4.5	**280**	**49**	**100.0**	4	**1.00**	3.2	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	1.00	<5	--	<0.5	<1	<1	<0.5	ND
	MW-X8-W-111202	12/2/2011			361	1.57	-147	6.87	17.63	-0.3	3.8	**240**	**78**	**120**	4	**3**	3.4	<0.5	<0.8	<0.8	<1	<1	<1	<1	<1	**2**	<5	<2	<0.5	<1	<1	<0.5	ND
	MWX-8	2/2/2012			1,188	0.23	-174	5.90	14.68	12.0	313	**164**	**67.3**	**116**	<2.5	**13.6**	2.9	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	376	<2.5	<2.5	<2.5	<2.5	ND
	MWX-8	5/9/2012			1,402	0.27	-127	6.77	15.02	16.2	150	2.48	<2	**7.79**	2.72	**5.24**	0.21	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	--	92.7	<2	<2	<2	<2	ND
	MW-X8-W-120627	6/27/2012			1,333	0.84	-67.8	6.25	16.07	3.9	255	<0.8	<1	**23.0**	3	**3**	0.32	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	10.0	<0.5	<1	<1	<0.5	1,507 (h)
	MW-X8-W-120627 DUP	6/27/2012									217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND
	MW-X8-W-121226	12/26/2012			1,706	--	-130	6.73	15.65	78	108	1.00	<1	4.00	2	**2**	0.100	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	2	100 (h)
	MWX-8-W-150720	7/20/2015			980	--	--	6.98	18.40	--	3	<0.5	<0.5	<0.5	0.50	**1.00**	0.021	<0.5	<0.5	<0.5	<1	<1	<1	1	<0.5	<0.5	--	<2	<0.5	<0.5	<1	<0.5	ND
MWX-9	MWX-9-W-090624	6/24/2009	2.5 to 13	6.5 to -4.0	--	--	--	--	--	--	--	**9**	**17**	**37.0**	1.00	**3**	0.62	--	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	--	<2	<0.5	<1	<1	<0.5	ND
	MW-X9	5/20/2010			569	0.0	82	6.92	16	0.0	4.7	**7**	**20**	**8.00**	1.00	<1	0.29	<0.5	4	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X9-D-W-101026	10/26/2010			566	4.65	95	6.38	19.2	2.6	4.9	**6**	**18**	**26.0**	1.00	<1	0.45	<0.5	2	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X9-W-101026	10/26/2010									4.7	5	**18**	**21.0**	1.00	<1	0.39	<0.5	2	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X9-W-110609	6/9/2011			--	--	--	--	--	--	4.5	5	**21**	**7.00**	1.00	<1	0.27	<0.5	3	<0.8	<1	<1	<1	<1	<0.8	<1	<5	--	<0.5	<1	<1	<0.5	ND
	MW-X9-WD-110609	6/9/2011									4.4	**10.0**	**21**	**13.0**	<1	<1	0.35	<0.5	1.00	<0.8	<1	<1	<1	<1	<0.8	<1	<5	--	<0.5	<1	<1	<0.5	ND
	MW-X9-W-111130	11/30/2011			615	0.49	-107.7	6.86	17.81	-0.8	4.8	3	**13**	**6.00**	0.90	<1	0.19	<0.5	2	<0.8	<1	<1	<1	<1	<1	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X9-W-121226	12/26/2012			537	--	94.3	7.09	16.89	0	4.3	**4**	**14**	**8.00**	<0.8	<1	0.21	<0.5	**2**	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MWX-9-W-150720	7/20/2015			504	--	--	7.14	20.3	--	2.6	**5**	**14**	**22.0**	0.80	<0.5	0.37	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	--	<2	<0.5	<0.5	<1	<0.5	ND
MWX-10A	MWX-10A-W-090624	6/24/2009	2.5 to 13	8.0 to -2.5	--	--	--	--	--	--	--	<0.8	**17**	2.00	<0.8	<1	0.15	--	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	--	<2	<0.5	<1	<1	<0.5	ND
	MW-X10A	5/20/2010			688	0.0	20	7.16	14.8	400	8.1	<0.8	**6**	3.00	<0.8	<1	0.077	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X10A-W-101028	10/28/2010			781	8.63	12.3	7.25	16.3	1.4	11.3	<0.8	**14**	4.00	<0.8	<1	0.15	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X10A-W-110610	6/10/2011			781	8.63	12.3	7.25	16.3	1.4	8.4	<0.8	5	3.00	<0.8	<1	0.069	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	--	<0.5	<1	<1	<0.5	ND
	MW-X10A-W-111201	12/1/2011			768	0.57	-155	6.96	14.94	0.1	7.7	<0.8	**6**	5.00	<0.8	<1	0.097	<0.5	<0.8	<0.8	<1	<1	<1	<1	<1	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X10A-W-111201DUP	12/1/2011									7.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND
	MW-10A-W-121227	12/27/2012			801	--	51.4	7.07	13.44	14	9	<0.8	1	<0.8	<0.8	<1	0.008	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MWX-10A-W-150720	7/20/2015			507	--	--	6.84	18.6	--	7.1	<0.5	3	1.00	<0.5	<0.5	0.033	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	--	<2	<0.5	<0.5	<1	<0.5	ND
MWX-11A	MWX-11A-W-090624	6/24/2009	2.5 to 13	9.2 to -1.3	--	--	--	--	--	--	--	<0.8	3	2.00	<0.8	<1	0.043	--	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	--	<2	<0.5	<1	<1	<0.5	ND
	MW-X11A	5/20/2010			1,050	0.57	116	6.86	15.2	34.6	8.2	<0.8	3	2.00	0.90	<1	0.053	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X11A-W-101028	10/28/2010			948	15.6	51.6	6.54	16.2	0.9	13.2	<0.8	4	2.00	<0.8	<1	0.051	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-X11A-W-110610	6/10/2011			--	--	--	--	--	--	12.7	<0.8	**11**	**8.00**	4	<1	0.21	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	--	<0.5	<1	<1	<0.5	ND
	MW-X11A-W-111130	11/30/2011			974	0.95	-97.3	6.59	16.89	0.3	10.4	<0.8	4	5.00	1.00	<1	0.092	<0.5	<0.8	<0.8	<1	<1	<1	<1	<1	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MW-11A-W-121227	12/27/2012			1,036	--	59.4	6.69	14.49	13	12.1	<0.8	**8**	3.00	1.00	<1	0.10	<0.5	<0.8	<0.8	<1	<1	<1	<1	<0.8	<1	<5	<2	<0.5	<1	<1	<0.5	ND
	MWX-11A-W-150720	7/20/2015			1,043	--	--	7.27	18.2	--	9.6	<0.5	**14**	**7.00**	2	<0.5	0.20	<0.5	<0.5	<0.5	<1	<1	<1	1	<0.5	<0.5	--	<2	<0.5	<0.5	<1	<0.5	ND
5743 Horton Street																																		
MPW1	MPW1	5/7/2015	**(i)**	**(i)**	1,343	0.04	31	6.83	17.8	--	--	**14.7**	**1,380**	**196**	**98.1**	**21.9**	14.0	<10	<10	<10	<10	<10	<10	**31.9**	<10	<10	<10	<10	<10	<10	<10	<10	ND
MPW2	MPW2	5/7/2015	**(i)**	**(i)**	971	0.08	-37.2	6.81	19.8	--	--	<1	<1	5.97	1.40	**45.1**	0.80	<1	9.25	<1	85.0	2.70	13.5	**61.6**	<1	<1	<1	<1	<1	<1	2.5	<1	ND
MPW3	MPW3	5/7/2015	**(i)**	**(i)**	1,484	0.06	-11.3	6.79	18.4	--	--	<5	**418**	**57.2**	**57.9**	**8.62**	4.5	<5	18.9	<5	<5	<5	<5	**16.8**	<5	<5	<5	<5	<5	<5	<5	<5	ND
MCLs (CCR, 2015)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**5**	**5**	**6**	**10**	**0.5**	**na**	**1**	**70**	**na**	**600**	**na**	**5**	**5**	**6**	**1**	**na**	**1200**	**0.5**	**na**	**na**	**150**	**na**

TABLE 4-2a
SUMMARY OF FIELD PARAMETERS AND ANALYTICAL RESULTS FOR GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Abbreviations:

"--" = not analyzed
<0.5 = Not detected above the stated laboratory reporting limit
ACPWA = Alameda County Public Works Agency
cDCE = cis-1,2-dichloroethene
EKI = Erler & Kalinowski, Inc.
ft bgs = feet below ground surface
ft msl = feet above mean sea level
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MCLs = maximum contaminant levels
mg/L = milligrams per liter
PCE = tetrachloroethene
TCE = trichloroethene
tDCE = trans-1,2-dichloroethene
ug/L = micrograms per liter
umol/L = micromoles per liter
VC = vinyl chloride

Notes:

(a) Groundwater samples collected by EKI were selectively analyzed for one or more of the following chemical analytes using the following methods:
VOCs using EPA Methods 8260B; and
Total organic carbon using EPA Method 415.1 or SM5301C.
Analyses were performed by K-Prime, Inc., Santa Rosa, California; Alpha Analytical Laboratories Inc., Ukiah, California; and Pace Analytical Services, Inc., Greensburg, Pennsylvania.
(b) Concentrations detected in Site B monitoring wells that exceed the Site B groundwater remedial goals are in **bold**. Concentrations detected in East Powell monitoring wells that exceed the MCLs are in **bold**.
(c) The S10 unit is defined from approximately the ground surface to -10 ft msl, the 1032 unit is defined from -10 to -32 ft msl, and the 4360 Unit is defined from -43 to -60 ft msl. The average ground surface elevation at Site B is approximately 8.5 ft msl.
(d) Other VOCs detected in the sample collected from BMW05 in August and November 2014 is isopropylbenzene.
(e) BDW01A and BDW01B were collected at 24 ft bgs and 31 ft bgs, respectively, within the well screen interval.
(f) BDW02A and BDW02B were collected at 25 ft bgs and 30.5 ft bgs, respectively, within the well screen interval.
(g) This sample was mistakenly identified as BMW02 on Chain of Custody records. This error was subsequently identified and well BMW02 was resampled on 11 August 2015 for verification.
(h) Other VOCs detected in samples collected from Chevron monitoring wells in June and/or December 2012 include acetone and 2-butanone, common laboratory contaminants.
(i) On 7 May 2015, the bottom of the wells referred to as MPW1, MPW2, and MPW3, were tagged at 24.65, 21.6, and 25.3 ft bgs, respectively. No well completion reports were found by ACPWA for these wells, well screen intervals are unknown.

References:

(1) EKI, 2013. *Final Remedial Action Plan Amendment and Remedial Design and Implementation Plan for Shallow Groundwater* , Site B Project Area, Emeryville, California, June 2013.
(2) CCR, 2015. California Maximum Contaminant Levels, Title 22, California Code of Regulations, 23 September 2015.

TABLE 4-2b
SUMMARY OF ANALYTICAL RESULTS FOR DISSOLVED TITLE 22 METALS FROM GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Analytical Results (a,b,c)																
					Dissolved Title 22 Metals in (ug/L)																
					Antimony, Dissolved	Arsenic, Dissolved	Barium, Dissolved	Beryllium, Dissolved	Cadmium, Dissolved	Chromium, Dissolved	Cobalt, Dissolved	Copper, Dissolved	Lead, Dissolved	Mercury, Dissolved	Molybdenum, Dissolved	Nickel, Dissolved	Selenium, Dissolved	Silver, Dissolved	Thallium, Dissolved	Vanadium, Dissolved	Zinc, Dissolved
Site B Groundwater Monitoring Wells - S10 Unit (d)																					
BMW01	BMW01	3/18/2010	9 to 14	-0.6 to -5.6	<1	1.07	79.5	<1	<1	<1	2.62	1.6	<1	<0.2	7.96	23.1	<1	<1	<1	1.89	2.4
	BMW01	10/21/2010			<1	<1	78.9	<1	<1	<1	2.4	1.55	<1	<0.2	7.54	22.3	<1	<1	<1	1.66	<1
	BMW01	2/16/2011			<1	7.74	154	<1	<1	<1	2.2	<1	<1	<0.2	5.79	16	<1	<1	<1	<1	<1
	BMW01	5/19/2011			<1	7.74	141	<1	<1	<1	2.29	<1	<1	<0.2	7.42	16.3	<1	<1	<1	<1	<1
	BMW01	8/4/2011			<1	8.68	181	<1	<1	<1	1.33	<1	<1	<0.2	7.89	17.1	1.57	<1	<1	<1	1.13
BMW02	BMW02	3/18/2010	3.5 to 11	5.3 to -2.2	1.72	2.07	35.5	<1	<1	<1	1.49	**3.8**	<1	<0.2	12.9	9.35	<1	<1	<1	10.9	1.64
	BMW02	10/20/2010			<1	3.29	44.3	<1	<1	<1	2.15	1.42	<1	<0.2	12.4	10.5	<1	<1	<1	5.52	2.17
	BMW02 DUP	10/20/2010			<1	3.24	43.9	<1	<1	<1	2.12	1.77	<1	<0.2	12.1	10.2	<1	<1	<1	5.17	2.18
	BMW02	2/15/2011			<1	1.1	28.9	<1	<1	<1	1.52	<1	<1	<0.2	7.14	9.87	<1	<1	<1	6.73	<1
	BMW02 DUP	2/15/2011			<1	1.22	32.5	<1	<1	<1	1.52	<1	<1	<0.2	7.29	9.76	<1	<1	<1	6.75	<1
	BMW02	5/18/2011			<1	1.33	27.8	<1	<1	<1	1.07	<1	<1	<0.2	8.73	6.11	<1	<1	<1	5.47	2.36
	BMW02	8/4/2011			<1	2.07	30	<1	<1	<1	1.03	1.39	<1	<0.2	9.47	5.13	<1	<1	<1	3.28	2.15
	BMW02 DUP	8/4/2011			<1	2.12	30.7	<1	<1	<1	1.04	1.47	<1	<0.2	9.63	5.31	<1	<1	<1	3.36	5.82
BMW03	BMW03	3/18/2010	11.5 to 16.5	-3.7 to -8.7	<1	<1	102	<1	<1	<1	2.72	1.5	<1	<0.2	6.92	22.4	<1	<1	<1	1.57	<1
	BMW03	10/21/2010			<1	<1	95.4	<1	<1	<1	2.89	2.33	<1	<0.2	7.27	20.7	<1	<1	<1	1.46	1.06
	BMW03	2/16/2011			<1	24.4	395	<1	<1	<1	**23.4**	<1	<1	<0.2	5.36	**53.5**	2.95	<1	<1	1.57	2.33
	BMW03	5/19/2011			<1	6.29	253	<1	<1	<1	1.82	1.88	1.39	<0.2	1.63	5.44	3.11	<1	<1	8.85	1.78
	BMW03	8/4/2011			<1	23.1	297	<1	<1	<1	<1	1.14	<1	<0.2	1.33	12.5	4.93	<1	<1	6.44	1.48
	BMW03	11/15/2011			--	9.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	2/6/2012			--	4.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	5/11/2012			--	34.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	2/15/2013			--	9.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	2/5/2014			--	12.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	4/30/2014			--	19.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	8/18/2014			--	17.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	11/20/2014			--	12.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW03	7/27/2015			--	49.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BMW04	BMW04	3/18/2010	8 to 12	0.8 to -3.2	<1	<1	75.6	<1	<1	<1	<1	1.28	<1	<0.2	3.57	22.5	<1	<1	<1	1.61	<1
	BMW04	10/21/2010			<1	<1	77.2	<1	<1	<1	1.04	1.32	<1	<0.2	3.26	15.2	<1	<1	<1	1.3	<1
	BMW04	2/16/2011			<1	<1	75	<1	<1	<1	<1	<1	<1	<0.2	2.24	16.9	<1	<1	<1	1.04	<1
	BMW04	5/19/2011			<1	<1	79.4	<1	<1	<1	<1	<1	<1	<0.2	2.8	19.8	<1	<1	<1	1.15	3.21
	BMW04	8/2/2011			<1	<1	77.8	<1	<1	<1	<1	1	<1	<0.2	2.66	21.1	<1	<1	<1	1.36	1.55
BMW05	BMW05	3/18/2010	12 to 18	-3.5 to -9.5	<1	3.66	35.6	<1	<1	<1	3.56	<1	<1	<0.2	3.32	10.8	<1	<1	<1	<1	3.3
	BMW05	10/20/2010			<1	3.2	33.6	<1	<1	<1	2.96	<1	<1	<0.2	4.1	10.8	<1	<1	<1	<1	2.4
	BMW05	2/16/2011			<1	6.37	39.3	<1	<1	<1	2.27	<1	<1	<0.2	3.92	6.8	<1	<1	<1	<1	<1
	BMW05	5/19/2011			<1	4.72	46	<1	<1	<1	3.40	<1	<1	<0.2	3.88	6.99	<1	<1	<1	<1	3.30
	BMW05	8/2/2011			<1	4.67	47.3	<1	<1	<1	4.36	<1	<1	<0.2	3.64	11.4	<1	<1	<1	<1	4.79
BMW06	BMW06	3/18/2010	10 to 15	-1.7 to -6.7	<1	1.64	55.3	<1	<1	<1	3.46	1.21	<1	<0.2	12.1	25.7	<1	<1	<1	2.85	2.55
	BMW06	10/21/2010			<1	1.47	57.7	<1	<1	<1	3.3	1.44	<1	<0.2	13	24.9	<1	<1	<1	2.89	<1
	BMW06	2/15/2011			<1	1.33	64.6	<1	<1	<1	2.52	<1	<1	<0.2	11.3	22.9	<1	<1	<1	2.77	<1
	BMW06	5/19/2011			<1	1.03	59.1	<1	<1	<1	2.77	<1	<1	<0.2	11.5	20.6	<1	<1	<1	2.15	2.44
	BMW06	8/4/2011			<1	1.43	68.5	<1	<1	<1	2.58	1.15	<1	<0.2	14.4	24.2	<1	<1	<1	2.63	1.76
BMW07	BMW07	3/18/2010	11 to 15	-2.2 to -6.2	<1	1.88	26.6	<1	<1	<1	1.81	1.23	<1	<0.2	5.62	13.3	<1	<1	<1	<1	<1
	BMW07	10/20/2010			<1	1.62	33.5	<1	<1	<1	1.57	<1	<1	<0.2	6.03	13	<1	<1	<1	<1	1.12
	BMW07	2/17/2011			<1	1.36	39.2	<1	<1	<1	1.4	1.97	<1	<0.2	5.14	11.5	<1	<1	<1	<1	<1
	BMW07	5/19/2011			<1	1.28	36.8	<1	<1	<1	1.73	<1	<1	<0.2	5.55	10.8	<1	<1	<1	<1	2.91
	BMW07	8/1/2011			<1	1.41	41.5	<1	<1	<1	1.54	<1	<1	<0.2	5.03	11.5	<1	<1	<1	<1	<1
Site B Groundwater Remedial Goal (EKI, 2008)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Calculated Groundwater Goals for the Protection of Surface Water (EKI, 2007)					**na**	**na**	**na**	**na**	**na**	**280**	**17**	**3.1**	**na**	**na**	**na**	**46**	**28**	**na**	**na**	**na**	**500**
MCLs (CCR, 2015)					**6**	**10**	**1,000**	**4**	**5**	**50**	**na**	**1,300**	**15**	**2**	**na**	**100**	**50**	**na**	**2**	**na**	**na**

TABLE 4-2b
SUMMARY OF ANALYTICAL RESULTS FOR DISSOLVED TITLE 22 METALS FROM GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Analytical Results (a,b,c) — Dissolved Title 22 Metals in (ug/L)																
					Antimony, Dissolved	Arsenic, Dissolved	Barium, Dissolved	Beryllium, Dissolved	Cadmium, Dissolved	Chromium, Dissolved	Cobalt, Dissolved	Copper, Dissolved	Lead, Dissolved	Mercury, Dissolved	Molybdenum, Dissolved	Nickel, Dissolved	Selenium, Dissolved	Silver, Dissolved	Thallium, Dissolved	Vanadium, Dissolved	Zinc, Dissolved
Site B Groundwater Monitoring Wells - S10 Unit (d)																					
BMW08	BMW08	3/17/2010	11 to 16	-1.4 to -6.4	<1	1.26	58.4	<1	<1	**545**	<1	<1	<1	<0.2	2.15	4.56	1.13	<1	<1	1.73	<1
	BMW08	10/20/2010			<1	<1	110	<1	<1	**425**	<1	2.25	<1	<0.2	1.86	4.94	<1	<1	<1	1.23	3.79
	BMW08	2/15/2011			<1	<1	142	<1	<1	**335**	<1	<1	<1	<0.2	<1	5.85	<1	<1	<1	<1	<1
	BMW08	5/17/2011			<1	<1	174	<1	<1	**283**	<1	<1	<1	<0.2	1.54	5.92	<1	<1	<1	1.03	2.86
	BMW08	8/1/2011			<1	<1	128	<1	<1	**187**	<1	<1	<1	<0.2	<1	5.22	<1	<1	<1	<1	<1
	BMW08	11/15/2011			--	--	--	--	--	**102**	--	--	--	--	--	--	--	--	--	--	--
	BMW08	2/2/2012			--	--	--	--	--	**97.5**	--	--	--	--	--	--	--	--	--	--	--
	BMW08	5/10/2012			--	--	--	--	--	**86.4**	--	--	--	--	--	--	--	--	--	--	--
	BMW08	2/21/2013			--	--	--	--	--	**135**	--	--	--	--	--	--	--	--	--	--	--
	BMW08	1/31/2014			--	--	--	--	--	3.16	--	--	--	--	--	--	--	--	--	--	--
	BMW08	4/28/2014			--	--	--	--	--	1.58	--	--	--	--	--	--	--	--	--	--	--
	BMW08	8/12/2014			--	--	--	--	--	1.26	--	--	--	--	--	--	--	--	--	--	--
	BMW08	11/18/2014			--	--	--	--	--	1.41	--	--	--	--	--	--	--	--	--	--	--
	BMW08	7/27/2015			--	--	--	--	--	1.15	--	--	--	--	--	--	--	--	--	--	--
BMW10	BMW10	3/17/2010	11 to 20	-1.8 to -10.8	1.15	<1	129	<1	<1	3.45	<1	1.19	<1	<0.2	1.47	7.39	<1	<1	<1	1.22	<1
	BMW10	10/20/2010			1.21	<1	108	<1	<1	5.13	<1	<1	<1	<0.2	1.42	5.36	<1	<1	<1	<1	2.29
	BMW10	2/15/2011			<1	<1	152	<1	<1	<1	<1	<1	<1	<0.2	<1	7.65	<1	<1	<1	<1	<1
	BMW10	5/17/2011			<1	1.18	226	<1	<1	<1	1.07	<1	<1	<0.2	1.31	9.66	<1	<1	<1	<1	3.71
	BMW10	8/1/2011			<1	<1	163	<1	<1	<1	1.05	<1	<1	<0.2	<1	8.51	<1	<1	<1	<1	1.91
BMW11	BMW11	10/20/2010	11 to 19	-2.4 to -10.4	<1	5.47	25.3	<1	<1	<1	2.58	<1	<1	<0.2	3.23	10.9	<1	<1	<1	1.1	6.75
	BMW11	2/15/2011			<1	4.9	22.3	<1	<1	<1	1.69	<1	<1	<0.2	2.21	11.2	<1	<1	<1	1.28	9.14
	BMW11	5/17/2011			<1	3.91	25.0	<1	<1	<1	1.41	1.58	<1	<0.2	3.07	14.2	<1	<1	<1	1.55	9.57
	BMW11	8/1/2011			<1	1.71	30.8	<1	<1	<1	1.26	1.46	<1	<0.2	2.58	13.3	<1	<1	<1	1.28	6.98
BMW12	BMW12	10/21/2010	9 to 19	-0.6 to -10.6	<1	1.67	28.1	<1	**10.2**	<1	**73.4**	2.61	<1	<0.2	1.37	**241**	<1	<1	<1	<1	20.5
	BMW12	2/15/2011			<1	1.03	32.6	<1	**15.2**	<1	**84.2**	1.89	<1	0.478	<1	**225**	<1	<1	<1	<1	26.1
	BMW12	5/17/2011			<1	1.13	33.4	<1	**12.0**	4.66	**94.3**	2.98	<1	<0.2	1.07	**204**	<1	<1	<1	<1	30.7
	BMW12	8/2/2011			<1	<1	27.9	<1	**12.9**	6.36	**69.6**	2.33	<1	<0.2	<1	**209**	<1	<1	<1	<1	23.7
	BMW12	11/15/2011			--	--	--	--	**11.8**	--	--	--	--	--	--	**191**	--	--	--	--	--
	BMW12	2/2/2012			--	--	--	--	**15.7**	--	--	--	--	--	--	**213**	--	--	--	--	--
	BMW12	2/15/2013			--	--	--	--	**14**	--	--	--	--	--	--	**214**	--	--	--	--	--
	BMW12	2/3/2014			--	--	--	--	<1	**--**	--	--	--	--	--	1.75	--	--	--	--	--
	BMW12	4/30/2014			--	--	--	--	<1	**--**	--	--	--	--	--	6.68	--	--	--	--	--
	BMW12	8/14/2014			--	--	--	--	<1	**--**	--	--	--	--	--	2.54	--	--	--	--	--
	BMW12	11/17/2014			--	--	--	--	<1	**--**	--	--	--	--	--	1.75	--	--	--	--	--
	BMW12	7/29/2015			--	--	--	--	<1	**--**	--	--	--	--	--	1.75	--	--	--	--	--
BMW13	BMW13	2/15/2011	11 to 13	-1.9 to -3.9	<1	10.8	109	<1	<1	<1	<1	<1	<1	<1	4.83	1.35	<1	<1	<1	<1	<1
	BMW13	5/18/2011			<1	11.0	144	<1	<1	<1	<1	<1	<1	<1	3.01	1.22	<1	<1	<1	<1	1.08
	BMW13	8/4/2011			<1	11.7	148	<1	<1	<1	<1	<1	<1	<0.2	2.98	1.15	<1	<1	<1	<1	2.08
	BMW13	11/15/2011			<1	11.8	147	<1	<1	<1	<1	<1	<1	<0.2	3.09	<1	<1	<1	<1	<1	4.09
	BMW13	2/7/2012			--	11.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW13	5/9/2012			--	9.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW13	2/20/2013			--	11.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW13	2/4/2014			--	4.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW13	4/29/2014			--	6.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW13	8/12/2014			--	11.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW13	11/19/2014			--	26.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BMW13	7/30/2015			--	5.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Site B Groundwater Remedial Goal (EKI, 2008)					**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Calculated Groundwater Goals for the Protection of Surface Water (EKI, 2007)					**na**	**na**	**na**	**na**	**na**	**280**	**17**	**3.1**	**na**	**na**	**na**	**46**	**28**	**na**	**na**	**na**	**500**
MCLs (CCR, 2015)					**6**	**10**	**1,000**	**4**	**5**	**50**	**na**	**1,300**	**15**	**2**	**na**	**100**	**50**	**na**	**2**	**na**	**na**

TABLE 4-2b
SUMMARY OF ANALYTICAL RESULTS FOR DISSOLVED TITLE 22 METALS FROM GROUNDWATER MONITORING WELL SAMPLES
Site B Project Area
Emeryville, California

Well ID	Sample ID	Sample Date	Well Screen Interval (ft bgs)	Well Screen Interval (ft msl)	Analytical Results (a,b,c) — Dissolved Title 22 Metals in (ug/L)																
					Antimony, Dissolved	Arsenic, Dissolved	Barium, Dissolved	Beryllium, Dissolved	Cadmium, Dissolved	Chromium, Dissolved	Cobalt, Dissolved	Copper, Dissolved	Lead, Dissolved	Mercury, Dissolved	Molybdenum, Dissolved	Nickel, Dissolved	Selenium, Dissolved	Silver, Dissolved	Thallium, Dissolved	Vanadium, Dissolved	Zinc, Dissolved
East Powell and Vicinity Groundwater Monitoring Wells - S10 Unit (Chevron) (d)																					
MW-17	MW-17	5/19/2010	4 to 12	6.7 to -1.3	<1	<1	109	<1	<1	**662**	<1	<1	<1	<0.2	<1	21.5	<1	<1	<1	<1	<1
MW-18	MW-18	5/18/2010	4 to 11	6.1 to -0.9	<1	<1	106	<1	<1	**298**	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	12.7
MW-19A	MW-19A	5/19/2010	3 to 15	6.4 to -5.6	3.26	2.1	82.6	<1	<1	**230**	<1	2.5	<1	<0.2	3.02	1.42	4.6	<1	<1	2.09	3.86
MWX-2	MW-X2	5/19/2010	2.5 to 13	7.2 to -3.3	<1	**20.7**	71.8	<1	<1	<1	1.18	<1	<1	<0.2	4.26	5.04	1.01	<1	<1	<1	<1
MWX-3	MW-X3	5/19/2010	2.5 to 13	8.4 to -2.1	1.8	2.13	140	<1	<1	18.7	<1	3.32	<1	<0.2	3.85	2.74	<1	<1	<1	2.21	<1
MWX-6	MW-X6	5/20/2010	2.5 to 13	6.4 to -4.1	<1	5	53.7	<1	<1	<1	<1	<1	<1	<0.2	7.6	3.86	<1	<1	<1	<1	3.54
MWX-8	MW-X8	5/18/2010	2.5 to 13	7.8 to -2.7	1.81	1.39	59.2	<1	<1	**174**	<1	1.38	<1	<0.2	3.64	<1	3.14	<1	<1	1.32	3.85
MWX-9	MW-X9	5/20/2010	2.5 to 13	6.5 to -4.0	<1	<1	133	<1	<1	1.83	<1	1.52	<1	<0.2	5.22	5.47	<1	<1	<1	1.5	<1
MWX-10A	MW-X10A	5/20/2010	2.5 to 13	8.0 to -2.5	<1	9.92	84.9	<1	<1	<1	<1	<1	<1	<0.2	9.79	3.55	<1	<1	<1	1.9	<1
MWX-11A	MW-X11A	5/20/2010	2.5 to 13	9.2 to -1.3	1.71	**14.1**	83.1	<1	<1	<1	<1	3.02	<1	<0.2	5.13	6.35	<1	<1	<1	2.41	3.42
				MCLs (CCR, 2015)	**6**	**10**	**1,000**	**4**	**5**	**50**	**na**	**1,300**	**15**	**2**	**na**	**100**	**50**	**na**	**2**	**na**	**na**

Abbreviations:

"--" = not analyzed
<0.5 = Not detected above the stated laboratory reporting limit
ft bgs = feet below ground surface
ft msl = feet above mean sea level
MCLs = maximum contaminant levels
na = not available
ug/L = micrograms per liter
um = micrometer

Notes:

(a) Groundwater samples were selectively analyzed for dissolved Title 22 metals using EPA Method 200.8. Analyses were performed by K-Prime, Inc., Santa Rosa, California.
(b) Concentrations that exceed the Calculated Groundwater Goals for the Protection of Surface Water for Site B (EKI, 2007) or MCLs (CCR, 2015) are in **bold**.
(c) Samples were field filtered through a 0.45 um filter.
(d) The S10 Unit is defined as the stratigraphic unit below fill materials to -10 ft msl.

References:

(1) EKI, 2007. Revised Draft Remedial Investigation Report and Human Health Risk Assessment, Site B Project Area, Emeryville, California, May 2007.
(2) EKI, 2008. Final Feasibility Study and Remedial Action Plan, Site B Project Area, Emeryville, California, March 2008.
(3) CCR, 2015. California Maximum Contaminant Levels, Title 22, California Code of Regulations, 23 September 2015.