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February 5, 2015

RECEIVED

By Alameda County Environmental Health at 9:12 am, Feb 06, 2015

Mr. Mark Detterman
Alameda County Health Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Response to ACEH November 17, 2014 Correspondence
Former Chevron Asphalt Plant and Bulk Terminal #20-6265
1520 Powell Street, Emeryville, California
Case Number: *RO0002535*

Dear Mr. Detterman,

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

If you have any questions or need additional information, please contact me at (925) 790-6441.

Sincerely,

A handwritten signature in blue ink that reads "Alex Coulter".

Alexis Coulter
Chevron Environmental Management Company – Project Manager

Attachment
Response to ACEH November 17, 2014 Correspondence

Mark E. Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Health Care Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject:

Response to ACEH November 17, 2014 Correspondence
Former Chevron Asphalt Batch Plant and Bulk Terminal #20-6265
1520 Powell Street
Emeryville, California
Case Number: RO0002535

Dear Mr. Detterman:

On behalf of Chevron Environmental Management Company (“CEMC”), ARCADIS U.S., Inc. (“ARCADIS”) has prepared this response to the Alameda County Environmental Health (“ACEH”) correspondence dated November 17, 2014. The correspondence contained a request for additional information related to the former Chevron Asphalt Batch Plant and Bulk Terminal #20-6265 (the “Site”) to further facilitate the ACEH review of the Conceptual Site Model and Closure Request, dated December 14, 2012.

ACEH comments contained in the November 17, 2014 correspondence are presented below in italicized text, with the responses provided in plain text.

Comment 1a:

Groundwater Bearing Zones – *These reports indicate that the SCM generated for the subject site by Arcadis is not sufficiently comprehensive of the site and vicinity, and focuses on only the upper portion of the upper shallow groundwater-bearing zone at the site and vicinity. The EKI reports listed above provide significant additional stratigraphic and analytical data for the site and vicinity. This data appears to provide ample evidence that the former Chevron site likely contains potentially significant residual Trichloroethene (TCE) contamination (or potentially sites further upgradient). In particular EKI has delineated channelized contaminant flow in groundwater (i.e. a paleochannel) and two groundwater bearing zones beneath East Powell Street (an upper and lower Course Grained Unit or CGU). According to EKI, the Chevron wells*

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ENVIRONMENT

Date:
February 5, 2015

Contact:
Justin Sobieraj

Phone:
415.491.4530 x24

Email:
Justin.Sobieraj@arcadis-us.com

Our ref:
B004625.0007

for the subject site monitor only the upper portion of the upper CGU. As constructed, Chevron wells do not appear capable of detecting Halogenated Volatile Organic Compound (HVOC) contamination in the lower CGU. Therefore, it appears appropriate to install wells on the former Chevron site for this purpose.

Response:

ARCADIS and CEMC recognizes ACEH's concern regarding residual trichloroethene (TCE) within the Course Grained Unit (CGU) under the site. In response to this concern, ARCADIS proposes to collect vapor samples from the lower garage of the Terraces Apartment complex within each of the three elevator shaft sump areas. The results from the proposed vapor sampling activity will be used to determine if there is any current vapor intrusion human health risks related to residual TCE in soil or groundwater to the occupants of the site apartment complex. Additionally, the vapor data will be used to further update the SCM. An air sampling work plan has been included as Attachment A.

Comment 1b.

Source of PCE Contamination – *The referenced Arcadis response indicated that the search for historic waste manifests or inventory data for the office and laboratory where the onsite TCE use is reported to have occurred was unsuccessful. As noted previously, the subject site principally appears to be a TCE release site based on historic analytical data, whereas the Powell Street Release Area and Site B appears to include tetrachlorethene (PCE). ACEH's review of available analytical data for the former Chevron site and the East Powell Street Area, indicates that the highest PCE concentrations in groundwater are present in wells MWX-8, MW-19A, and MWX-2, all located along the railroad track right of way. Lower concentrations are also present in wells MW-17 and MW-18 along the south edge of Powell Street; however, PCE may have been present at similar lower concentrations in other Powell Street wells which could not be resolved prior to the injection of emulsified vegetable oil (EVO) due to high detection limits caused by high TCE concentrations in these lower CGU wells. Consequently, based on available data, at present the PCE contamination does not appear to originate from the former Chevron site. As you are likely aware, as additional data is gathered, this is subject to reevaluation and may change.*

Response:

ARCADIS and CEMC agrees that with the statement that PCE contamination does not appear to originate from the former Chevron site.

Comment 1c.

Source of TCE - *Prior to the injection of EVO beneath Powell Street for the City of Emeryville, concentrations of TCE up to 2,100 micrograms per liter ($\mu\text{g/l}$) TCE and*

12,400 µg/l were documented in the upper CGU and lower CGU, respectively. PCE was generally not detected, except along the southern margin of Powell Street, as discussed above. Since injection of the EVO, groundwater contaminant concentrations in wells in the Powell Street vicinity, including EPW01 to EPW04, and EPW06, document significant reductions of all HVOCs; however, have not been sampled since December 2012 or February 2013, depending on the well set.

Although groundwater concentrations beneath Powell Street have undergone significant reductions, the upgradient TCE source area has not been specifically located or targeted for remediation. The former Chevron site was identified by EKI to be a likely source of the TCE contamination, and TCE use is documented in the southwestern portion of the former Chevron parcel. Of significance, the lower CGU, which is documented to contain the highest TCE groundwater concentrations, was identified by EKI to be between 13 and 24 feet below surface grade (bgs). Notably, onsite soil excavation was predominantly to a depth of approximately 10 feet bgs, but locally extended to a depth of approximately 15 feet bgs, thus a residual soil source may be present beneath the existing structure at the redeveloped site.

Response:

The majority of constituent of potential concern (COPC)-impacted soil was excavated on four occasions. After a 1992 remedial excavation, both the ACEH and San Francisco Regional Water Quality Control Board (RWQCB) issued letters stating that based on data collected to date, no additional remediation of soil was warranted. In addition, in 1999, an additional 32,000 cubic yards (cy) of soil were excavated from the site during site redevelopment. A total of 40,000 cy of COPC impacted soil was removed from the site.

A review of the EKI *Site B Project Area Final Third Quarter 2014 Groundwater Monitoring Report*¹ indicates that TCE groundwater sample concentrations in downgradient monitoring wells have decreased to non-detect concentrations (<0.5 µg/l) in monitoring wells EPW01 and EPW04 and to concentrations just above laboratory reporting limits (2.15 µg/l) in EPW02. TCE concentrations in the EPW wells have decreased substantially since the final EVO injection activity in August 2012 and do not appear to be rebounding. Monitoring well EPW01, EPW02, and EPW04 analytical results, concentration trends, and a well location figure are included as Attachment B. The decrease of TCE concentrations in the monitoring wells within the

¹ EKI, 2014. *Site B Project Area Final Third Quarter 2014 Groundwater Monitoring Report*. December.

Powell Street site indicates that there currently is no longer a significant upgradient source of TCE and remediation of the former Chevron site is not necessary.

Comment 2:

Incomplete List of Requested Documents – As noted in the previous October 2013 directive letter, a February 18, 2000 directive letter from ACEH requested the submittal of a Risk Management Plan prior to site development, and a post-construction report. An itemized list of applicable content for both reports was provided. Neither report has been submitted. Disposal documentation for exported soil and groundwater extraction (construction dewatering) was to have been included in the later report. Only a copy of an EBMUD discharge permit has been provided.

Thank you for requesting these documents from the Wareham Development Corporation. Because these documents contain information of important relevance to the site, ACEH will continue to seek their submittal. Therefore, ACEH requests further efforts to obtain these documents.

Response:

ARCADIS submitted an emailed request to the site developer, Wareham Development Corporation (Wareham), for the requested Risk Management Plan and post-construction report on June 26, 2014. To date, ARCADIS has not received copies of these documents from Wareham.

Comment 3:

Additional Missing Documents – During ACEH's further review of the site, additional reports have been noted to be lacking from the public record, and but are cited in the bibliography of the SCM / RFC report. ACEH requests the submittal of these as well as other missing reports or communications that should be a part of the public record. At present these include the following:

- *McKesson Environmental Services Report* – Documents the installation of wells MW-1 to MW-9 in 1985; only bore logs have been provided.
- *Harding Lawson Report* – August 1988 report documents the installation of wells MW-10 to MW-12; only the bore logs have been provided.
- *Cambria Environmental Technology Report* – October 1997 report; Site Information Summary for Case Closure.

Response:

ARCADIS obtained the requested *Cambria Environmental Technology Report* – October 1997 report and provided to ACEH via the ACEHTP ftp site on December 2,

2014. ARCADIS and CEMC have been unable to locate the *Harding Lawson Report – August 1988 and the McKesson Environmental Services Report*. ARCADIS will provide these two reports if able to locate in the future.

Comment 4:

Placement of Historic Wells and Bores – As noted in the previous October 2013 directive letter, figure 7 , and subsequent associated figures, of the referenced SCM & RFC contain a number of bores and wells locations that do not appear to be supported by available historic documents. As previously detailed, these include the depicted locations of wells MW-1, MW-2, MW-12, perhaps MW-13, soil bores SB-2 to SB-25, and includes soil bores SB-33 to SB-43 as detailed in the previous directive letter. Arcadis has noted that the well and bore locations were not surveyed. ACEH understands this, and like Arcadis, is limited to historic documents that depict the wells and bores at locations other than depicted by Arcadis. In order to limit confusion between the historic record and the updated SCM, ACEH requests the wells and bores be located as depicted on historic documents.

This concern is in particular an issue for the location of soil bore SB-42, which was documented to contain a concentration of 15 milligrams per kilogram (mg/kg) TCE at a depth of 4 feet bgs, as follows:

- Historic documents place the bore within 6 feet of the former office / lab building while Arcadis has placed the soil bore at an approximate distance of 50 feet from the former building, and thus offsite.
- ACEH has not found historic documents that indicate offsite soil bores were drilled.
- As noted previously, this particular concern affects the placement of soil bores SB-33 to SB-43.
- As currently depicted, excavation for the existing site building does not appear to have removed this apparently onsite residual shallow TCE contamination, and soil at depth may represent a potential significant residual TCE source that can impact the lower CGU at the EPW well series.
- As noted in the previous directive letter, additional residual contamination may also be present beneath other known shallow TCE source removal areas within the former “Office and Lab Area” of the site, and proximal to one of the elevator shafts and sumps.

Response:

ARCADIS reviewed historical site documents and has prepared an updated figure showing the historical monitoring wells and soil borings (Attachment C). The soil borings located along the western property line (SB-33 through SB-43) either were

over excavated during site development or are currently located in an undeveloped narrow section (approximately 20 feet wide) of the site property adjacent Southern Pacific Railroad right-of-way. The soil borings located adjacent to the railroad right-of-way have volatile organic compound and total petroleum hydrocarbon soil concentrations below the RWQCB Environmental Screening Levels² soil direct contact screening levels for construction workers. Therefore, direct soil contact to construction workers is considered an incomplete exposure pathway.

Comment 5:

Risk of Vapor Intrusion – The Arcadis document determined the location of three elevator pits associated with the existing site building, and notified ACEH that groundwater infiltration has not occurred in the past four years into the elevator sumps at these locations. Although it does not currently appear viable to obtain a groundwater infiltration sample, ACEH remains concerned that at least one elevator shaft can function as a preferential pathway for vapor intrusion, and that apparently unexcavated onsite shallow TCE soil contamination outside the building envelope, commented in Technical Comment 4 above, remains as a vapor intrusion risk. Please be aware that waterproofing membranes have not been documented to withstand HVOC contamination. Additionally, while high capacity fans are reported to be linked to a carbon monoxide detector in the basement, the linkage of the carbon monoxide detector with respect to the mitigation of potential chlorinated solvent vapor intrusion has not been established. This potential vapor risk should be incorporated into the SCM.

Response:

As mentioned in the response to Comment 1a, ARCADIS proposes to collect vapor samples from within each of the three elevator shaft sump areas to determine if there is a vapor intrusion risk associated with any residual COCs [trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-DCE, and vinyl chloride in site soil or groundwater.

Comment 6:

Data Gap Investigation Work Plan and Updated Conceptual Site Model – Please

² RWQCB 2013. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. December.

prepare a Data Gap Investigation Work Plan to address the technical comments listed above. Please support the scope of work in the Data Gap Investigation Work Plan with a focused SCM and Data Quality Objectives (DQOs) that relate the data collection to the specific data gap(s) it is intended to address.

In order to expedite review, ACEH requests a focused SCM be presented in a tabular format that highlights the major SCM elements and associated data gaps, which need to be addressed to progress the site to case closure under the LTCP. Please see Attachment A "Site Conceptual Model Requisite Elements". Please sequence activities in the proposed data gap investigation scope of work to enable efficient data collection in the fewest mobilizations possible.

Response:

ARCADIS proposes to prepare a Site Conceptual Model after performing a vapor intrusion study focused on the Terraces Apartments three elevator shaft sump areas (see response to Comment 1a). The data obtained from this vapor sampling activity will be a key component to developing a SCM and understanding if a further data gap investigation is required for this site.

Comment 7:

Groundwater Monitoring – *As noted above, groundwater monitoring has not occurred at the subject site since December 2012 or February 2013. It appears appropriate to resume groundwater monitoring at the site. It also appears appropriate to coordinate groundwater monitoring and sampling with vicinity groundwater monitoring and sampling events for other sites. This will provide a much more comprehensive understanding of site vicinity groundwater concentrations. Please incorporate all available site and vicinity wells into the program and in to analytical tables, including the EPW series of wells in Powell Street. Because the site has not been monitored or sampled in nearly two years, please submit semi-annual groundwater monitoring reports by the dates requested below. Please initiate the coordination of groundwater monitoring and sampling with adjacent sites in the interim. It is the understanding of ACEH that Site B wells will be monitored and sampled near the end of November 2014.*

Response:

As discussed in the above Response 1c, concentrations in the downgradient EPW monitoring wells have decreased significantly since the implementation of the EVO remedial activity. Historically, the groundwater concentrations detected in samples collected from the EPW wells (screened in the deep Upper GCU) have been consistently higher than the concentrations detected in the samples collected from the former Chevron site monitoring wells (screened in the shallow Upper GCU). An evaluation of the TCE groundwater results from the EPW monitoring wells during the

most recent sampling event (third quarter 2014) indicate that TCE groundwater sample concentrations in downgradient monitoring wells have decreased to non-detect in monitoring wells EPW01 and EPW04 and to concentrations just above laboratory reporting limits in EPW02. The third quarter 2014 event occurred two years after the last EVO remedial activity. These recent EPW groundwater monitoring results further indicates that the current groundwater concentrations in the monitoring wells associated with the former Chevron site would also have similar concentrations (non-detect to slightly above laboratory detection limits). Therefore, additional groundwater monitoring activities at the former Chevron site would be not be beneficial.

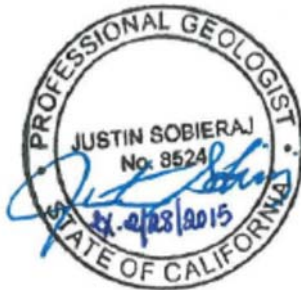
During a meeting between CEMC and ACEH on December 11, 2011, it was discussed and agreed that given the City of Emeryville's on-going obligation to remediate and monitor VOCs in the groundwater beneath Powell Street and down gradient of the former Chevron site, resumption of the former Chevron site groundwater monitoring program will not occur, pending further consideration of these comments.

If you have any questions concerning this site, please contact me at (415) 491-4530 x24 or by e-mail at Justin.Sobieraj@arcadis-us.com.

Sincerely,

ARCADIS U.S., Inc.

Justin Sobieraj, PG
Senior Geologist



Attachments

Attachment A – Air Sampling Work Plan

Attachment B – Site B Project Area Final Third Quarter 2014 Groundwater Monitoring Report (select table, figure and concentration trend documents)

Attachment C – VOCs in Soil

Copies:

Alexis Coulter, CEMC

Geoffrey Sears, Wareham Development Corporation

Juanita Bacey, Department of Toxic Substances Control (DTSC)

Karen Toth, DTSC

Dilan Roe, ACEH (sent via electronic mail)

File

ARCADIS

Attachment A

Air Sampling Work Plan



Mark E. Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Health Care Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject:

Air Sampling Work Plan
Former Chevron Asphalt Batch Plant and Bulk Terminal #20-6265
1520 Powell Street
Emeryville, California
Case Number: RO0002535

Dear Mr. Detterman:

In order to evaluate the potential for vapor intrusion to occur in the building, the building's largest pathway – the elevator shaft – will be evaluated. The air quality in the elevator shaft, and thus the building's vapor intrusion potential, will be assessed through the completion of an air sampling event, as described below. The air samples will be analyzed for the following site-specific constituents of concern (COCs): trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-DCE, and vinyl chloride.

Air Sampling Work Plan

Field sampling activities will be conducted by field personnel from ARCADIS. Prior to initiating the field sampling activities, ARCADIS will conduct a building survey and the results will be documented on the building survey form provided in the Department of Toxic Substances Control (DTSC) Vapor Intrusion Guidance Document¹ and included as Attachment 1. The purpose of the building survey is to document relevant building information, potential chemical storage and usage, and inspect the building slab.

¹ DTSC 2011. *Vapor Intrusion Guidance Document*. October

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Date:
February 5, 2015

Contact:
Justin Sobieraj

Phone:
415.491.4530 x24

Email:
Justin.Sobieraj@arcadis-us.com

Our ref:
B004625.0007



Sample Locations

The following samples will be collected to determine the potential for vapor intrusion through the elevator shaft pathway (elevator shaft locations are shown on Attachment 2):

- One sample to be collected from the base of each of the three elevator shafts (“elevator sumps”) within the building, for a total of three elevator sump samples. If accessible, the canisters will be placed at the base of the sump; however, if the sump is not accessible, the canister will be placed in an accessible location and tubing will be run from the canister to the base of the sump.
- One sample to be collected from the first level of the building’s garage. Canister will be positioned for sample collection with the breathing zone at approximately 3 to 5 feet above ground surface.
- One ambient air sample to be collected from the vicinity of the building, near the approximate upwind edge, to represent atmospheric chemical concentrations to compare with the elevator sump samples. Canister will be positioned at the height deemed representative.
- One duplicate sample to be collected from one of the three elevator sump locations.

Field Sampling Equipment

Air samples for volatile organic compound (VOC) analysis will be collected in 6-liter stainless steel evacuated SUMMA canisters designed specifically for collecting indoor and outdoor ambient air samples. Each 6-liter SUMMA canister will be equipped with a flow controller and flow restrictor that use a critical orifice to regulate the flow of air into the canister. The flow controllers will be checked by the laboratory to verify air flow for each canister is set at the appropriate rate for the collection of 8-hour samples before a canister is deployed to the field. The orifice is designed to allow for regulated flow of air between an 8-hour to 24-hour sample period. Flow checks will not be performed in the field. The canister will be pre-evacuated by the laboratory to approximately -30 inches of mercury (Hg).



To ensure that the collected samples will meet the planned end use for this study, the following sample guidelines will be followed:

- If the initial vacuum gauge reads less than 26 inches of Hg, the canister will be replaced prior to sample collection.
- If the canister is not under vacuum upon retrieval of the canister, the sample will be considered a grab sample.
- If the final vacuum gauge reads greater than 20 inches of Hg upon retrieval of the canister, the sample will be rejected.

Field Sampling Procedures

8-hour integrated samples will be collected at each proposed sample location, following the procedures discussed below.

Sampling Procedure

To start the sampling event:

1. Place the canister in the proper location (as described above).
2. Record the initial vacuum (approximately -30 inches of Hg) of the canister on the Air Sampling Log (included as Attachment 3).
3. Using a wrench, remove the closing bolt on the top of the canister and attach the flow controller device, tighten with a wrench (with filter in-line), open the canister bellows valve, and note the start time. Start any co-located canisters at the same time.

To complete the sampling event:

1. Close the canister bellows valve and note the stop time on the Air Sampling Log (Attachment 3).
2. Using a wrench, detach the flow controller.



3. Replace the closing bolt on top of the canister and tighten with a wrench. Record the final vacuum of the canister (approximately -2 to -4 inches of Hg remaining) on the Air Sampling Log (Attachment 3).

The outdoor ambient air sample collection will follow the same sample protocol as described above, and sample collection will begin within one hour of the start of air sampling.

Collection of Quality Control (QC) Samples

QC samples to be collected consist of performance samples and field duplicate samples. These samples will be collected at the frequency described below.

All SUMMA canisters will be individually certified cleaned, rather than batch certified, by the laboratory prior to sample collection.

A field duplicate samples will be collected and analyzed for the same analytes as the primary sample.

Laboratory duplicates will be analyzed at a minimum of one per analytical batch and analyzed for the same analytes.

Sample Analyses

Air samples will be transferred under strict chain-of-custody procedures to a California-certified laboratory and analyzed by United States Environmental Protection Agency (USEPA) Method TO-15 for the site-specific list of COCs noted above. A low-level TO-15 (SIM) will be utilized to meet the necessary reporting limits for the data evaluation process.

Sample Documentation

Field Notes

Field notes will be maintained in an Air Sampling Log (Attachment 3). As noted, project name/project number, sample identification, start date, start time, stop date, stop time, weather, start vacuum, stop vacuum, sample canister number, and sampler name will be recorded in the Air Sampling Log. The log will be kept on file at



the ARCADIS office and will be available for review by authorized personnel. Sample tags will also be attached to each canister as a backup for the log entries.

Photographs

With owner permission, a digital image of each sampling location will be acquired at the time of sampling. Where possible, a detailed photo log will be maintained throughout the project documenting the photo file name, tenant space identifier, sample date, and description of sample location.

Chain-of-Custody

The vapor samples will be sent to the laboratory under strict chain of custody procedures. The chain-of-custody will have the sample identification, date and time of collection, and the samplers' names. The chain-of-custody also will include the laboratory name, address, contact phone numbers, project name, project number, and site location. In addition, the sampler will include initial and final pressure gauge readings on the chain-of-custody. The chain-of-custody will be signed and dated with the time when samples are relinquished by the sample collection team. The chain-of-custody will advise the laboratory to send the analytical results to the ARCADIS project team.

Data Evaluation and Reporting

Upon receipt of the of the air sampling data, a report evaluating the potential for vapor intrusion within the building will be prepared. At a minimum, the report will include the following items:

- Introduction and background;
- Summary of air sampling and analysis results, including data tables and sample locations maps;
- Summary of field QA/QC activities;
- Summary of laboratory data validation and QA/QC activities;
- Copies of laboratory reports and chain-of-custody forms;



- Laboratory QA/QC data; and
- Conclusions and recommendations, as appropriate.

Schedule

ARCADIS is prepared to initiate field work upon approval of this work plan by the Alameda County Health Care Services.

If you have any comments or questions regarding the information presented in this work plan, please contact Justin Sobieraj by telephone at 415.491.4530 x24 or by email at Justin.Sobieraj@arcadis-us.com.

Enclosed:

Attachment 1	DTSC Indoor Air Building Survey Form
Attachment 2	Site Plan
Attachment 3	Air Sampling Log

ARCADIS

Attachment 1

DTSC Indoor Air Building
Survey Form

APPENDIX L - BUILDING SURVEY FORM

Preparer's Name: _____ Date/Time Prepared: _____
Affiliation: _____ Phone Number: _____

Occupant Information

Occupant Name: _____ Interviewed: Yes No
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Email: _____

Owner/Landlord Information (Check if same as occupant)

Occupant Name: _____ Interviewed: Yes No
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Email: _____

Building Type (Check appropriate boxes)

- Residential Residential Duplex Apartment Building Mobile Home Commercial (office)
 Commercial (warehouse) Industrial Strip Mall Split Level Church School

Building Characteristics

Approximate Building Age (years): _____ Number of Stories: _____
Approximate Building Area (square feet): _____ Number of Elevators: _____

Foundation Type (Check appropriate boxes)

- Slab-on-Grade Crawl Space Basement

Basement Characteristics (Check appropriate boxes)

- Dirt Floor Sealed Wet Surfaces Sump Pump Concrete Cracks Floor Drains

Factors Influencing Indoor Air Quality

Is there an attached garage?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there smoking in the building?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there new carpet or furniture?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Have clothes or drapes been recently dry cleaned?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Has painting or staining been done with the last six months?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Has the building been recently remodeled?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Has the building ever had a fire?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a hobby or craft area in the building?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Is gun cleaner stored in the building?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a fuel oil tank on the property?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a septic tank on the property?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Has the building been fumigated or sprayed for pests recently?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Do any building occupants use solvents at work?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____

Sampling Locations

Draw the general floor plan of the building and denote locations of sample collection. Indicate locations of doors, windows, indoor air contaminant sources and field instrument readings.



Primary Type of Energy Used (Check appropriate boxes)

Natural Gas Fuel Oil Propane Electricity Wood Kerosene

Meteorological Conditions

Describe the general weather conditions during the indoor air sampling event.

General Comments

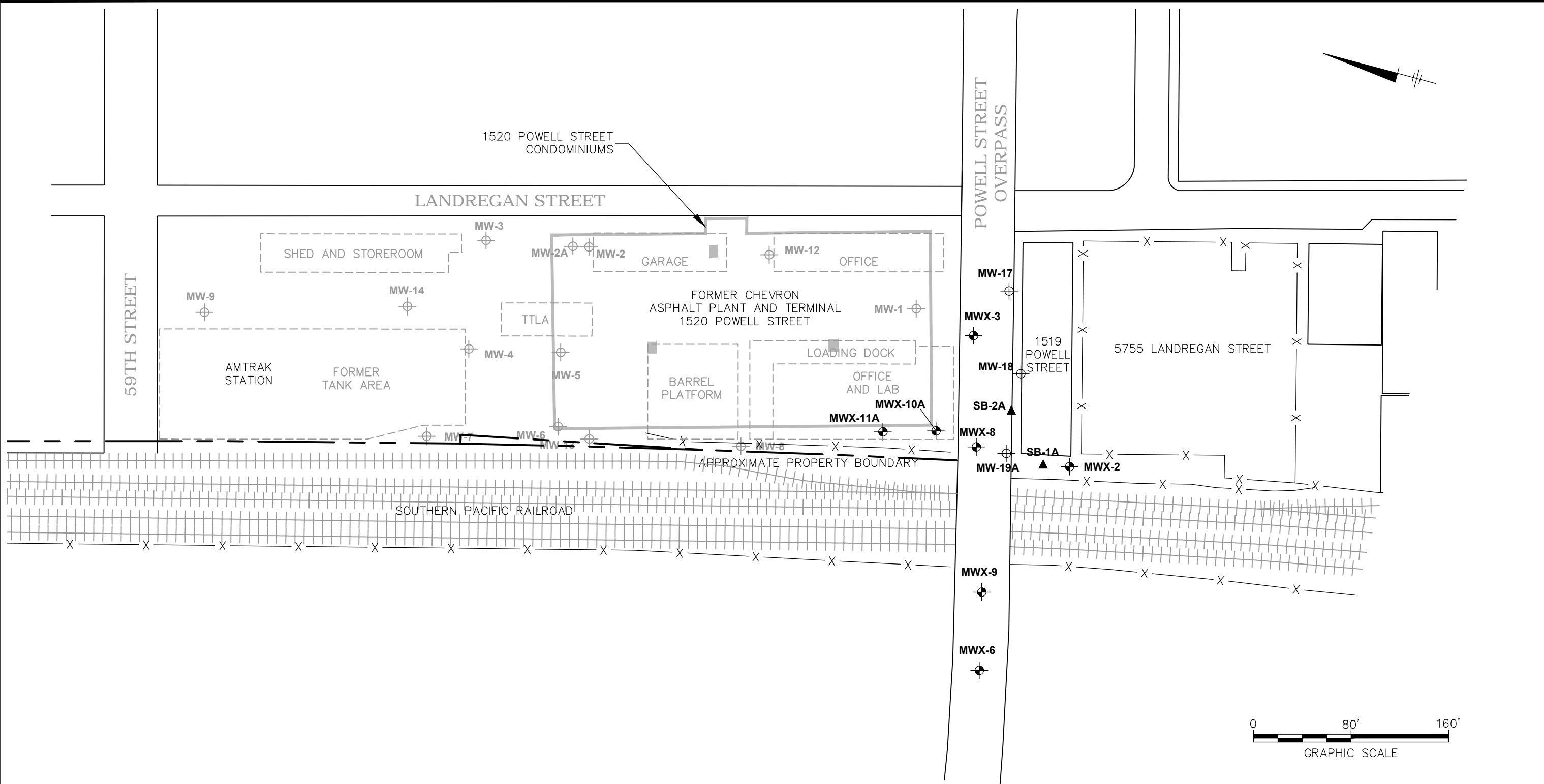
Provide any other information that may be of importance in understanding the indoor air quality of this building.

ARCADIS

Attachment 2

Site Plan

CITY: PETALUMA, CA GROUP: ENVCAD DB: (P LISTER), L FORAKER, J HARRIS PIC: J VOGELY PM: J WAGLER TM: B MCKENNA LYN: ON*OFF=REF
 G:\ENVCAD\SYRACUSE\ACT1\B0046257\0006\0001\DWG\46257B03.dwg LAYOUT: 3 SAVED: 1/16/2015 2:15 PM ACADVER: 19.15 (LMS TECH) PAGESETUP: ... PLOTSTYLETABLE: PLTFULLCTB PLOTTED: 1/20/2015 11:31 AM BY: PETRIE, RCH
 XREFS: 46257X02 IMAGES: PROJECTNAME: ...



- LEGEND:**
- MONITORING WELL LOCATION (ARCADIS 2009)
 - MONITORING WELL LOCATION (WGR 1990)
 - SOIL BORING LOCATION
 - DESTROYED WELL LOCATION
 - HISTORICAL FEATURE
 - APPROXIMATE LOCATION OF CURRENT ELEVATOR SHAFT

- NOTES:**
- BASE MAP MODIFIED FROM A DRAWING BY GETTLER-RYAN TITLED "SITE PLAN", DATED 07/00, AT A SCALE OF 1" = 100'.
 - ALL LOCATIONS ARE APPROXIMATE.
 - HISTORICAL FEATURE INFORMATION BASED ON A FIGURE BY HARDING LAWSON ASSOCIATES ENTITLED "POTENTIOMETRIC SURFACE MAP, UPPERMOST AQUIFER 8/24/88", BASED ON MCKESSON ENVIRONMENTAL SERVICES GROUNDWATER INVESTIGATION.

FORMER CHEVRON ASPHALT TERMINAL 206265 1520 POWELL STREET EMERYVILLE, CA	
SITE PLAN	
	FIGURE 3

ARCADIS

Attachment 3

Air Sampling Log



Air Sampling Log

Project Name:

Weather Observations:

Project Number:

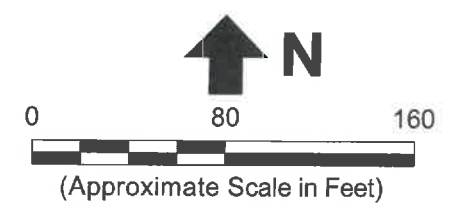
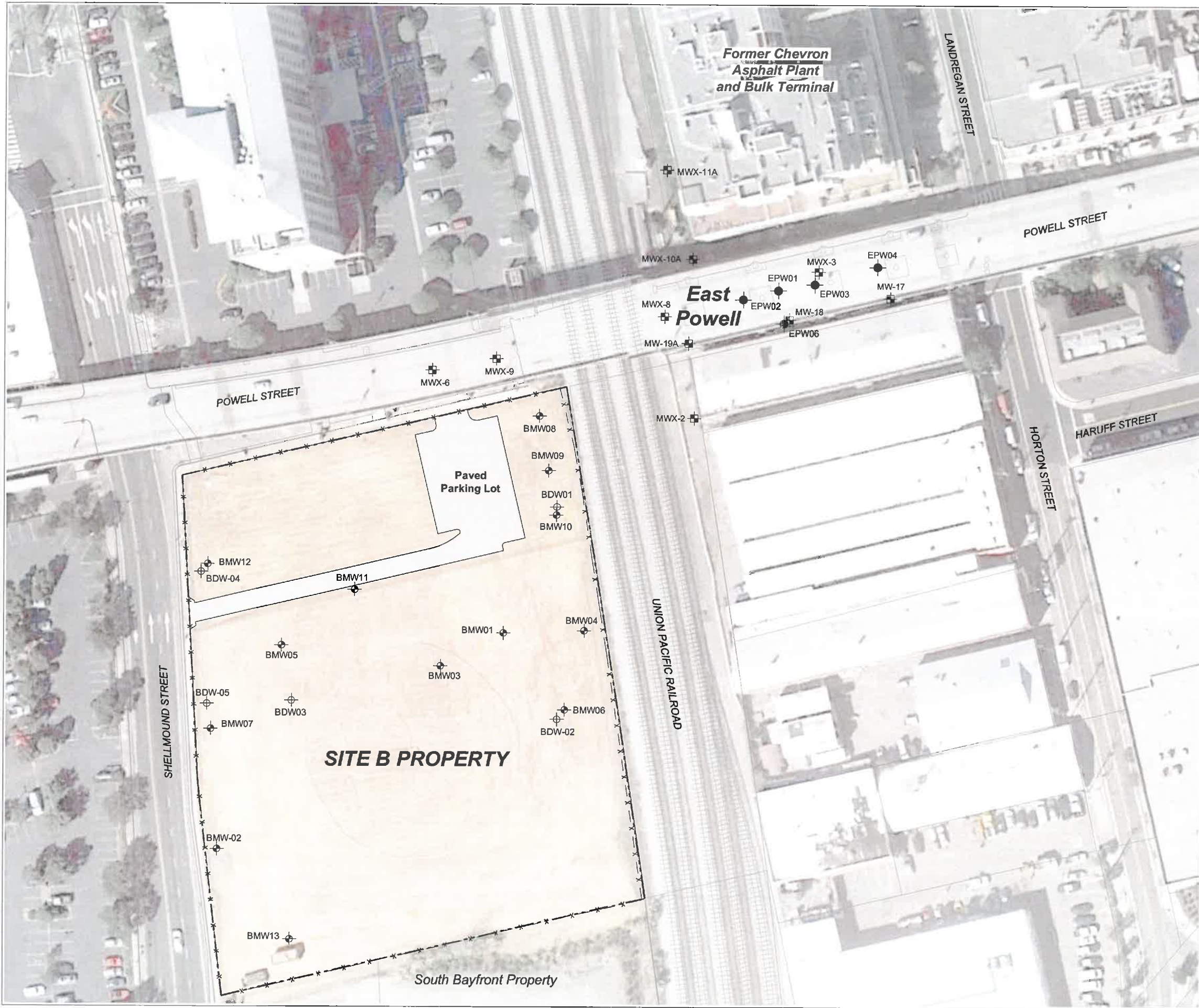
Field Staff:

Sample ID	Date	Sample Location Description	Sample Type	Sample Canister Number	Flow Controller Number	Start Vacuum (in-Hg)	Stop Vacuum (in-Hg)	Start Time	Stop Time

Notes:

Attachment B

Site B Project Area Final Third
Quarter 2014 Groundwater
Monitoring Report (select table,
figure and concentration trend
documents)



Legend:

- Site B Groundwater Monitoring Well - Upper CGU (see Notes 2 and 3)
- Site B Groundwater Monitoring Well - Lower CGU (see Note 2)
- East Powell Groundwater Monitoring Well (Chevron) (see Note 4)
- East Powell Groundwater Monitoring Well - Upper CGU (Emeryville)
- Site B Property Boundary
- Final Fenceline

Abbreviations:

- CGU = coarse grained unit
- feet msl = feet above mean sea level

Notes:

1. All locations are approximate.
2. The Upper and Lower Coarse Grained Unit ("Upper CGU and Lower CGU") are defined as coarse grained deposits within approximately 1 to -13 feet msl and -13 to -25 feet msl, respectively. The average ground surface elevation at East Powell is approximately 11 feet msl. The average ground surface elevation at Site B is approximately 8.5 feet msl.
3. BMW09 is screened entirely within import fill material.
4. Chevron monitoring well screens extend from shallow fill soils into a portion of the Upper CGU.

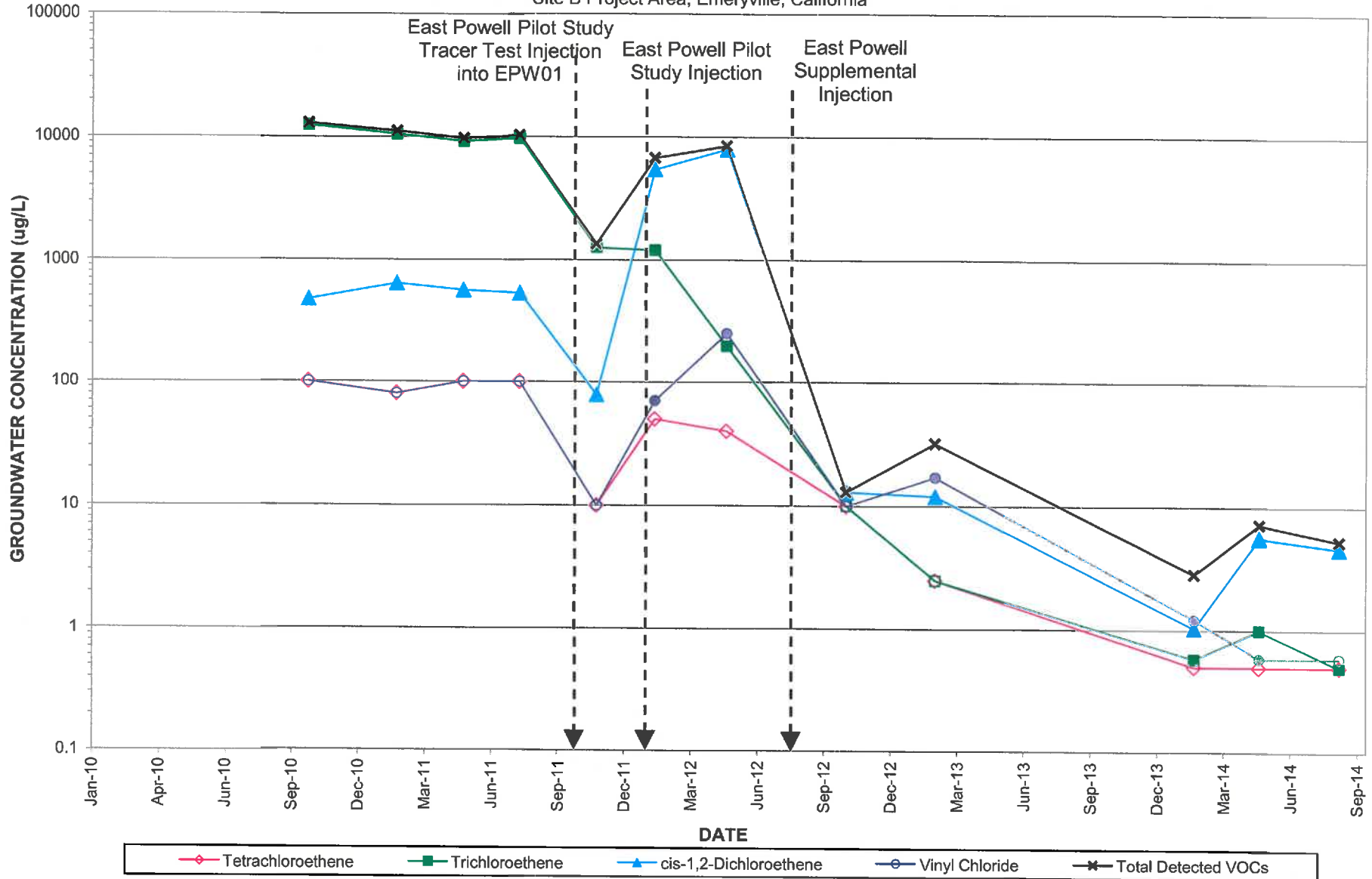
Erler & Kalinowski, Inc.

Site B and East Powell Groundwater Monitoring Well Location Map

Site B Project Area
 Emeryville, CA
 April 2013
 EK1 A40028.01
 Figure 2-1

CONCENTRATION vs. TIME
EPW01 (2010 to Present)

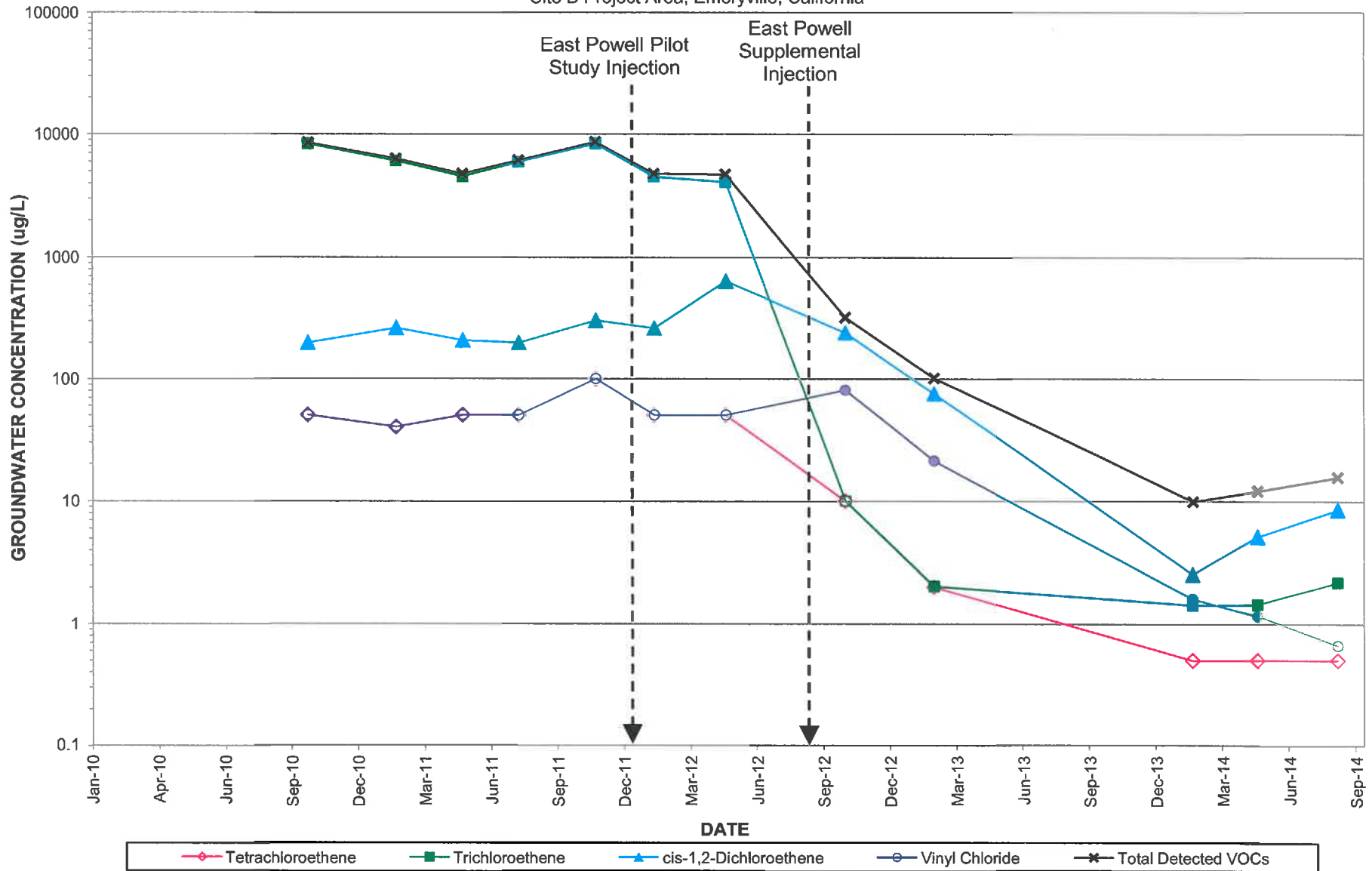
Site B Project Area, Emeryville, California



Notes:

- (1) Filled symbol indicates laboratory reported concentration in micrograms per liter ("µg/L"). Open symbol indicates that the plotted value is the laboratory reporting limit for a non-detected ("ND") concentration.
- (2) EPW01 is screened between -8.4 to -13.4 feet above mean sea level ("ft msl").

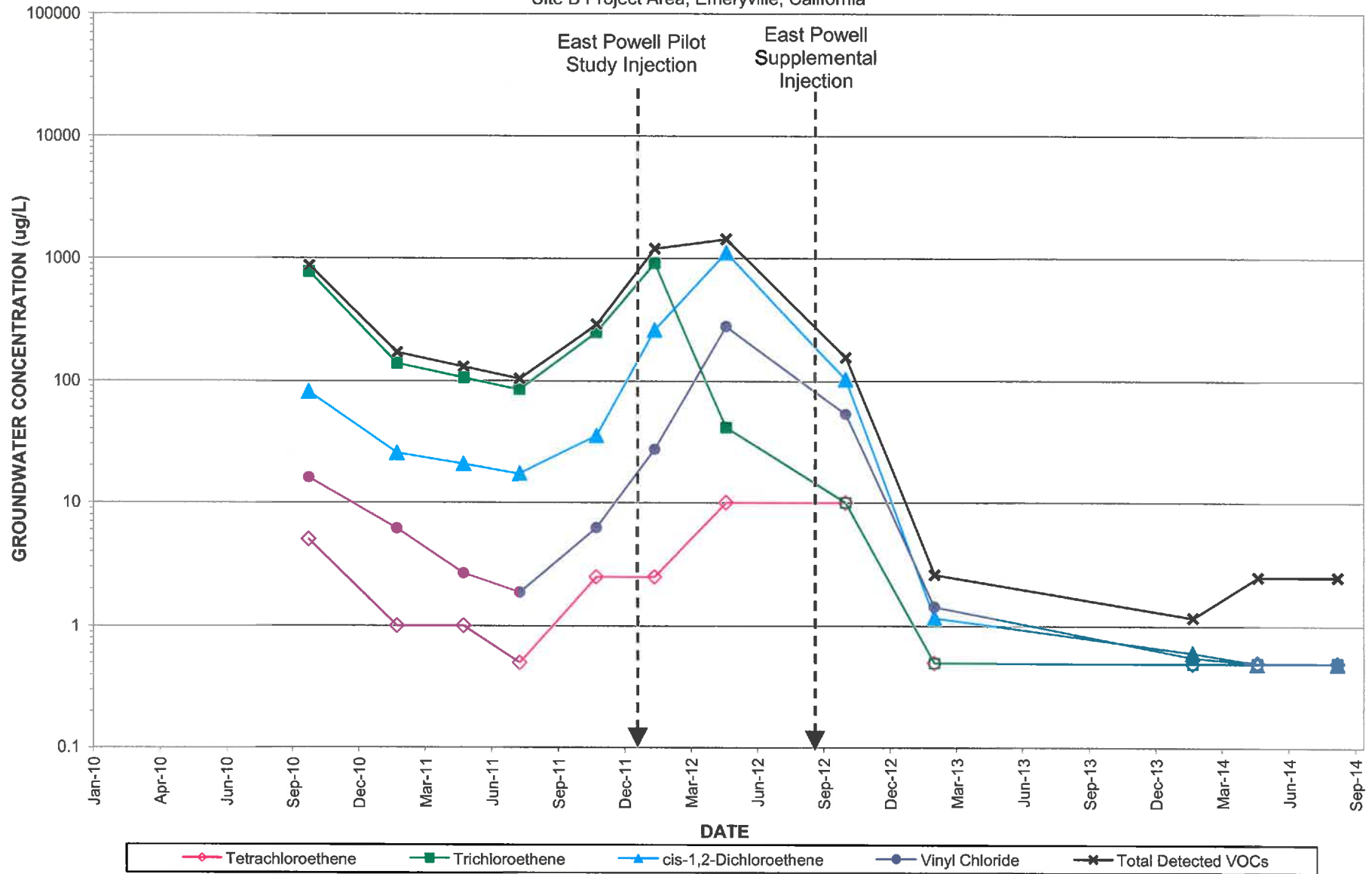
CONCENTRATION vs. TIME
EPW02 (2010 to Present)
 Site B Project Area, Emeryville, California



Notes:

- (1) Filled symbol indicates laboratory reported concentration in micrograms per liter ("ug/L"). Open symbol indicates that the plotted value is the laboratory reporting limit for a non-detected ("ND") concentration.
- (2) EPW02 is screened between -8.6 to -13.6 feet above mean sea level ("ft msl").

CONCENTRATION vs. TIME
EPW04 (2010 to Present)
 Site B Project Area, Emeryville, California



Notes:

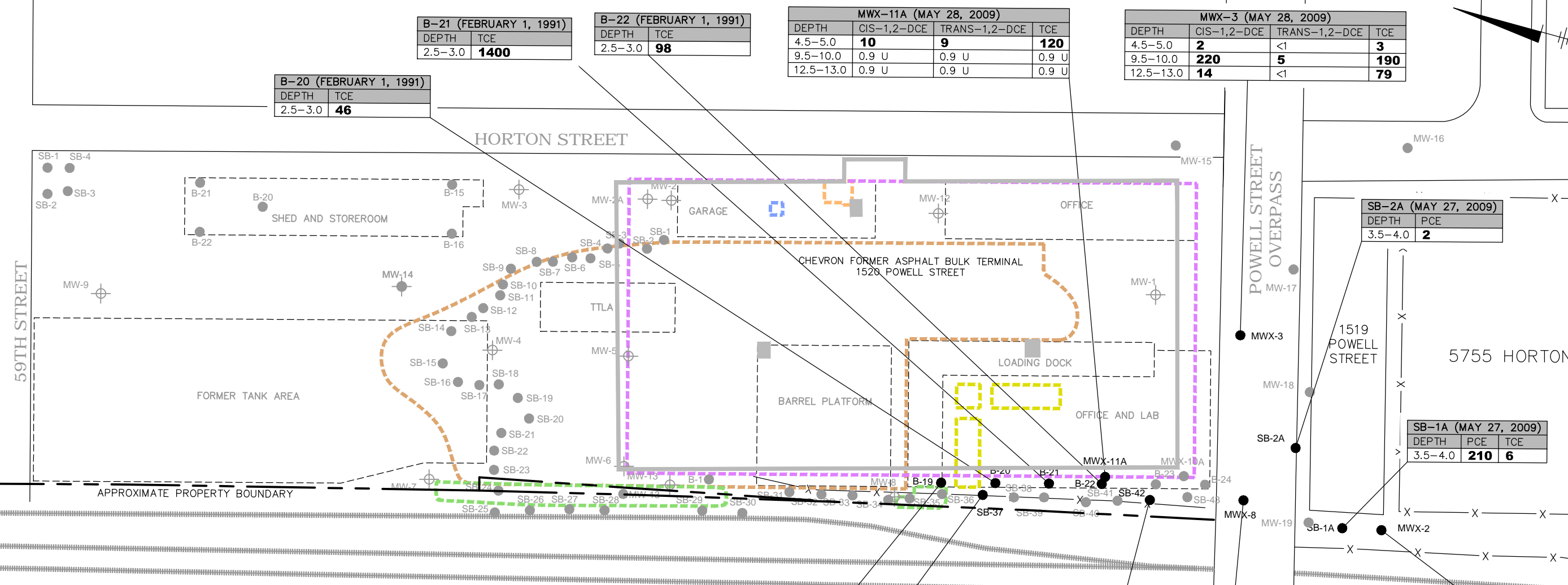
- (1) Filled symbol indicates laboratory reported concentration in micrograms per liter ("ug/L"). Open symbol indicates that the plotted value is the laboratory reporting limit for a non-detected ("ND") concentration.
- (2) EPW04 is screened between -7.1 to -13.1 feet above mean sea level ("ft msl").

ARCADIS

Attachment C

VOCs in Soil

CITY: Syracuse GROUP: INDV-CAD DB: P. LISTER, R. ROBITAILLE PIC: PM: J. SOBIERAJ, TM: K.LIM, RB: ATAN LVR: ONL-OFF-REF-
 C:\ENVCAD\SYRACUSE\PROJECTS\INDV\INDV\DWG\46257C09.dwg LAYOUT: 11 SAVERD: 1/19/2015 11:55 PM ACADVER: 19.1 S (LMS TECH) PAGES: 11 PLOTTED: 1/19/2015 11:55 PM BY: PETRIE, RICH
 XREFS: 46257X02 IMAGES: PROJECTNAME: 196aerial.jpg 8046257_USGS_2011_NAD83_CAMI_USFT.tif rpr.jpg



LEGEND:

- MW-4 PREVIOUS MONITORING WELL LOCATION
- SB-22 CONSTITUENT WAS NOT DETECTED IN SOIL ANALYTICAL SAMPLES
- SB-23 CONSTITUENT WAS DETECTED IN SOIL AT CONCENTRATIONS THAT DO NOT EXCEED ESLS
- HISTORICAL FEATURE
- EXCAVATED TO 1.2 FT BGS (SEPTEMBER 1989)
- EXCAVATED TO 6 FT BGS (SEPTEMBER 1989)
- EXCAVATED TO 5 FT BGS (OCTOBER 1990)
- EXCAVATED TO 12 FT BGS (MAY 1992)
- EXCAVATED TO 9 FT BGS (MAY 1992)
- EXCAVATED TO 15 FT BGS (DECEMBER 1999)
- FT BGS** FEET BELOW GROUND SURFACE
- APPROXIMATE FOOTPRINT OF CURRENT APARTMENT BUILDING
- APPROXIMATE LOCATION OF CURRENT ELEVATOR SHAFT

SB-42 (MARCH 26, 1990)

DEPTH	trans-1,2-DCE	TCE
4.0-5.0	1700	15000

MWX-9 (MAY 28, 2009)

DEPTH	CIS-1,2-DCE	PCE	TCE
4.5-5.0	0.9 U	4	2
9.5-10.0	2	<1	4
12.5-13.0	<1	<1	8

B-19 (FEBRUARY 1, 1991)

DEPTH	TCE
2.5-3.0	42

SB-37 (MARCH 26, 1990)

DEPTH	trans-1,2-DCE
4.0-5.0	6.6

LOCATION ID
 DETECTED CONCENTRATION (MICROGRAMS PER KILOGRAM OR PARTS PER BILLION)
 SAMPLE DEPTH IN FEET BELOW GROUND SURFACE
 ANALYTE NOT DETECTED ABOVE REPORTING LIMIT

MWX-11A (MAY 28, 2009)

DEPTH	CIS-1,2-DCE	TRANS-1,2-DCE	TCE
4.5-5.0	10	9	120
9.5-10.0	0.9 U	0.9 U	0.9 U
12.5-13.0	0.9 U	0.9 U	0.9 U

MWX-8 (MAY 28, 2009)

DEPTH	CIS-1,2-DCE	PCE	TCE	TRICHLOROFLUOROMETHANE
4.5-5.0	1	<1	2	<2
9.5-10.0	5	12	<0.5	9
12.5-13.0	0.9 U	0.9 U	8	<2

DCE = DICHLOROETHENE
 TCE = TRICHLOROETHENE
 PCE = TETRACHLORETHENE

NOTES:

- BASE MAP MODIFIED FROM A DRAWING BY GETTLER-RYAN TITLED "SITE PLAN", DATED 07/00, AT A SCALE OF 1" = 100'.
- ALL LOCATIONS ARE APPROXIMATE.
- HISTORICAL FEATURE INFORMATION BASED ON A FIGURE BY HARDING LAWSON ASSOCIATES ENTITLED "POTENTIOMETRIC SURFACE MAP, UPPERMOST AQUIFER 8/24/88", BASED ON MCKESSON ENVIRONMENTAL SERVICES GROUNDWATER INVESTIGATION.

MWX-3 (MAY 28, 2009)

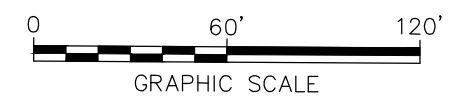
DEPTH	CIS-1,2-DCE	TRANS-1,2-DCE	TCE
4.5-5.0	2	<1	3
9.5-10.0	220	5	190
12.5-13.0	14	<1	79

MWX-2 (MAY 28, 2009)

DEPTH	CIS-1,2-DCE	PCE	TCE	VINYL CHLORIDE
4.5-5.0	6	30	1	2
9.5-10.0	2	10	15	<9
12.5-13.0	2	1	33	0.9 U

MWX-9 (MAY 28, 2009)

DEPTH	CIS-1,2-DCE	PCE	TCE
4.5-5.0	0.9 U	4	2
9.5-10.0	2	<1	4
12.5-13.0	<1	<1	8



FORMER CHEVRON ASPHALT PLANT AND BULK TERMINAL 20-6265 1520 POWELL STREET EMERYVILLE, CA

OTHER VOCs IN SOIL

FIGURE **11**