

# Appendix HAZ

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Phase I Environmental Site Assessment and Soil Gas Survey

## Phase I Environmental Site Assessment

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# **DRAFT PHASE I ENVIRONMENTAL SITE ASSESSMENT**

**2118 MILVIA STREET**

**BERKELEY, CALIFORNIA 94704-1113**

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*Prepared for*

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## EXECUTIVE SUMMARY

<b>Site Description and Location:</b> 2118 Milvia Street Berkeley, California, 94704-1113 Parcel Numbers: 057 202200501  The Site was formerly addressed as 1999 Center Street, which was the location of the former gasoline service station on the property. The Site is also addressed as 2120 and 2122 Milvia Street	<b>Client Information:</b> Atheria Smith Peralta Community College District Oakland 333 East Eighth Street Oakland, California 94606
<b>Current Site Owner:</b> N.E.W. Milvia Property, LLC 846 Mendocino Avenue Berkeley, CA 94707	<b>Environmental Consultant:</b> Terraphase Engineering Inc. 1404 Franklin Street, Suite 600 Oakland, California 94612
<b>Reconnaissance Date:</b> 1/23/15	<b>Environmental Professional:</b> Jeff Raines

## Findings and Conclusions Summary

Terraphase Engineering, Inc. (Terraphase) has performed this Phase I Environmental Site Assessment (ESA) in general conformance with the scope and limitations of ASTM Standard Practice E 1527-13. Any exceptions to, or deletions from, this practice are described in Section 1.0 of this report. Terraphase identified the following recognized environmental in connection with the Site during the Phase I ESA:

- REC-1: A gasoline station was formerly located on the property. Because of the age of the gasoline station and the date of its closure, prior to the enactment of the Resource Conservation and Recovery Act (RCRA), the gasoline station would not have been closed under regulatory oversight and it is likely that petroleum products were released into the subsurface at the Site and never remediated.
- REC-2: In addition to the gasoline station on the property, there were also gasoline stations on the northeast and southeast corners of the intersection of Center Street and Milvia Street which are upgradient of the Site. Because of the age of the gasoline stations and the dates of their closure, prior to the enactment of RCRA, it is likely that petroleum products were released into the subsurface at their locations. Groundwater is fairly shallow at the Site, and hence, if petroleum products were released at the adjacent former gasoline stations, it is likely that the petroleum products would have migrated under the Site, creating a potential vapor encroachment condition.
- REC-3: A property, located at 2020 Addison Street, approximately 350 feet east northeast of the Site, reported a release of gasoline that impacted both soil and

groundwater. The site closed in the State Water Resources Control Board (SWRCB) Geotracker database. Because of this property's proximity and up-gradient location with respect to groundwater flow, to the Site and the possibility that contaminated groundwater from this property may have migrated beneath the Site, a potential vapor encroachment issue cannot be ruled out.

- REC-4: The Site is located in a City of Berkeley Environmental Management Area, which requires that permit applicants with properties located in this area may encounter potential health and environmental concerns during construction involving underground excavation or dewatering. Other parcels may exist that have soil or groundwater contamination, which are not represented. For larger developments, a review of potential environmental impacts by the Toxics Management Division, at the applicants expense, is required. The City of Berkeley Toxics Management Division is located at 2118 Milvia Street (the Site).
- The former gasoline stations and the fact that the Site is within a City of Berkeley Environmental Management Area indicates that a Vapor Encroachment Condition (VEC) exists for the Site.

No other recognized environmental conditions (RECs) were identified in connection with the Site.

Findings and Conclusion				
Report Sections	De minimis	REC	Historical REC	Description
<i>User Info and Record Review</i>				
3.0 User Provided Information				
4.1 Standard Environmental Databases		x		A release of gasoline was reported at a nearby property that is located up gradient and within 400 feet of the Site. A potential vapor encroachment issue cannot be ruled out.
4.2 Additional Environmental Databases				
4.4 Other Historical Records			x	The Site and two other adjacent properties were the former locations of gasoline service stations.
<i>Site Reconnaissance and Interviews</i>				
5.3.1 Hazardous				

Findings and Conclusion				
Report Sections	De minimis	REC	Historical REC	Description
Substances Use, Storage and Disposal				
5.3.2 Underground and Aboveground Storage tanks				
5.3.3 Odors				
5.3.4 Pools of Liquid				
5.3.5 Drums				
5.3.6 Other Petroleum Products				
5.3.7 Unidentified Substance Containers				
5.3.8 PCBs				
5.3.9 Heating and Cooling				
5.3.10 Stains or Corrosion				
5.3.11 Sumps and Floor Drains				
5.3.12 Waste Pits, Ponds and Lagoons				
5.3.13 Stained Soil or Pavement				
5.3.14 Stressed Vegetation				
5.3.15 Nonhazardous Solid Waste				
5.3.16 Wastewater				
5.3.17 Wells				
5.3.18 Septic Systems				
5.3.19 Stormwater Management System				
6.0 Interviews				
<i>ASTM Non-Scope Condition</i>				
7.1 Asbestos Containing Materials				
7.2 Mold/Water leak screening				

## Significant Data Gaps

The following is a summary of significant data gaps in the required Phase I information identified in this report.

Significant Data Gap	
Report Section	Description
2.0 Site Description	
3.0 User Provided Information	
4.0 Environmental and Historical Record Reviews	Location of gasoline storage tanks (likely an underground storage tank) of the former Fairchild & White gasoline station at the Site
5.0 Site Reconnaissance	
6.0 Interviews	

## Recommendations

To investigate the impacts from the RECs identified above, Terraphase recommends:

- Collecting three (3) subslab soil gas samples from below the building foundation and assessing the samples for petroleum hydrocarbons, volatile organic compounds and methane.

Soil gas samples may not detect significant degraded petroleum hydrocarbons remaining in soil. If the District is considering excavations for a basement or subsurface parking garage, collecting soil samples from below the building may be appropriate. If the soil gas concentrations of the constituents of concern are elevated above environmental screening levels, additional environmental sampling may be warranted.

## 1.0 INTRODUCTION

On behalf of Peralta Community College District, Terraphase Engineering Inc. (Terraphase) has completed this Phase I Environmental Site Assessment (ESA) for the properties located at 2118 Milvia Street, Berkeley, California (the Site; Figure 1). The Site was formerly addressed as 1999 Center Street in Berkeley – the Site is located on the northwest corner of Center and Milvia Streets. This Phase I ESA includes information gathered from federal, state, and local agencies; personal interviews with individuals familiar with the Site and surrounding properties; and a site visit conducted by Terraphase. The report is intended to meet the requirements of ASTM Practice E-1527-13 and has been prepared under the oversight of an environmental professional as defined in ASTM Practice E-1527-13. The qualifications of the environmental professional who has prepared this report are included in Appendix A.

### 1.1 Location and Legal Description

The Site is a comprised of one parcel located in Berkeley, Alameda County, California. The property is approximately 0.26 acres in size (EDR 2014g) and is identified with the Assessor's Parcel Number (APN): 057 202200501 by the Alameda County Assessor. A Site Location Map is included as Figure 1.

### 1.2 Purpose

The purpose of a Phase I ESA is to evaluate the potential for environmental contamination on the Site, and to evaluate if contamination could potentially occur in the future because of activities or conditions on or near the Site. The Phase I ESA was generally conducted in accordance with the processes prescribed in the American Society for Testing and Materials International (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM Designation E 1527-13).

This Phase I ESA identifies recognized environmental conditions (RECs) at the subject site. As defined by ASTM, a REC is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include "de minimis" conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

### 1.3 Scope of Services

The following services were included in this Phase I ESA:

- a reconnaissance-level site visit to look for evidence of the release(s) of hazardous materials and petroleum products and to assess the potential for on-site releases of hazardous materials and petroleum products
- drive-by observations of adjacent properties and the Site vicinity
- interviews with people familiar with the Site
- review of regulatory agency files
- review of historical documents including aerial photographs and topographical maps
- preparation of a report presenting our findings, including a summary of conclusions.

#### **1.4 Significant Assumptions**

This Phase I ESA provides appropriate into the previous ownership and use of the Site consistent with good commercial and customary practice in an effort to minimize liability. Terraphase also assumes that the information provided by Peralta Community College District, the regulatory database provider, and regulatory agencies is true and reliable.

#### **1.5 Limitations and Exceptions**

This document was prepared for the sole use of Peralta Community College District and their successors and assignees. No other party should rely on the information contained herein without the prior written consent of Terraphase and Peralta Community College District.

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by Terraphase and Peralta Community College District. This report was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry as practiced in Northern California. To the extent that Terraphase relied upon any information prepared by other parties not under contract to Terraphase, no representation as to the accuracy or completeness of such information is made. Only Peralta Community College District may make use of and rely upon the information in this report. This information can only be utilized for a period not to exceed 180 days in accordance with ASTM's "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" ASTM Designation E 1527-13; and/or the Code of Federal Regulations (CFR) 40CFR Part 312 "Standards and Practices for All Appropriate Inquiries: Final Rule," dated November 1, 2005 and amended December 30, 2013. After 180 days, the report must be updated in accordance with ASTM Standards and Federal regulations.

The findings presented in this report apply solely to site conditions existing at the time of the assessment. It must be recognized, however, that a Phase I ESA is intended for the purpose of

evaluating the potential for contamination through limited research and investigative activities and in no way represents a conclusive or complete site characterization. Conditions in other parts of the Site may vary from those at the locations where data were collected. Terraphase's interpretation of investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in Phase I ESA conclusions cannot reasonably be achieved. Therefore, Terraphase does not provide any guarantees, certifications, or warranties (express or implied) that a property is free from environmental contamination. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and all applicable laws, codes, regulations, or standards.

## **1.6 Special Terms and Conditions**

The scope of work for this Phase I ESA is compliant with current all appropriate inquiries (AAI)/ASTM standards for Phase I ESAs. The scope of work did not include testing of electrical equipment for the potential presence of polychlorinated biphenyls (PCBs), assessment of building materials for asbestos containing materials, assessment for lead-based paints, assessment of natural hazards such as naturally occurring asbestos, radon gas or methane gas, assessment of the potential presence of radionuclides, or assessment of non-chemical hazards such as the potential for damage from earthquakes or floods. General observation of building conditions and other non-ASTM standard observations were only made of accessible areas during site reconnaissance and cannot be relied upon as a comprehensive assessment of the building conditions or building systems operations.

This Phase I ESA also did not include an extensive assessment of the environmental compliance status of the Site or of the businesses operating at the Site, or a health-based risk assessment. Non scope services are discussed further in Section 8.

## **1.7 User Reliance**

This document was prepared for the sole use of Peralta Community College District and their successors and assignees. No other party should rely on the information contained herein without the prior written consent of Terraphase and Peralta Community College District. Its contents should not be relied upon by other parties without the expressed written consent of Peralta Community College District and Terraphase.

## 2.0 SITE DESCRIPTION

### 2.1 Site and Vicinity General Description and Current Uses of Adjoining Properties

The property is located in an area that is characterized by commercial and residential (apartments over first floor retail) development. The Site is zoned as Commercial – Downtown Mixed Use District (C-DMU) Buffer. The Site is bounded by the following streets and properties:

- The Site is bound by Milvia Street to the east, followed by a multi-story commercial structure used as an office building.
- The Site is bound by Center Street to the south, followed by a multi-story commercial structure used as an office building, occupied by the City of Berkeley.
- The Site is bound by a parking lot to the north, followed by a multi-story commercial structure used as an office building.
- The Site is bound by 1947 Center Street to the west – a six story office building used for City of Berkeley business, followed by multi-story commercial structures.

The City Zoning ordinance (23E.68) limits building heights to between 50 and 60 feet within the C-DMU buffer zone. New buildings of more than 20,000 square feet are required to attain LEED Gold status.

### 2.1 Current Site Use

The Site is currently occupied by an office building of 2 and 3 stories with approximately 23,000 square feet of rentable space.

### 2.2 Historical Site Use

The 1899 15-minute USGS topographic map (San Francisco Quadrangle EDR 2014b) of the Site shows that Milvia Street had not yet been advanced between Center Street and Alston Way. There is a structure shown on the Site which likely would have been torn down or moved when Milvia was advanced between Center Street and Alston Way. Strawberry Creek is shown as an above-ground ephemeral stream.

The 1915 15-minute USGS topographic map (San Francisco Quadrangle EDR 2014b) shows that Milvia Street had been completed, Strawberry Creek had been undergrounded and the Site was vacant. A review of historical aerial photographs and city directories (EDR 2014d,e) indicates that a gasoline service station was located on the Site by 1939. The 1929 Sanborn map indicates the Site was vacant. Based on aerial photographs and directory listings, the gasoline service station (Fairchild & White) was located on the Site (with the former address of 1999 Center Street) until before 1966 when the current structure was built. The 1968 aerial photograph (EDR 2014e) shows the gasoline station had been removed and been replaced with the existing office



building. The Site remained as an office building, with various commercial occupants, until the present. (EDR, 2014d)

The adjacent property to the east of the site, addressed 2125 Milvia Street, was the historic location of an automobile/fuel service station, known as **A A Sousa** or the Sportsmen Garage from 1928 until at least 1950. (EDR, 2014c,d,e)

The adjacent property to the southeast of the Site was known by several addresses including 2135, 2145, and 2171 Milvia Street. This property was occupied by various types of automobile/gasoline service stations and garages from 1925 until at least 1962. The 2135 Milvia Street address is associated with the Civic Center Garage in 1925 and as a radiator repair facility in 1928. The 2145 Milvia Street address is associated with Center Service Station in 1933. The 2171 Milvia Street address is associated with Ogle Automotive Service in 1945 and 1950; a Texaco Branded service station in 1955; and Jess & Dick's Automotive Service in 1962. (EDR, 2014d)

The property immediately to the west of the Site, addressed as 1977-1991 Center Street, was the location of the F W Foss Lumber Company from circa 1908 (Baker, 1914) until 1945 (EDR, 2014d). By 1950 the property was developed with an office building and remained in that configuration until the present. (EDR 2014d)

## 2.3 Physical Setting

The property is located within the City of Berkeley, in Alameda County. The Site is situated approximately 170 feet above sea level and the local topography slopes to the west southwest (EDR 2014b). Berkeley is located within the Coast Ranges geomorphic province of California (CDMG, 2002). According to available geologic maps of the area, the Site is underlain by quaternary aged sediments classified as the Temescal Formation. The Temescal Formation consists of alluvial fan deposits comprised of interfingering lenses of clayey gravel, sandy silty clay and sand-clay-silt mixtures (USGS, 1957). The soil beneath the site is classified as Tierra soil and consists of silt and clay loam. Tierra soil has a slow infiltration rate and a high water table. (EDR 2014a). The nearest fault, the Hayward Fault, is located approximately one mile east-northeast of the Site (CGS 2010).

According to the California Regional Water Quality Control Board – San Francisco Bay Basin Plan (CRWQCB, 2013), the Site is located within the Santa Clara Valley-East Bay Plain groundwater basin. Groundwater in this area has designated existing beneficial uses for municipal domestic supply, agricultural, industrial and industrial process supply.

Although no depth to groundwater is available for the subject property, depth to groundwater was measured to be 13 feet bgs to 14 feet bgs at a nearby property, addressed as 1917 Addison Street, which is located approximately 420 feet northwest of the Site (Engineering Science Incorporated 1989). Groundwater flow in this zone is estimated to be to the southwest (CERI 2012). The nearest groundwater production well to the Site is identified as well station code

0105013-001. The well is located approximately 1,700 feet north-northeast of the Site. (EDR, 2014a)

### **3.0 USER PROVIDED INFORMATION**

The following section summarizes information provided by Peralta Community College District (User) with regard to the Phase I ESA.

#### **3.1 Title Record**

A title report was not provided as part of the Phase I ESA.

#### **3.2 Environmental Liens and Activity and Use Limitations**

Environmental liens and activity and use limitations were not found in connection with the deeds for the Site (EDR 2014f).

#### **3.3 Specialized Knowledge**

Atheria Smith of the Peralta Community College District indicated that she has no specialized knowledge or experience related to the property or nearby properties (i.e., knowledge of the chemicals or processes used by a type of business).

#### **3.4 Commonly Known or Reasonably Ascertainable Information**

The Site is located within an area of known groundwater contamination – there is an open leaking underground storage tank (UST) site located at 1937 Addison Street. 1937 Addison Street is located 250 feet northwest and down gradient of the Site.

#### **3.5 Valuation Reduction for Environmental Liens**

It is unknown if the price of the property reasonably reflects the fair market value.

#### **3.6 Owner, Property Manager and Occupant Information**

The current Site owner information is as follows:

N.E.W. Milvia Property, LLC  
846 MENDOCINO AVE  
Berkeley, CA, 94707-1923

#### **3.7 Reasons for Performing Phase I**

The reason for performing the Phase I ESA was to evaluate for the presence of RECs in anticipation of a real estate transaction.

## 4.0 RECORDS REVIEW

### 4.1 Standard Environmental Record Sources

The regulatory agency database report discussed in this section, provided by Environmental Data Resources, Inc. (EDR) of Milford, Connecticut (the EDR Report), was reviewed for information regarding reported releases of hazardous substances and petroleum products on or near the property (EDR 2014a). Terraphase also reviewed the “unmappable” (also referred to as “orphan”) listings within the database report, cross-referencing available address information and facility names. Unmappable sites are listings that could not be plotted with confidence, but are potentially in the general area of the property based on the partial street address, city, or zip code. None of the unmappable sites were identified by Terraphase as being within the approximate minimum search distance from the property based on the site reconnaissance and/or cross-referencing to mapped listings. The complete EDR Report may be found in Appendix C. The following is a summary of the findings of the database review.

Regulatory Database	Approximate Minimum Search Distance	Properties On Site Listed	Number of Listings
Federal National Priority List	1.0 mile	0	0
Federal Delisted NPL	1.0 mile	0	0
Federal CERCLIS	0.5 mile	0	0
Federal CERCLIS NFRAP site List	0.5 mile	0	0
Federal RCRA CORRACTS facilities list	1.0 mile	0	0
Federal RCRA non-CORRACTS TSD facilities list	0.5 mile	0	0
Federal RCRA generators list	0.25 mile	0	8
Federal institutional controls /engineering controls registries	0.5 mile	0	0
Federal ERNS list	Site	0	0
State- and tribal - equivalent NPL	¼ to ½ mile	0	1
State- and tribal - equivalent CERCLIS	1 mile	0	3
State and tribal landfill and/or solid waste disposal site lists	0.5 mile	0	0
State and tribal leaking storage tank lists	0.5 mile	0	60
State and tribal registered storage tank lists	0.25 mile	0	1
State and tribal voluntary cleanup sites	0.5 mile	0	0
Registered Storage Tanks	<1/8 mile	0	17

Regulatory Database	Approximate Minimum Search Distance	Properties On Site Listed	Number of Listings
Historical Cortese List	<1/8 mile	0	41
RCRA NonGen/NLR	0.25 mile	0	1
Notify 65	<1/8 mile	0	4
Haznet	Target Property	1	1
EDR Historical Cleaners	0.25 mile	0	23
EDR Historical Gasoline Stations	0.25 mile	1	31

CERCLIS - Comprehensive Environmental Response, Compensation, and Liability Information System

CORRACTS - RCRA Corrective Action Sites

ERNS - Emergency Response Notification System

NFRAP - No Further Remedial Action Planned

NPL – National Priority List

RCRA – Resource Conservation and Recovery Act

TSD – Treatment, Storage or Disposal

#### 4.1.1 Federal National Priorities List (NPL): Distance Searched - 1 mile

The NPL is the EPA’s database of uncontrolled or abandoned hazardous waste properties identified for priority remedial actions under the Superfund program. This database includes proposed NPL listings.

Neither the site nor properties located within a 1 mile radius of the site were listed in this database.

#### 4.1.2 Federal Delisted National Priorities List (NPL): Distance Searched - 0.5 mile

This database contains delisted NPL properties under the Superfund program. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete properties from the NPL. In accordance with Code 40 of Federal Regulations (CFR) 300.425 (e), properties may be deleted from the NPL where no further response is appropriate.

Neither the site nor properties located within a 0.5 mile radius of the site were listed in this database.

#### 4.1.3 Federal Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List: Distance Searched - 0.5 mile

The CERCLIS database contains properties which are either proposed or on the NPL and properties which are in the screening and assessment phase for possible inclusion on the NPL.

Neither the site nor properties located within a 0.5 mile radius of the site were listed in this database.

#### 4.1.4 Federal CERCLIS No Further Remedial Action Planned (NFRAP) Site List: Distance Searched - 0.5 mile

The CERCLIS NFRAP database contains archived sites that have been removed from the inventory of CERCLIS Sites. Archived status indicates that a site assessment has been completed and a determination made that no further steps will be taken to list the Site on the NPL. This decision does not mean that there is no hazard associated with the site, it only means that based on available information, the location is not judged to be a potential NPL site.

Neither the site nor properties located within a 0.5 mile radius of the site were listed in this database.

#### 4.1.5 Federal Corrective Action Report (CORRACTS): Distance Searched - 1 mile

The EPA maintains this database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing corrective action. A corrective action order is issued when there has been a release of hazardous waste or constituents into the environment from a RCRA facility.

Neither the site nor properties located within a 1.0 mile radius of the site were listed in this database.

#### 4.1.6 Federal Non-CORRACTS: Distance Searched - 0.5 mile

The RCRA-Non Generators database (non-CORRACTS) is compiled by the EPA for facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste. Non-generators do not presently generate hazardous waste.

Neither the site nor properties located within a 0.5 mile radius of the site were listed in this database.

#### 4.1.7 Resource Conservation and Recovery Act (RCRA) Generators: Distance Searched - 0.25 mile

The RCRA generators database is compiled by the EPA database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by RCRA. Small quantity generators (SQGs) generate between 100 kilograms (kg) and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kg of hazardous waste, or over 1 kg of acutely hazardous waste per month.

The Site was not listed in this database. The following seven properties were identified as being located within a 0.25 mile radius of the site: **CVS Pharmacy No. 3026** (2300 Shattuck Avenue, 0.239 miles southeast); **Stadium Body Shop** (2026 Addison Street, 0.1 miles east-northeast); **Automotive Unlimited** (2020 Addison Street, 0.1 miles east-northeast); **Walgreens** (2187 Shattuck Avenue, 0.18 miles east); **Flamingo Cleaners** (1935 Martin Luther King Boulevard, 0.19 miles northwest); **City of Berkeley Central Dup** (2180 Milvia Street, 0.05 miles south); **Hamsem**

**Tune Up** (1933 Addison Street, 0.08 miles west-northwest); and **YAS Automotive** (2000 Kittredge, 0.14 miles south).

Of these seven listings, one is listed as a large quantity generator (**CVS Pharmacy No. 3026**) while the other six are listed as small quantity generators of hazardous waste. One of these listings, **Automotive Unlimited** is listed on the LUST database as the site of a release and is discussed in detail in Section 4.1.13. Inclusion on the RCRA Generators list is not typically cause for environmental concern, unless the site is associated with a documented release or spill incident. With the exception of **Automotive Unlimited**, none of the properties included on the RCRA Generators list are associated with a documented release and are therefore, not considered to be an environmental concern.

#### 4.1.8 Federal Institutional Controls/Engineering Controls Registries: Distance Searched - 0.5 mile

The Federal Institutional Controls/Engineering Controls (US Eng Controls and US Inst Controls) databases are maintained by EPA and list sites with engineering controls and institutional controls, respectively.

Neither the Site nor properties located within a 0.5-mile radius of the site were listed in this database.

#### 4.1.9 Federal Emergency Response Notification System (ERNS): Distance Searched - Site

The ERNS database contains information on reported releases of oil and hazardous substances.

The Site was not listed in this database.

#### 4.1.10 State- and Tribal-Equivalent NPL: Distance Searched - 1 mile

The RESPONSE database is the state-equivalent NPL. The RESPONSE database identifies confirmed release sites where the California Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. The database is maintained by the NCES (National Center for Education Statistics) which is the primary federal entity for collecting and analyzing data related to education in the United States and other nations and the institute of education science.

The site was not listed in the database. The following property was identified as being located within a 1 mile radius of the Site and the case is summarized below:

##### **Virginia Cleaners**

**1667 Shattuck Avenue, Berkeley CA**

Approximate Distance from the Property: 0.48 miles, north-northeast.

Assumed Groundwater Gradient: West, Regulatory Data Summary: This property is dual listed

on both the Response List and Envirostor databases. According to information available on the Envirostor website, Virginia Cleaners operated at this location from 1937 until November 1981, when the facility was destroyed by a fire. In 1986, the site underwent construction and, during excavation, workers reported the presence of hydrocarbon odors, related to dry cleaning solvents in site soils. From 1986 to November 1987, the site was remediated by removal, disposal and onsite aeration of contaminated soils. An abandoned UST and the associated underlying contaminated soils were also disposed of. According to the No Further Action letter available on the Department of Toxic Substances Control (DTSC) Envirostor website, after remediation, contaminants were reportedly reduced to non-detectable levels. Additionally, monitoring of down gradient groundwater monitoring wells indicated that groundwater quality had not been impaired. After remediation, the site was granted regulatory closure in the form of a No Further Action letter, by the North Coast California Section of the DTSC, on December 18, 1987. (DTSC 1987)

*Discussion:* Given the regulatory status of this property as No Further Action, that the release reportedly impacted soil only, and its distance from the Site, there is a low likelihood that this property would have a negative environmental impact on the Site.

#### 4.1.11 State- and Tribal-Equivalent CERCLIS: Distance Searched - 1 mile

The Envirostor database is the state-equivalent CERCLIS. The DTSC's Site Mitigation and Brownfields Reuse Program's Envirostor database identifies sites that have known contamination or sites for which there may be further reason to investigate further. The database includes the following Site types: Federal Superfund Sites (NPL); State Response, including Military Facilities and State Superfund: Voluntary Cleanup; and School Sites.

The Site was not listed in this database. The following three properties were identified as being located within a 1 mile radius of the site: **Virginia Cleaners** (1667 Shattuck Avenue, 0.48 miles north-northeast); **Former Cal Cleaners** (2529-2533 Telegraph Avenue, 0.78 miles east-southeast); **University of California Berkeley** (317 University Avenue, 0.82 miles east-northeast).

The aforementioned **Virginia Cleaners** was the site of a DTSC lead cleanup effort, and is listed on the Response database. The case summary for **Virginia Cleaners** is described in detail in section 4.1.10.

The **Former Cal Cleaners** and the **University of California Berkeley** properties are located, respectively, down gradient and cross-gradient from the Site with respect to groundwater flow, and are both located over three quarters of one mile from the subject property (DTSC, 2014). Based on their distance from the Site and their down or cross-gradient locations, with respect to groundwater flow, there is a low likelihood that these properties would have a negative environmental impact on the Site.



#### 4.1.12 State Solid Waste Landfill Sites (SWF/LF): Distance Searched - 0.5 mile

The SWF/LF database consists of open and closed solid waste disposal facilities and transfer stations. The data comes from Cal Recycle's Solid Waste Information System (SWIS) and the State Water Resources Control Board's (SWRCB) Waste Management Unit Database (WMUD) database.

Neither the site nor properties located within a 0.5-mile radius of the site were listed in this database.

#### 4.1.13 State Leaking Underground Storage Tank (LUST) Lists: Distance Searched - 0.5 mile

The database of LUST information is obtained from the SWRCB and the California Regional Water Quality Control Board (RWQCB).

56 properties, within a 0.5-mile radius of the site, were listed in this database search (some addresses appeared twice). Of these 56 properties, eight of the properties were duplicate listings. Of the 48 unique listings, 42 are listed with the regulatory status of "Completed-Case Closed" and there are 13 listings located within one quarter mile of the subject property. Only four of those properties that are located up gradient from the Site with respect to groundwater flow, and are located within a 600 foot radius of the Site, are discussed below. See **Appendix C** for a complete listing of properties identified on the LUST database.

##### **Berkeley Glass**

###### **2011 Addison Street, Berkeley CA**

Approximate Distance from the Property: 0.06 miles north-northeast.

Assumed Groundwater Gradient: Southwest

Regulatory Data Summary: This site is listed on the Historic Cortese and LUST databases as the site of a gasoline release that reportedly affected soil only. The case, case number 01-0191, was opened on July 13, 1987 when a gasoline release, from an underground storage tank (UST), was discovered during tank closure. (SWRCB, 2014) After a period of assessment, the case was granted regulatory closure on June 25, 1999. (EDR, 2014) No other information is available at this time.

Discussion: Given the regulatory status of this property as No Further Action and that the release reportedly impacted soil only, there is a low likelihood that this property would have a negative environmental impact on the Site.

##### **Addison Street Property**

###### **2040 Addison Street, Berkeley CA**

Approximate Distance from the Property: 0.08 miles northeast

Assumed Groundwater Gradient: Southwest, West

Regulatory Data Summary: This property is listed on both the Historic Cortese and LUST databases. The case was opened with the City of Berkeley, case number 01-0030, on September

29, 1986 when a heating oil release associated with a leaking UST, was discovered during removal of a 280 gallon UST. (SWRCB, 2015) Initial soil samples detected Total Petroleum Hydrocarbons at concentrations of 1,100 ppm. Reportedly, site soils were sampled 14 years later and TPH concentrations had decreased to below 100 ppm, via natural attenuation. Maximum residual pollutant concentrations are as follows: TPHg was detected at 21 ppm; TPHd was detected at 90 ppm; Benzene was detected at 0.11 ppm; Xylene was detected at 0.27 ppm; and Ethylbenzene was detected at 0.099 ppm. The closure letter stated that the release did not impact groundwater sampled from nearby, down-gradient wells. Based on this data, the City of Berkeley granted the site regulatory closure on December 1, 1998.

Discussion: Given the regulatory status of this property as “Completed – Case Closed” and that the release reportedly impacted soil only, there is a low likelihood that this property would have a negative environmental impact on the Site.

### **Automotive Unlimited**

#### **2020 Addison Street, Berkeley CA**

Approximate Distance from the Property: 0.1 miles east-northeast

Assumed Groundwater Gradient: southwest

Regulatory Data Summary: This site is listed on the RCRA- small quantity generators, FINDS, Historic Cortese, LUST and HAZNET databases. The case, City of Berkeley case number 01-0140, was opened on June 17, 1988, when a release of gasoline was discovered during UST closure. According to information included in the closure letter for the above mentioned **Addison Street Property**, which is available on the website GeoTracker, three USTs, two containing gasoline and one containing waste oil, were removed from the property in June 1998 and a release was discovered and subsequently reported. (SRWCB, 2015) The release reportedly impacted both soil and groundwater. (SRWQCB, 2015) The case was closed as of September 29, 1994. No further information is available at this time.

Discussion: Although the property was granted regulatory closure in 1994; because of the proximity of the property to the Site (approximately 400 feet east-northeast of the Site), that the gasoline release reportedly impacted groundwater, and the property’s up-gradient location, with respect to groundwater flow, a potential vapor encroachment issue cannot be ruled out.

### **Berkeley Corp Yard**

#### **2000 Milvia Street, Berkeley CA**

Approximate Distance from the Property: 0.11 miles east-northeast

Assumed Groundwater Gradient: southwest

Regulatory Data Summary: This site is listed on the Historic Cortese and LUST databases. The case, City of Berkeley case number 01-0140, was opened on July 13, 1988, when a release of gasoline was discovered during UST closure. According to information provided on the website GeoTracker, the release reportedly impacted both soil and groundwater (SRWQCB, 2014). After a period of site assessment, which began on January 22, 1994, the case was closed as of January 24, 1996. No further information is available at this time.

Discussion: Given the regulatory status of this property as “Completed – Case Closed” and the

distance from the Site, there is a low likelihood that this property would have a negative environmental impact on the Site.

#### 4.1.14 Spills, Leaks & Investigation Cleanup (SLIC): Distance Searched - 0.5 mile

The SLIC database is maintained by the Regional Water Quality Control Board. The database contains descriptions of contaminant distribution and the status of sites.

The Site was not listed in this database. Four properties were listed in this database within 0.5 mile of the site. The four properties listed in this data base are as follows: **Vacant Building/Fred's Market** (1929 University Avenue, 0.13 miles northwest); **Dupont Chemical** (15345 Avnedale Avenue, 0.14 miles northwest); **Private Residence** (no address given); and **2107 Dwight** (2107 Dwight Way, 0.46 miles south-southeast). Of the four properties listed, two are located down gradient from the Site, with respect to groundwater flow, and are located greater than one quarter mile away (**Private Residence and 2107 Dwight**), and because of their distance from the site and down-gradient location, are not considered to be an environmental concern. The other two sites, **Vacant Building/Fred's Market** and **Dupont Chemical** are described as follows:

##### **Vacant Building/Fred's Market**

##### **1929 University Avenue, Berkeley CA**

*Approximate Distance from the Property:* 0.13 miles northwest

*Assumed Groundwater Gradient:* Southwest

*Regulatory Data Summary:* This property is listed on the SLIC and HAZNET databases. According to information provided in the SFBRWQCB No Further Action, 1929 University Avenue, Berkeley, Alameda County case closure letter, available on the website GeoTracker, the property housed an automobile repair facility from 1956 to 1974 (SWRCB, 2015). The case, case number 01S0739, was opened December 13, 2012, when a release was discovered. The release was suspected to be from an abandoned 400 gallon waste oil UST and from four hydraulic hoists and three associated hydraulic fluid reservoirs.

In December 2012, the UST, hydraulic hoists and hydraulic fluid reservoirs were removed by Schutze and Associates. Reportedly 53.19 tons of impacted soils were over-excavated, removed from the property, and disposed of. No further excavation was recommended due to the proximity of existing foundations. Investigative sampling reportedly indicated that groundwater beneath the site had not been impacted by the release. Although approximately seven cubic yards of soils impacted with petroleum hydrocarbons still remain in place, the fine grained nature of the soil is expected to prevent vertical and lateral migration of petroleum hydrocarbons. (RWQCB, 2015) The case was granted regulatory closure on January 15, 2015.

*Discussion:* Given the regulatory status of this property, the soil only nature of the release, and its distance from the Site, there is a low likelihood that this property would have a negative environmental impact on the Site.

### **Dupont Chemical**

#### **1929 University Avenue, Berkeley CA**

*Approximate Distance from the Property:* 0.14 miles northwest

*Assumed Groundwater Gradient:* Southwest

*Regulatory Data Summary:* This property dual listed on both the LUST and SLIC databases.

Based on information available on the website GeoTracker, the property reported a release on June 22, 2004, and case number 01-0001 was opened with the SFBRWQCB. The release reportedly impacted both soil and groundwater. The chemicals of concern include chlorinated solvents, PCE, pesticides and herbicides. No other information is available at this time. The case is listed as being open, but is currently inactive, as of April 17, 2009, no other information is available at this time. (RWQCB, 2015)

*Discussion:* Given the regulatory status of this property as “inactive”, its cross-gradient location, with respect to groundwater flow, and its distance from the Site, there is a low likelihood that this property would have a negative environmental impact on the Site.

#### **4.1.15 UST and AST Databases: Distance Searched - 0.25 mile**

The UST database contains registered USTs regulated under Subtitle I of RCRA. The data comes from the State Water Resources Control Board’s Hazardous Substance Storage Container Database.

The Site was not listed in this database. One property, **Valero Store #7200** (1894 University Avenue, 0.15 miles northwest) was listed on the database as being located within 0.25 mile of the site. Based on the fact that this property is not the site of a documented release and is not listed on any other environmental databases, there is a low likelihood that this property would have a negative environmental impact on the Site.

#### **4.1.16 State Voluntary Cleanup Programs (VCPs): Distance Searched - 0.5 mile**

The State VCP database lists low threat level properties with either confirmed or unconfirmed releases. Project proponents have requested that the DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC’s costs.

Neither the site nor any other properties located within a 0.5-mile radius of the site were listed in this database.

#### **4.1.17 Additional Environmental Databases**

The Site was listed twice in HAZNET database. According to records provided by EDR, the Site reportedly disposed of asbestos containing waste and household waste, in 1993 and in 2006, respectively. The Site was not listed under any of the other additional environmental databases.

67 properties were identified in the additional databases within one half mile of the Site. Many of the listings are duplicate listings or were described in a previous section. Of the additional

listings, none, except for those described above, were likely to have a negative environmental impact on the Site.

#### 4.1.18 EDR High Risk Historical Records

This section includes listings of potential gas station/filling station/service station establishments. This category includes, but is not limited to gas stations, filling stations, fuel service stations, automobile repair, auto service stations, etc. This section also includes establishments that may have been cleaners, dry cleaners, laundries, laundromats, etc.

The Site was listed in one of the EDR proprietary databases as the location of a former gasoline service station, the listing is as follows:

##### **Fairchild and White (the Site)**

##### **1999 Center Street (former address for the Site), Berkeley CA**

Approximate Distance from the Property: NA – the Site

Assumed Groundwater Gradient: Southwest

Regulatory Data Summary: The Site was listed, under its former address, 1999 Center Street, as the former location of a gasoline service station known as Fairchild and White. The gasoline service station reportedly operated on Site in 1947. No other information was provided by EDR regarding this matter. (EDR, 2014a)

Discussion: Based on the nature of the listing, as a gasoline service station, and the time period that this service station operated at the Site, in 1947, and due to the likely historical presence of USTs and the possibility that petroleum products were released beneath the property potential historical REC cannot be ruled out.

53 other properties were listed in this database within 0.25 miles of the Site on both of the EDR Historical Auto Stations and EDR Historical Cleaners Databases. Of the additional listings the following five historical listings were identified within close proximity to the site:

##### **Tucker L R**

##### **2135 Milvia Street, Oakland CA**

Approximate Distance from the Property: 0.01 miles east

Assumed Groundwater Gradient: Southwest

Regulatory Data Summary: This property is listed as the historical location of an automobile repair and service station. The listing states Tucker L R operated at this location in 1928. This property is located adjacent to the east of the Site. No other information is available at this time. Discussion: Based on the nature of the listing, as a gasoline service station, and the time period that this service station operated at the Site, in 1928, and due to the likely historical presence of USTs and the possibility that petroleum products were released beneath the property, a potential historical REC cannot be ruled out.

**Sousa A A**

**2125 Milvia Street, Oakland CA**

Approximate Distance from the Property: 0.02 miles north-northeast

Assumed Groundwater Gradient: Southwest

Regulatory Data Summary: This property is listed as the historical location of an gasoline and service station. The listing states **Sousa A A** operated at this location in 1943. This property is located adjacent to the northeast of the Site. No other information is available at this time.

Discussion: Based on the nature of the listing, as a gasoline service station, and the time period that this service station operated at the Site, in 1943, and due to the likely historical presence of USTs and the possibility that petroleum products were released beneath the property, a potential historical REC cannot be ruled out.

**Smithburn G E**

**2000 Center Street, Oakland CA**

Approximate Distance from the Property: 0.02 miles southeast

Assumed Groundwater Gradient: Southwest

Regulatory Data Summary: This property is listed as the historical location of an automobile repair and service station. The listing states Smithburn G E operated at this location in 1933.

This property is located adjacent to the southeast of the Site. No other information is available at this time. Discussion: Based on the nature of the listing, as a gasoline service station, and the time period that this service station operated at the Site, in 1933, and due to the likely historical presence of USTs and the possibility that petroleum products were released beneath the property, a potential historical REC cannot be ruled out.

**Center Service Station**

**2145 Milvia Street, Oakland CA**

Approximate Distance from the Property: 0.02 miles southeast

Assumed Groundwater Gradient: Southwest

Regulatory Data Summary: This property is listed as the historical location of an automobile repair and service station. The listing states Tucker L R operated at this location in 1933. This property is located nearby, to the southeast of the Site. No other information is available at this time. Discussion: Based on the nature of the listing, as a gasoline service station, and the time period that this service station operated at the Site, in 1933, and due to the likely historical presence of USTs and the possibility that petroleum products were released beneath the property, a potential historical REC cannot be ruled out.

**Bertin S Cleaners and Dyers**

**2020 Milvia Street, Oakland CA**

Approximate Distance from the Property: 0.01 miles northeast

Assumed Groundwater Gradient: Southwest

Regulatory Data Summary: This property is listed as the historical location of a garment, curtain and draperies cleaner. The listing states the cleaner operated at this location in 1933. This

property is located to the north (cross gradient) of the Site. No other information is available at this time. *Discussion:* Based on the nature of the listing, as a cleaner and dyer, the up-gradient location and the time period that this cleaner operated at the Site, 1933, and due to the likely historical presence of cleaning and dyeing chemicals at this property, a potential historical REC cannot be ruled out.

## 4.2 Additional Environmental Record Sources

In addition to EDR review, Terraphase contacted additional local environmental record sources as described in the following subsections.

### 4.2.1 Department of Toxic Substances Control

Terraphase reviewed the DTSC's Envirostor database ([www.envirostor.dtsc.ca.gov/public](http://www.envirostor.dtsc.ca.gov/public)). Information collected from Envirostor is discussed throughout Section 4.1.

### 4.2.2 Regional Water Quality Control Board

Terraphase reviewed the GeoTracker database (<http://geotracker.swrcb.ca.gov/>). Information collected from GeoTracker is discussed throughout Section 4.1.

### 4.2.3 Berkeley Toxics Management Department

On January 30, 2015, Terraphase contacted the Berkeley Toxics Management Department for information related to the Site – the Toxics Management Department is located at 2118 Milvia Street and is very familiar with the building. Mr. Karl Busche of the Department indicated that he knew of no environmental hazards in the building.

### 4.2.4 City of Berkeley Fire Department

The City of Berkeley Fire Department was contacted regarding the Site. As of the writing of this report, Terraphase has not heard back from them.

### 4.2.5 City of Berkeley Public Works Agency

A review of building permits back through 2004 did not indicate that any environmental remediation had been performed at the building. No records are available from before 2004.

## 4.3 Historical Use Information on the Property and Adjoining Areas

The following information is based on the review of aerial photographs, building department records, USGS Topographic maps, and city directories.

### 4.3.1 Aerial Photograph Review

Terraphase reviewed aerial photographs provided by EDR that are included in Appendix C (EDR 2014e). Aerial photographs were reviewed for the following years:

Date: 1939  
Scale: 1"=500'

Date: 1993  
Scale: 1"=500'

Date: 1946  
Scale: 1"=500'

Date: 1998  
Scale: 1"=500'

Date: 1950  
Scale: 1"=500'

Date: 2005  
Scale: 1"=500'

Date: 1958  
Scale: 1"=500'

Date: 2009  
Scale: 1"=500'

Date: 1968  
Scale: 1"=500'

Date: 2010  
Scale: 1"=500'

Date: 1974  
Scale: 1"=500'

Date: 2012  
Scale: 1"=500'

Date: 1980  
Scale: 1"=500'

The 1939 aerial photograph shows that the Site was developed as a gasoline service station. The northern portion of the Site appears to be a parking lot. The adjacent property to the north appeared with limited structural development. The adjacent properties to the south, southeast and west appear to be developed with commercial structures. The adjacent property to the east appeared with limited structural development and areas for vehicle parking. The Site is situated on the northwest corner of the intersection of Center Street and Milvia Street, Center Street borders the Site to the south and Milvia Street borders the Site to the east. The surrounding area appeared with a mix of commercial and residential development.

The 1946 aerial photograph shows the Site has been developed, apparently as a gasoline service station, with a single structure, located in the western portion of the Site, and a driveway/parking area, located in the northern and eastern portions of the Site. The adjacent property to the north appeared to be utilized as a parking area. The adjacent property to the south is not clearly visible due to the resolution of the photograph, but appeared to be developed with a large structure and a surrounding landscaped area. The adjacent property to the east appeared to be developed with two small structures and a driveway/parking area and was possibly utilized as a gasoline service station.

The 1968 aerial photograph shows the site has been developed with what appeared to be a single structure. Properties to the north and southeast appeared to be developed with asphalt parking lots. Properties to the south and east appeared as in the previous photograph.

In the 1974 aerial photograph, the Site all surrounding properties appeared to be developed with multi-story structures. A portion of the adjacent property to the east is developed with a



parking lot, but does not appear to be configured as a gasoline service station. Due to poor resolution, the 1980 photograph did not allow for detailed analysis of the Site or surrounding properties.

In the 1990 aerial photograph, the Site and surrounding properties appeared as they did in the previous photograph, except adjacent property to the east is now developed with a multi-story structure. Due to poor resolution the 1998 photograph did not allow for detailed analysis of the Site or surrounding properties.

In the 2005, 2009, 2010 and 2012 aerial photographs, the Site appeared in its current configuration, and is developed with a multi-story structure. The adjacent property to the north appeared to be developed with a parking lot, followed by a multi-story structure. To the south the Site is bound by Center Street, followed by a multi-story structure. To the east, the Site is bound by Milvia Street, followed by a multi-story structure. The adjacent properties to the west and southeast are developed with multi-story structures. Areas to the north, south and east and west generally appeared with commercial development and areas further to the west appeared with both residential and commercial development.

#### 4.3.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance maps were developed in the late 1800s and early 1900s for use as an assessment tool for fire insurance rates in urbanized areas. Sanborn maps from 1890, 1894, 1903, 1911, 1929, 1950, and 1980 were reviewed (EDR, 2014c) and are included with this report in Appendix C.

The Sanborn maps from 1890 and 1894 and 1903 show that the Site was undeveloped land located in the vicinity of Strawberry Creek, a seasonal watercourse. Milvia Street had not yet been developed east of the Site. In the 1903 map the adjacent property west of the Site appeared to be developed with a F. W. Foss Lumberyard and associated improvements.

The 1911 map depicts the Site as undeveloped land surrounded by residential development to the north, the F. W. Foss Lumber Company to the west and the development of Milvia Street to the east and Center Street to the south. The 1929 map shows the Site as undeveloped land. Notable surrounding land uses include a lumberyard with fuel storage (west), and a gasoline/oil/auto service station (east). There are two additional gas/oil service stations located further to the north and to the south, respectively.

1950 Sanborn map shows that the Site has been developed with a gas and oil service station. The property to the north remains undeveloped, followed by residential development. Both of the adjacent properties to the east and southeast appeared to be developed gas/oil service stations. The lumberyard to the west has been replaced by an insurance office building and the property to the south is developed with a credit office building.

The Sanborn Map from 1980 shows the property in its current configuration, developed with a parking area and offices. Uses of surrounding properties includes offices (west), the Berkeley Center Building (southeast), and the Civic Center Building (south).

#### 4.3.3 Property Tax Files

Property tax information was not deemed sufficiently useful to the purpose of this Phase I ESA and, therefore, was not researched for the Site or surrounding properties.

#### 4.3.4 Recorded Land Title Records

Environmental liens and activity and use limitations were not found in connection with the deeds for the Site (EDR 2014f).

#### 4.3.5 Historical USGS Topographic Map

Terraphase reviewed topographic maps provided by EDR that are included in Appendix C (EDR 2014b). Topographic maps were reviewed for the following years:

Date: 1895	Date: 1993
Scale: 1:62,500	Scale: 1:24,000
Date: 1915	Date: 1968
Scale: 1:62,500	Scale: 1:24,000
Date: 1948	Date: 1973
Scale: 1:50,000	Scale: 1:24,000
Date: 1949	Date: 1980
Scale: 1:24,000	Scale: 1:24,000

The 1899 15-minute USGS topographic map (San Francisco Quadrangle EDR 2014b) of the Site shows that Milvia Street had not yet been advanced between Center Street and Alston Way. There is a structure shown on the Site which likely would have been torn down or moved when Milvia was advanced between Center Street and Alston Way. Strawberry Creek is shown as an above-ground ephemeral stream.

The 1915 15-minute USGS topographic map (San Francisco Quadrangle EDR 2014b) shows that Milvia Street had been completed, Strawberry Creek had been undergrounded and the Site was vacant.

The 1948 and 1949 topographical maps depict the Site as being located within the boundaries of the City of Berkeley and shows structural development in the surrounding area. In The 1959 topographic map, the Site appeared in the same manner as in the 1949 map, however, the adjacent property to the west of the Site appeared to be developed with a new structure.

In the 1968 topographical map, the Site appeared as it did in the 1959 map. The adjacent property to the south appeared to be developed with a new structure and a park. There is no change to the development of the Site or surrounding properties in the subsequent topographical maps from 1973, 1980 and 1993. (EDR, 2014b)

#### 4.3.6 City Directories

In the 1943 directory provided in the EDR City Directory Abstract, under its former address, 1999 Center Street, the Site was identified to be occupied by a gas station known as Fairchild and White which is considered an occupant of concern. In the next directory listing at that address, from 1975, the Site was associated with a commercial occupant, the Lind-Waldock Company. (EDR, 2014d)

The Site was first listed under its current address, 2118 Milvia Street in 1970. From 1970 through 2008 the listings indicate that the site was occupied with various commercial occupants, most likely as an office building, which is consistent with its current use.

The adjacent property to the east, addressed 2125 Milvia Street, was reportedly occupied by a gasoline service station/garage known as the Sportsmen Garage, from 1938 to 1945. The site is also known as **A A Sousa** and is discussed in section 4.1.18 of this report and is shown as the location of a gasoline service station in the 1950 Sanborn map of the area. (EDR, 2014c,d)

The adjacent property to the southeast of the Site, was known by several addresses including 2135, 2145, and 2171 Milvia Street. This property was occupied by various types of automobile/gasoline service stations and garages from 1925 until at least 1962. The 2135 Milvia Street address is associated with the Civic Center Garage in 1925 and as a radiator repair facility in 1928. The 2145 address is associated with center Service Station in 1933. The 2171 Milvia Street address is associated with Ogle Automotive Service in 1945 and 1950; a Texaco Branded service station in 1955; and Jess & Dick's Automotive Service in 1962. (EDR, 2014d)

The adjacent property to the west, 1977-1991 Center Street, was identified as the site of the Foss Lumber/Wood/Coal Company from 1920 until at least 1945. By 1950 the property appeared to be addressed 1947 Center Street and was likely developed with an office building. This property was occupied by various commercial entities, including an insurance agency, until 2008. (EDR, 2014d)

#### 4.3.7 Building Department Records

Terraphase reviewed information provided in the EDR Building Permit List Report (EDR 2014g) in order to establish past Site uses based on historical building permit information. Permit information for the Site, from the City of Berkeley Planning and Development Department, dating from November 1993 through January 2012, was reviewed for any changes or additions to the Site. Building permits were examined for any Site improvements which would indicate a

change in Site use or any additions that would indicate a potential environmental concern, such as the installation of USTs, sumps or clarifiers. (EDR, 2014g)

A total of 32 permits were on file for the Site. The permits on file include various plumbing, electrical, building, mechanical, alteration, seismic retrofit, public works and fire alarm permits. The permits appeared to concern various site improvements and remodels that would be consistent with the Site use as an office building, including replacement of doors, non-load bearing walls, plumbing, wiring and signage. None of the permits listed indicated a change in Site use or a potential environmental concern. (EDR, 2014g)

#### 4.3.8 Zoning Land Use Records

According to the Land Use Zoning Districts map available through the City of Berkeley website, the Site is zoned as Commercial – Downtown Mixed Use District (C-DMU) Buffer. Within the C-DMU buffer zone, the City Zoning ordinance (23E.68) limits building heights to between 50 and 60 feet. New buildings of more than 20,000 square feet are required to attain LEED Gold status.

#### 4.3.9 Other Historical Sources

No prior reports related to environmental investigations at the Site were provided.

#### 4.3.10 Prior Assessment Usage

No prior reports related to environmental investigations at the Site were provided.

## **5.0 SITE RECONNAISSANCE**

### **5.1 Methodology and Limiting Conditions**

The site reconnaissance consisted of observations of: the property and improvements, adjoining sites as viewed from the property, and the surrounding area based on visual observations made during the trip to and from the property. A photograph log containing select photographs taken during the Site reconnaissance is included in Appendix D.

On January 23, 2015, Jennifer Repa of Terraphase conducted the inspection of the Site. Jennifer Repa was accompanied by Aileen Dolby during the reconnaissance.

### **5.2 General Site Setting**

#### **5.2.1 Current Use of the Property and General Observations**

The Site is currently occupied by the City of Berkeley Planning and Development Department (the "Department"). The Department leases the entire building.

### **5.3 Interior and Exterior Observations**

#### **5.3.1 Hazardous Substance Use, Storage, and Disposal**

Cleaning products were observed in various janitor closets. The building was constructed in 1966, so it should be presumed that chemical solvent cleaners have been used at the building.

#### **5.3.2 Underground Storage Tanks and Aboveground Storage Tanks**

No underground storage tanks were observed.

#### **5.3.3 Odors**

No strong, pungent, or noxious odors were noted during the Site reconnaissance.

#### **5.3.4 Pools of Liquid**

No pools of liquid or heavily stained pavement were observed. Stained drop ceiling panels were observed on the second and third floors.

#### **5.3.5 Drums**

No drums were observed.

#### **5.3.6 Other Petroleum Products**

No other petroleum products were observed.

### 5.3.7 Unidentified Substance Containers

No unidentified substance containers were observed.

### 5.3.8 Polychlorinated Biphenyls (PCBs)

Terraphase understands that a hazardous building materials survey of the building was conducted by others.

### 5.3.9 Heating and Cooling

Located on the roof.

### 5.3.10 Stains or Corrosion

None observed.

### 5.3.11 Sumps and Floor Drains

None observed.

### 5.3.12 Waste Pits, Ponds and Lagoons

None observed.

### 5.3.13 Stained Soil or Pavement

None observed.

### 5.3.14 Stressed Vegetation

None observed.

### 5.3.15 Nonhazardous Solid Waste

City of Berkeley trash containers in an enclosed space.

### 5.3.16 Wastewater

City of Berkeley sanitary sewer.

### 5.3.17 Wells

None observed.

### 5.3.18 Septic Systems

None.

### 5.3.19 Stormwater Management System

City of Berkeley storm sewers.

## **6.0 INTERVIEWS**

A Phase I ESA Questionnaire was provided to Aileen Dolby, a representative of the current Site owner. As of the writing of this report, Aileen Dolby has not returned the completed the Phase I ESA Questionnaire.

### **6.1 Interviews with Occupants**

Interviews of previous Site occupants were not conducted as part of the Phase I ESA.

### **6.2 Interviews with Local Government Officials**

Interviews with local government officials were conducted in connection with the additional environmental records review as described in Section 4.2. No other local government officials were contacted as part of the Phase I ESA.



## 7.0 VAPOR ENCROACHMENT SCREENING

ASTM Standard E2600-10 Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions was used as guidance for conducting a VES for the subject property. The purpose of the screening is to determine whether a Vapor Encroachment Condition (VEC) exists from chemicals of concern (COC) that may migrate as vapors onto a property as a result of contaminated soil and groundwater on or near the subject property. The screening involves a two tiered approach to assessing VEC risk as described below. The VES process includes a review of site conditions (e.g., aerial photographs, city directories, and environmental database information), which is information typically collected during a Phase I ESA, user provided information, and in some instances the use of a third-party vapor encroachment application. The following sections describe the VES performed on the subject property.

### 7.1 Site Conditions

The Site is currently occupied by an office building of 2 and 3 stories with approximately 23,000 square feet of rentable space. The property is located in an area that is characterized by commercial and residential (apartments over first floor retail) development. The Site is zoned as Commercial – Downtown Mixed Use District (C-DMU) Buffer. The Site is bound by Milvia Street to the east, followed by a multi-story commercial structure used as an office building. The Site is bound by Center Street to the south, followed by a multi-story commercial structure used as an office building, occupied by the City of Berkeley. The Site is bound by a parking lot to the north, followed by a multi-story commercial structure used as an office building. The Site is bound by 1947 Center Street to the west – a six story office building used for City of Berkeley business, followed by multi-story commercial structures.

### 7.2 Historical Site Use

The 1899 15-minute USGS topographic map (San Francisco Quadrangle EDR 2014b) of the Site shows that Milvia Street had not yet been advanced between Center Street and Alston Way. There is a structure shown on the Site which likely would have been torn down or moved when Milvia was advanced between Center Street and Alston Way. Strawberry Creek is shown as an above-ground ephemeral stream.

The 1915 15-minute USGS topographic map (San Francisco Quadrangle EDR 2014b) shows that Milvia has been completed, Strawberry Creek has been undergrounded and the Site is vacant. A review of historical aerial photographs and city directories (EDR 2014d,e) indicates that a gasoline service station was located on the Site by 1947. Based on aerial photographs and directory listings, the gasoline service station (Fairchild & White) was located on the Site (with the former address of 1999 Center Street) until before 1968. The 1968 aerial photograph (EDR 2014e) shows the gasoline station had been removed and been replaced with an office building.

The Site remained as an office building, with various commercial occupants, until the present. (EDR, 2014d)

According to available geologic maps of the area, the Site is underlain by quaternary aged sediments classified as the Temescal Formation. The Temescal Formation consists of alluvial fan deposits comprised of interfingering lenses of clayey gravel, sandy silty clay and sand-clay-silt mixtures. The soil beneath the site is classified as the Tierra soil and consists of silt and clay loam with a slow infiltration rate and a high water table (EDR 2014a). Although no depth to groundwater is available for the subject property, depth to groundwater was measured to be 13 feet bgs to 14 feet bgs at a nearby property, addressed 1917 Addison Street, which is located approximately 420 feet northwest of the Site (ES, 1989). Groundwater flow in this zone is estimated to be to the southwest (CERI, 2012).

### 7.3 Tier 1 Screening - Search Distance Test/Chemicals of Concern

A Tier 1 Screening includes the search distance test that involves a review of the regulatory database report and available historical records obtained during the Phase I ESA process to make a determination if any *known or suspect potentially contaminated* properties exist within the Area of Concern (AOC). High risk sites are typically current and former gas stations, former and current dry cleaners, manufactured gas plants, and industrial sites (Brownfields). The AOC is defined as any up gradient sites within the ASTM E1527-13 standard search distances and any cross or down gradient sites within 1/3 mile for solvents and petroleum products.

If the contamination at the known or potentially contaminated sites within the AOC consists of Chemicals of Concern (COCs), then a potential Vapor Encroachment Condition (pVEC) exists, and a Tier 2 Screening evaluation is recommended. If no known or potentially contaminated sites with COCs exist within the AOC, no further inquiry is necessary.

Based on Terraphase's Tier 1 Screening evaluation, three sites were identified within the AOC that were considered to pose a pVEC at the subject property. A summary of the sites is provided below.

- 1) **The Site** (2118 Milvia Street). A review of historical aerial photographs and city directories (EDR 2014d,e) indicates that a gasoline service station was located on the Site by 1947. Based on aerial photographs and directory listings, the gasoline service station (known as Fairchild & White) was located on the Site (with the former address of 1999 Center Street) until before 1968. The 1968 aerial photograph (EDR 2014e) shows the gasoline station had been removed and been replaced with an office building.
- 2) **A A Sousa** (2125 Milvia Street), located adjacent to the east of the Site, was the historic location of an automobile/fuel service station, known as both **A A Sousa** and the Sportsmen Garage from 1928 until at least 1950. (EDR, 2014c,d,e)

3) **2135, 2145 and 2171 Milvia Street Sites.**

The adjacent property to the southeast of the Site, was known by several addresses including 2135, 2145, and 2171 Milvia Street. This property was occupied by various types of automobile/gasoline service stations and garages from 1925 until at least 1962. The 2135 Milvia Street address is associated with the Civic Center Garage in 1925, and as a radiator repair facility in 1928. The 2145 Milvia Street address is associated with center Service Station in 1933. The 2171 Milvia Street address is associated with Ogle Automotive Service in 1945 and 1950; a Texaco Branded service station in 1955; and Jess & Dick's Automotive Service in 1962.

4) **Automotive Unlimited** (2020 Addison Street, Berkeley CA)

The site reported a release of gasoline in June 17, 1988. The release reportedly impacted both soil and groundwater. The property is located approximately 400 feet east-northeast of the Site, at an up-gradient location with respect to groundwater flow. Although the property was granted regulatory closure in 1994, because of the aforementioned factors, a potential vapor encroachment issue cannot be ruled out.

## 7.4 Findings

Based on the research performed by Terraphase and the results of the Tier 1 Screening, Terraphase concluded that, a Vapor Encroachment Condition (VEC) cannot be ruled out, because:

- 1) The Site and to two adjacent properties were the former locations of gasoline service stations. Because of the time period the service stations operated and the proximity of the service stations to the site, Terraphase considers it likely that petroleum products may have been released beneath these sites, potentially impacting groundwater beneath the site and creating a potential vapor encroachment issue.
- 2) A site with a documented releases of gasoline that impacted both soil and groundwater is located up gradient from the subject property with respect to groundwater flow;

Therefore, a Vapor Encroachment Condition (VEC) exists for the following listings: **The Site** (2118 Milvia Street, formerly known as Fairchild & White gas station, located at the Site's former address, 1999 Center Street), **A A Sousa** (2125 Milvia Street), **2135, 2145 and 2171 Milvia Street Sites** (adjacent to the southeast) and **Automotive Unlimited** (2020 Addison Street, Berkeley CA).

## 8.0 NON-SCOPE SERVICES

As defined pursuant to Section 13.1.5 of the ASTM Standard Practice, the following list includes several non-scope considerations that persons may want to assess in connection with commercial real estate. Non-scope considerations are considered beyond the scope of standard practice and no assessment of such non-scope considerations is required for appropriate as defined by ASTM Standard Practice. No implication is intended as to the relative importance of into such non-scope considerations and the list below is not intended to be all inclusive:

- Testing of building materials for presence of asbestos containing material
- Biological agents
- Cultural and historical resources
- Ecological resources
- Endangered species
- Health and safety
- Indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment
- Industrial hygiene
- Testing of building materials for presence of lead-based paint
- Lead in drinking water
- Mold
- Testing for presence of radon
- Regulatory compliance; and
- Wetlands
- Compliance with AULs

## 9.0 EVALUATION

### 9.1 Findings and Opinions

This section discusses known or suspect environmental concerns, controlled environmental concerns, historical environmental concerns, and de minimis conditions identified during the ESA. This section also provides the opinion(s) of the environmental professional of the impact on the property of RECs identified.

#### 9.1.1 Known or Suspect Recognized Environmental Conditions (RECs)

Terraphase identified the following RECs in connection with the Site during the Phase I ESA:

- REC-1: A gasoline station was formerly located on the property. Because of the age of the gasoline station and the date of its closure, prior to the enactment of the Resource Conservation and Recovery Act (RCRA), the gasoline station would not have been closed under regulatory oversight and it is likely that petroleum products were released into the subsurface at the Site.
- REC-2: In addition to the gasoline station on the property, there were also gasoline stations on the northeast and southeast corners of the intersection of Center Street and Milvia Street which are upgradient of the Site. Because of the age of the gasoline stations and the dates of their closure, prior to the enactment of RCRA, it is likely that petroleum products were released into the subsurface at their locations. Groundwater is fairly shallow at the Site, and hence, if petroleum products were released at the adjacent former gasoline stations, it is likely that the petroleum products would have migrated under the Site, creating a potential vapor encroachment condition.
- REC-3: A property, located at 2020 Addison Street, approximately 400 feet northwest of the Site, reported a release of gasoline that impacted both soil and groundwater. Because of this property's proximity and up-gradient location with respect to groundwater flow, to the Site and the possibility that contaminated groundwater from this property may have migrated beneath the Site, a potential vapor encroachment issue cannot be ruled out.

No other recognized environmental conditions (RECs) were identified in connection with the Site.

#### 9.1.2 Controlled RECs

Terraphase did not identify any controlled RECs (CRECs) in connection with the Site during this Phase I ESA.

### 9.1.3 Historical RECs

Terraphase did not identify any historical RECs (HRECs) in connection with the Site during this Phase I ESA.

### 9.1.4 De Minimis Conditions

De minimis conditions were identified including:

- Stained drop ceiling panels on the second and third floor.

## 9.2 Data Gaps

There were likely underground storage tanks associated with the former Fairchild and White gasoline service station on the Site. It is unknown if the tanks were removed from the Site or abandoned in place.

## 9.3 Conclusions

Terraphase has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E527 of the Site. Any exceptions to, or deletions from this practice are described in Section 1.0 of this report. This assessment has identified the RECs summarized in Section 9.1 in connection with this property.

## 9.4 Additional Services

To investigate the impacts from the RECs identified in Section 8.1.1 above, Terraphase recommends:

- Collecting three (3) subslab soil gas samples from below the building foundation and assessing the samples for petroleum hydrocarbons, volatile organic compounds and methane.

Soil gas samples may not detect significant degraded petroleum hydrocarbons remaining in soil. If the District is considering excavations for a basement or subsurface parking garage, collecting soil samples from below the building may be appropriate. If the soil gas concentrations of the constituents of concern are elevated above environmental screening levels, additional environmental sampling may be warranted.

## 9.5 Deviations

No significant deviation from ASTM 1527-13 guidelines or the scope of work as described in Terraphase's proposal to the client occurred.

## 9.6 Signature(s) and Environmental Professional(s) Statement

The environmental assessment described herein was conducted by the undersigned employees of Terraphase. The assessment consisted solely of the activities described in the Introduction of this report, and was performed in accordance with the ASTM Designation E 1527-13 guidelines for Phase I Environmental Site Assessments and the Terms and Conditions of the Standard Consulting Services Agreement signed prior to initiation of the assessment, as applicable. The assessment was conducted in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, professional geologists and environmental scientists.

I/we declare that, to the best of our professional knowledge and belief, I/we meet the definition of environmental professional as defined in §312.10 of 40 Code of Federal Regulations (CFR) 312, and I/we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I/we have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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Jeff Raines (C51120)  
Principal Engineer

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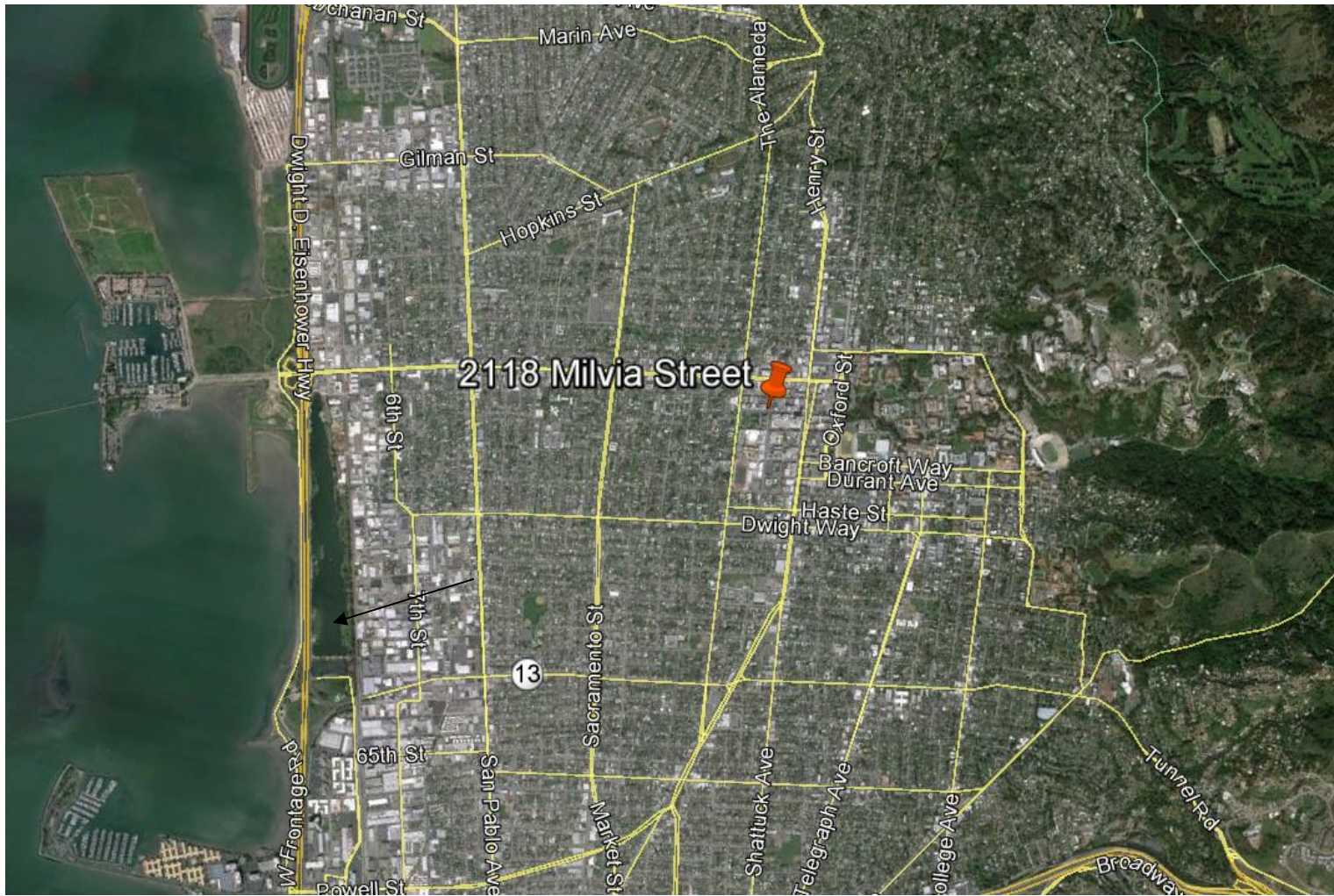
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## 10.0 REFERENCES

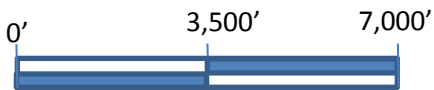
- ASTM 1527. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.
- Baker, Josephine. 1914. Past and Present of Alameda County, California, Volume 2. SJ Clarke Publishing Company. Chicago.
- California Department of Toxic Substances (DTSC), Website  
(<http://www.envirostor.dtsc.ca.gov/public/>), EnviroStor database. January 23.
- California Division of Mines and Geology (CDMG), 2002 California Geological Survey, California Geomorphic Provinces Note 36, Electronic Copy, Revised December 2002. January 23.
- CA Geological Survey, (CGS) 2010 Geologic map of California  
<http://www.quake.ca.gov/gmaps/GMC/stategeologicmap.html>. January 23.
- California Regional Water Quality Control Board – San Francisco Region - Region 2, 1994, Water Quality Control Plan - Colorado River Basin: California State Water Resources Control Board Publication. Amended in 2013.
- Department of Toxic Substances Control. 1987. Letter to Art Kapoor of Art Kapoor Realty from Dwight Hoenig, Chief North Coast California Section. December 18.
- Engineering Science Incorporated, (ES) May 1989. Groundwater Sampling at the Promenade Development Site, 1917 Addison, Street, Berkeley California. January 26.
- Environmental Data Resources Inc. (EDR). 2014a. EDR Radius Map Report with GeoCheck. #4167666.2. December 22.
- \_\_\_\_\_. 2014b. EDR Historical Topographic Map Report. #4167666.4 December 22.
- \_\_\_\_\_. 2014c. Certified Sanborn Map Report. #4167666.3. December 22.
- \_\_\_\_\_. 2014d. EDR - City Directory Abstract. #4167666.5. December 22.
- \_\_\_\_\_. 2014e. EDR Aerial Photo Decade Package. #4167666.11. December 22.
- \_\_\_\_\_. 2014f. Environmental Lien and AUL Search. #4167666.7. December 22.
- \_\_\_\_\_. 2014g. EDR Building Permit Report. #4167666.8. December 22.
- \_\_\_\_\_. 2014h. Tax Map Report. #4167666.6. December 22.
- State Water Resources Control Board, Website (SWRCB) GeoTracker database,  
(<http://www.geotracker.swrcb.ca.gov/>). January 26.




USGS. 1957. Aerial and Engineering Geology of the Oakland west quadrangle, CA. By Radbruch, D.H. Miscellaneous Geologic Investigations Map I-239. USGS National Geologic Map Database Website. [http://ngmdb.usgs.gov/ngm-bin/pdp/zui\\_pdpViewer.pl?id=19733](http://ngmdb.usgs.gov/ngm-bin/pdp/zui_pdpViewer.pl?id=19733).  
January 23.

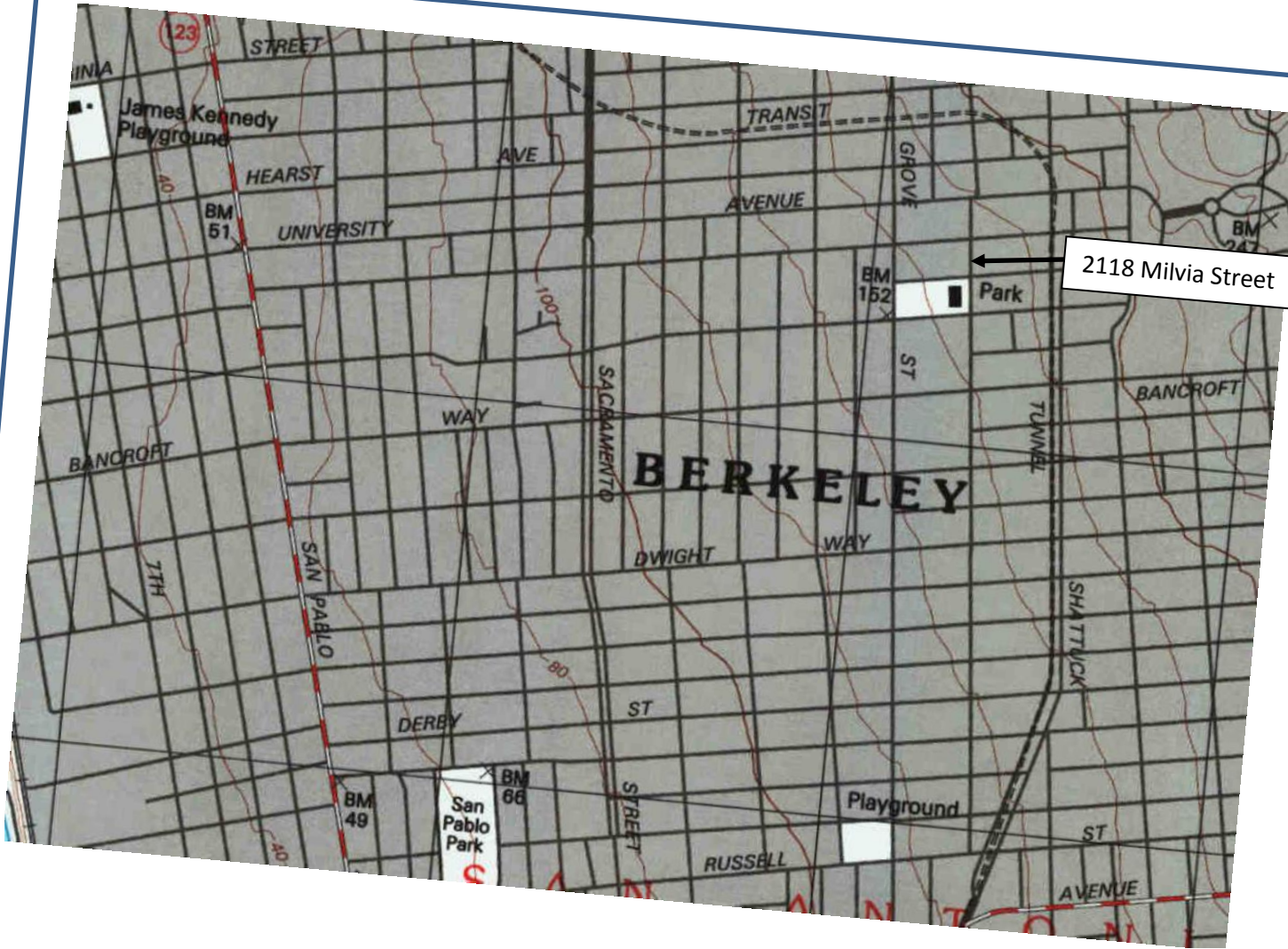


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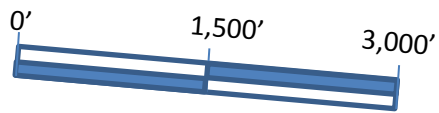



<p><b>SAFETY FIRST</b></p>	<p>CLIENT: Peralta Community College Dist</p>	<p><b>SITE LOCATION</b></p>
	<p>PROJECT: 2118 Milvia Street</p>	
<p>PROJECT NUMBER: 0034.001.001</p>		<p><b>FIGURE 1</b></p>

File Name: figure 2 -topography.docx drawn by: jrr checked by: ag



Source: USGS 7.5-minute quadrangle, Oakland West, 1993



<b>SAFETY FIRST</b>	CLIENT: Peralta Community College Dist	<b>LOCAL TOPOGRAPHY</b>
	PROJECT: 2118 Milvia Street	
PROJECT NUMBER: 0034.001.001		
	<b>FIGURE 2</b>	



Appendix A  
**Qualifications of Environmental Professionals**

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Jeff Raines is a registered professional engineer in the State of California with over 34 years of experience in site characterization, remediation, project management, permitting, and agency interaction on projects throughout the United States. He has worked on investigation, remediation, and monitoring programs for sites affected by volatile organic compounds, petroleum hydrocarbons, organochlorine pesticides, polychlorinated biphenyls, metals, and munitions and explosives of concern. Her experience includes design, installation oversight, and operation and maintenance of a variety of soil and groundwater remedial technologies. He also has extensive experience in preparing technical reports in accordance with local and federal guidelines and regulations.





## Soil Gas Survey

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March 27, 2015

Ms. Atheria Smith  
Peralta Community College District  
Facilities Planning and Development Manager  
333 East Eighth Street  
Oakland, California 94606

*sent via: email*

Subject: Soil Gas Survey Results, 2118 Milvia Street, Berkeley, California

Dear Ms. Smith:

Terraphase Engineering Inc. (Terraphase) is pleased to present the results of our soil gas survey conducted at 2118 Milvia Street in Berkeley, California (the "Site"). Benzene was detected in one soil gas sample collected at the Site at a concentration below the Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL) (RWQCB 2013) and below the Department of Toxic Substances Control (DTSC) California Human Health Screening Level (CHHSL) (OEHHA 2005) - 12 micrograms per cubic meter (ug/m<sup>3</sup>) versus the ESL of 42 ug/m<sup>3</sup> and the CHHSL of 36.2 ug/m<sup>3</sup> for shallow soil gas under a residential exposure. Students, staff and teachers at the Site would be exposed to the potential vapor impacts for a much shorter duration than a resident. The residential ESL is based on the assumption that the resident would be exposed 350 days per year for 30 years, 24-hours per day.

### **Methodology**

Terraphase installed three soil gas sampling points at the locations shown on attached Figure 1 on March 6, 2015. As the sample points were installed with a hand auger, the soil gas samples could not be collected for a minimum of 48 hours to be in accordance with the Department of Toxic Substances Control (DTSC) soil gas sampling protocol (DTSC 2011). Soil gas samples were collected from soil gas sampling points 1 and 2 on March 13, 2015. The soil gas samples were collected under a shroud that contained helium at an approximate concentration of 20% to serve as a leak detection gas. The formation at the location of the third soil gas point was too tight to allow for collection of a soil gas sample.

The soil-gas samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15. Samples were also analyzed for helium by American Society for Testing and Materials (ASTM) modified Method D-1946 with an analytical reporting limit of approximately 500 parts per million by volume (ppmv) to determine if the sample was compromised due to leaks in the sampling train.

## Results

The laboratory results are attached to this letter. Only meta and para xylene (m,p-xylene), benzene, ethanol (ethyl alcohol), and acetone were detected in soil gas samples collected at the Site. Ethanol and acetone, which are not significant inhalation health threats, are probably laboratory contaminants. Benzene and m,p-xylenes are probably indications of a release of petroleum hydrocarbons somewhere in the vicinity of the Site, though not necessarily at the Site. Benzene was detected in one sample (Soil Gas-1) at a concentration 33% of the CHHSL for residential exposure, which is 36 ug/m<sup>3</sup>. The commercial/industrial CHHSL for benzene is 122 ug/m<sup>3</sup> in shallow soil gas. No chlorinated VOC, such as perchloroethylene (PCE) or trichloroethylene (TCE) were detected in the soil gas samples.

Helium was detected at a concentration of 0.85% in sample Soil Gas-2 indicating that there was some leakage in the sampling train, but less than the 5% that the California Environmental Protection Agency (2010) considers an indication of a significant leak. The oxygen level in both samples was 20%, which indicates that the atmosphere is not oxygen deficient which indicates that significant biodegradation is not occurring at the subsurface in the vicinity of the two sampling points.

Hence, it is unlikely that there are significant quantities of volatile compounds under the Site. Should the existing structure ever be torn down, it is possible that non-volatile substances may be encountered (metals, heavily degraded petroleum). As long as the existing structure remains in place, our opinion is that any subsurface contamination is unlikely to pose a significant threat to the health of occupants of the building.

## Closure

Terraphase is grateful for the opportunity to provide our services on this important project. If you have any question or comments regarding this report, please feel free to call me at any time at (510) 645-1853.

Sincerely,

For Terraphase Engineering Inc.



Jeff Raines, P.E. (C51120), G.E. (2762)  
Principal Geotechnical Engineer

## References

California Environmental Protection Agency. 2010. Advisory – Active Soil Gas Investigation. March.

Department of Toxic Substances Control (DTSC). 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October. LFR. 2009. Additional Soil and Groundwater Investigation Report. Former Plaza Cleaners Facility, 1831 Ygnacio Valley Road (Ygnacio Plaza), Walnut Creek, California. March 20.

Office of Ecological and Human Health Risk Assessment (OEHHA). 2005. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties. January.

Regional Water Quality Control Board. 2013. Update to Environmental Screening Levels. December 23.

**Table 1**  
**Soil Gas Survey Results**  
**2118 Milvia Street**  
**Berkeley, California**

Sample	Compound Name	Detection Limit (ug/m3)	Results (ug/m3)	Data Flags	Screening Level (ug/m3)	Source
Soil Gas - 1	m,p-Xylene	5.1	7.3		52,000	CHHSL
Soil Gas - 1	Benzene	3.7	12		36.2	CHHSL
Soil Gas - 1	Ethanol	8.8	13			
Soil Gas - 1	Acetone	28	32		16,000,000	ESL
Soil Gas - 1	1,1,1-Trichloroethane	6.4		ND	720,000	ESL
Soil Gas - 1	1,1,2,2-Tetrachloroethane	8.0		ND		
Soil Gas - 1	1,1,2-Trichloroethane	6.4		ND		
Soil Gas - 1	1,1-Dichloroethane	4.7		ND		
Soil Gas - 1	1,1-Dichloroethene	4.6		ND	100,000	ESL
Soil Gas - 1	1,2,4-Trichlorobenzene	35		ND	3,100	ESL
Soil Gas - 1	1,2,4-Trimethylbenzene	5.8		ND		
Soil Gas - 1	1,2-Dibromoethane (EDB)	9.0		ND	17	ESL
Soil Gas - 1	1,2-Dichlorobenzene	7.0		ND		
Soil Gas - 1	1,2-Dichloroethane	4.7		ND	58	ESL
Soil Gas - 1	1,2-Dichloropropane	5.4		ND	120	ESL
Soil Gas - 1	1,3,5-Trimethylbenzene	5.8		ND		
Soil Gas - 1	1,3-Butadiene	2.6		ND		
Soil Gas - 1	1,3-Dichlorobenzene	7.0		ND		
Soil Gas - 1	1,4-Dichlorobenzene	7.0		ND	110	ESL
Soil Gas - 1	1,4-Dioxane	17		ND		
Soil Gas - 1	2,2,4-Trimethylpentane	5.5		ND		
Soil Gas - 1	2-Butanone (Methyl Ethyl Ketone)	14		ND	2,600,000	ESL
Soil Gas - 1	2-Hexanone	19		ND		
Soil Gas - 1	2-Propanol	12		ND		
Soil Gas - 1	3-Chloropropene	15		ND		
Soil Gas - 1	4-Ethyltoluene	5.8		ND		
Soil Gas - 1	4-Methyl-2-pentanone	4.8		ND		
Soil Gas - 1	alpha-Chlorotoluene	6.0		ND		
Soil Gas - 1	Bromodichloromethane	7.8		ND		
Soil Gas - 1	Bromoform	12		ND		
Soil Gas - 1	Bromomethane	45		ND	2,600	ESL

Sample	Compound Name	Detection Limit (ug/m3)	Results (ug/m3)	Data Flags	Screening Level (ug/m3)	Source
Soil Gas - 1	Carbon Disulfide	14		ND		
Soil Gas - 1	Carbon Tetrachloride	7.4		ND	29	ESL
Soil Gas - 1	Chlorobenzene	5.4		ND	520,000	ESL
Soil Gas - 1	Chloroethane	12		ND	16,000,000	ESL
Soil Gas - 1	Chloroform	5.7		ND	230	ESL
Soil Gas - 1	Chloromethane	24		ND	47,000	ESL
Soil Gas - 1	cis-1,2-Dichloroethene	4.6		ND	3,700	ESL
Soil Gas - 1	cis-1,3-Dichloropropene	5.3		ND	76	ESL
Soil Gas - 1	Cumene	5.8		ND		
Soil Gas - 1	Cyclohexane	4.0		ND		
Soil Gas - 1	Dibromochloromethane	10		ND		
Soil Gas - 1	Ethyl Benzene	5.1		ND	490	ESL
Soil Gas - 1	Freon 11	6.6		ND		
Soil Gas - 1	Freon 113	9.0		ND		
Soil Gas - 1	Freon 114	8.2		ND		
Soil Gas - 1	Freon 12	5.8		ND		
Soil Gas - 1	Heptane	4.8		ND		
Soil Gas - 1	Hexachlorobutadiene	50		ND		
Soil Gas - 1	Hexane	4.1		ND		
Soil Gas - 1	Methyl tert-butyl ether	4.2		ND	4,700	ESL
Soil Gas - 1	Methylene Chloride	41		ND	2,600	ESL
Soil Gas - 1	o-Xylene	5.1		ND	52,000	CHHSL
Soil Gas - 1	Propylbenzene	5.8		ND		
Soil Gas - 1	Styrene	5.0		ND	470,000	ESL
Soil Gas - 1	Tetrachloroethene	7.9		ND	180	CHHSL
Soil Gas - 1	Tetrahydrofuran	3.4		ND		
Soil Gas - 1	Toluene	4.4		ND	160,000	CHHSL
Soil Gas - 1	TPH ref. to Gasoline (MW=100)	480		ND	30,000	ESL
Soil Gas - 1	trans-1,2-Dichloroethene	4.6		ND	31,000	ESL
Soil Gas - 1	trans-1,3-Dichloropropene	5.3		ND	76	ESL
Soil Gas - 1	Trichloroethene	6.3		ND	300	ESL
Soil Gas - 1	Vinyl Chloride	3.0		ND	13.3	CHHSL
Soil Gas - 2	Toluene	4.2	5.9		160,000	CHHSL
Soil Gas - 2	Ethanol	8.3	33			
Soil Gas - 2	1,1,1-Trichloroethane	6.0		ND	720,000	ESL
Soil Gas - 2	1,1,2,2-Tetrachloroethane	7.6		ND		

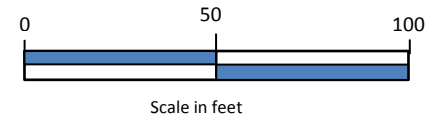
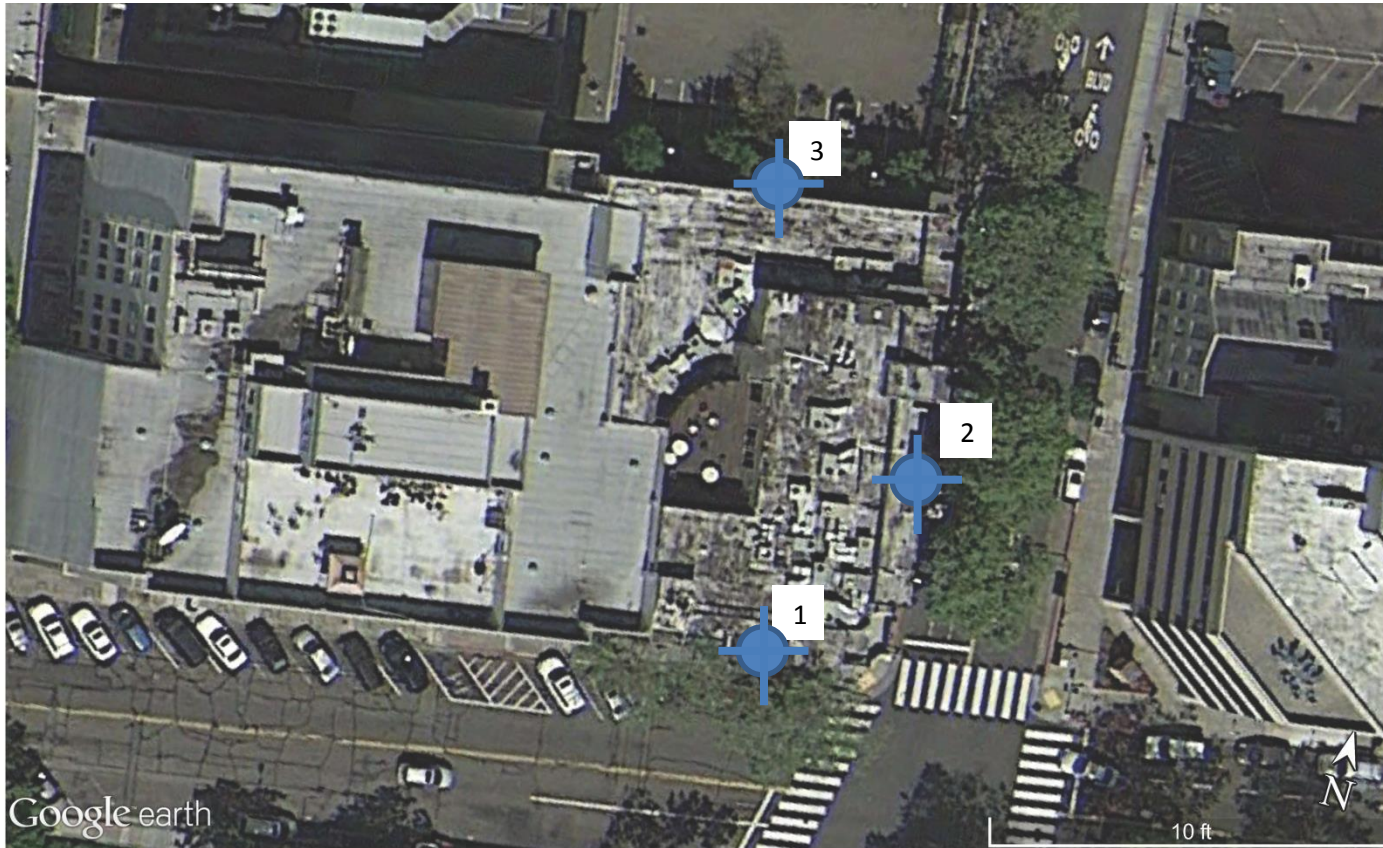
Soil Gas Survey Result  
2118 Milvia Street, Berkeley, California

Sample	Compound Name	Detection Limit (ug/m3)	Results (ug/m3)	Data Flags	Screening Level (ug/m3)	Source
Soil Gas - 2	1,1,2-Trichloroethane	6.0		ND		
Soil Gas - 2	1,1-Dichloroethane	4.5		ND		
Soil Gas - 2	1,1-Dichloroethene	4.4		ND	100,000	ESL
Soil Gas - 2	1,2,4-Trichlorobenzene	33		ND	3,100	ESL
Soil Gas - 2	1,2,4-Trimethylbenzene	5.4		ND		
Soil Gas - 2	1,2-Dibromoethane (EDB)	8.5		ND	17	ESL
Soil Gas - 2	1,2-Dichlorobenzene	6.6		ND		
Soil Gas - 2	1,2-Dichloroethane	4.5		ND	58	ESL
Soil Gas - 2	1,2-Dichloropropane	5.1		ND	120	ESL
Soil Gas - 2	1,3,5-Trimethylbenzene	5.4		ND		
Soil Gas - 2	1,3-Butadiene	2.4		ND		
Soil Gas - 2	1,3-Dichlorobenzene	6.6		ND		
Soil Gas - 2	1,4-Dichlorobenzene	6.6		ND	110	ESL
Soil Gas - 2	1,4-Dioxane	16		ND		
Soil Gas - 2	2,2,4-Trimethylpentane	5.2		ND		
Soil Gas - 2	2-Butanone (Methyl Ethyl Ketone)	13		ND	2,600,000	ESL
Soil Gas - 2	2-Hexanone	18		ND		
Soil Gas - 2	2-Propanol	11		ND		
Soil Gas - 2	3-Chloropropene	14		ND		
Soil Gas - 2	4-Ethyltoluene	5.4		ND		
Soil Gas - 2	4-Methyl-2-pentanone	4.5		ND		
Soil Gas - 2	Acetone	26		ND	16,000,000	ESL
Soil Gas - 2	alpha-Chlorotoluene	5.7		ND		
Soil Gas - 2	Benzene	3.5		ND	36.2	CHHSL
Soil Gas - 2	Bromodichloromethane	7.4		ND		
Soil Gas - 2	Bromoform	11		ND		
Soil Gas - 2	Bromomethane	43		ND	2,600	ESL
Soil Gas - 2	Carbon Disulfide	14		ND		
Soil Gas - 2	Carbon Tetrachloride	7.0		ND	29	ESL
Soil Gas - 2	Chlorobenzene	5.1		ND	520,000	ESL
Soil Gas - 2	Chloroethane	12		ND	16,000,000	ESL
Soil Gas - 2	Chloroform	5.4		ND	230	ESL
Soil Gas - 2	Chloromethane	23		ND	47,000	ESL
Soil Gas - 2	cis-1,2-Dichloroethene	4.4		ND	3,700	ESL
Soil Gas - 2	cis-1,3-Dichloropropene	5.0		ND	76	ESL
Soil Gas - 2	Cumene	5.4		ND		
Soil Gas - 2	Cyclohexane	3.8		ND		


Sample	Compound Name	Detection Limit (ug/m3)	Results (ug/m3)	Data Flags	Screening Level (ug/m3)	Source
Soil Gas - 2	Dibromochloromethane	9.4		ND		
Soil Gas - 2	Ethyl Benzene	4.8		ND	490	ESL
Soil Gas - 2	Freon 11	6.2		ND		
Soil Gas - 2	Freon 113	8.5		ND		
Soil Gas - 2	Freon 114	7.7		ND		
Soil Gas - 2	Freon 12	5.5		ND		
Soil Gas - 2	Heptane	4.5		ND		
Soil Gas - 2	Hexachlorobutadiene	47		ND		
Soil Gas - 2	Hexane	3.9		ND		
Soil Gas - 2	m,p-Xylene	4.8		ND	52,000	CHHSL
Soil Gas - 2	Methyl tert-butyl ether	4.0		ND	4,700	ESL
Soil Gas - 2	Methylene Chloride	38		ND	2,600	ESL
Soil Gas - 2	o-Xylene	4.8		ND	52,000	CHHSL
Soil Gas - 2	Propylbenzene	5.4		ND		
Soil Gas - 2	Styrene	4.7		ND	470,000	ESL
Soil Gas - 2	Tetrachloroethene	7.5		ND	180	CHHSL
Soil Gas - 2	Tetrahydrofuran	3.2		ND		
Soil Gas - 2	TPH ref. to Gasoline (MW=100)	450		ND	300,000	ESL
Soil Gas - 2	trans-1,2-Dichloroethene	4.4		ND	31,000	ESL
Soil Gas - 2	trans-1,3-Dichloropropene	5.0		ND	76	ESL
Soil Gas - 2	Trichloroethene	5.9		ND	300	ESL
Soil Gas - 2	Vinyl Chloride	2.8		ND	13.3	CHHSL


Notes:           ND – not detected  
                       ESL – Environmental Screening Level (RWQCB 2014)  
                       CHHSL – California Human Health Screening Level (OEHHA 2005)  
                       ug/m3 – microgram per cubic meter  
                       Screening level is the lower of the CHHSL or ESL (Residential Exposure)





### LEGEND

 2 Approximate soil gas probe location

<b>SAFETY FIRST</b>	CLIENT: Peralta Community College District	<b>SOIL GAS PROBE LOCATIONS</b>
	PROJECT: 2118 Milvia Street, Berkeley	
		PROJECT NO.: 0034.002.001

ATTACHMENT 1

**LABORATORY RESULTS**

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3/24/2015

Mr. William Werner  
Terraphase Engineering Inc.  
1404 Franklin Street  
Suite 600  
Oakland CA 94612

Project Name: Peralta C. C.  
Project #: 0034.002.001  
Workorder #: 1503280A

Dear Mr. William Werner

The following report includes the data for the above referenced project for sample(s) received on 3/17/2015 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori  
Project Manager

**WORK ORDER #: 1503280A**

Work Order Summary

<b>CLIENT:</b>	Mr. William Werner Terraphase Engineering Inc. 1404 Franklin Street Suite 600 Oakland, CA 94612	<b>BILL TO:</b>	Mr. William Werner Terraphase Engineering Inc. 1404 Franklin Street Suite 600 Oakland, CA 94612
<b>PHONE:</b>	510-645-1850	<b>P.O. #</b>	
<b>FAX:</b>		<b>PROJECT #</b>	0034.002.001 Peralta C. C.
<b>DATE RECEIVED:</b>	03/17/2015	<b>CONTACT:</b>	Kyle Vagadori
<b>DATE COMPLETED:</b>	03/24/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	2118-SG-1	TO-15	4.3 "Hg	14.8 psi
02A	2118-SG-2	TO-15	2.6 "Hg	15 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 03/24/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.  
 180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Terraphase Engineering Inc.**  
**Workorder# 1503280A**

Two 1 Liter Summa Canister samples were received on March 17, 2015. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: 2118-SG-1**

**Lab ID#: 1503280A-01A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Ethanol	4.7	7.1	8.8	13
Acetone	12	14	28	32
Benzene	1.2	3.8	3.7	12
m,p-Xylene	1.2	1.7	5.1	7.3

**Client Sample ID: 2118-SG-2**

**Lab ID#: 1503280A-02A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Ethanol	4.4	18	8.3	33
Toluene	1.1	1.6	4.2	5.9



Air Toxics

Client Sample ID: 2118-SG-1

Lab ID#: 1503280A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032011	Date of Collection:	3/13/15 4:22:00 PM
Dil. Factor:	2.34	Date of Analysis:	3/20/15 04:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	1.2	Not Detected	8.2	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.6	Not Detected
Ethanol	4.7	7.1	8.8	13
Freon 113	1.2	Not Detected	9.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	14	28	32
2-Propanol	4.7	Not Detected	12	Not Detected
Carbon Disulfide	4.7	Not Detected	14	Not Detected
3-Chloropropene	4.7	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	Not Detected	4.0	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.5	Not Detected
Benzene	1.2	3.8	3.7	12
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	Not Detected	4.4	Not Detected
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
2-Hexanone	4.7	Not Detected	19	Not Detected



Client Sample ID: 2118-SG-1

Lab ID#: 1503280A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032011	Date of Collection:	3/13/15 4:22:00 PM
Dil. Factor:	2.34	Date of Analysis:	3/20/15 04:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	Not Detected	5.1	Not Detected
m,p-Xylene	1.2	1.7	5.1	7.3
o-Xylene	1.2	Not Detected	5.1	Not Detected
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.8	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.8	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.8	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	35	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected
TPH ref. to Gasoline (MW=100)	120	Not Detected	480	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	112	70-130





Air Toxics

Client Sample ID: 2118-SG-2

Lab ID#: 1503280A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032012	Date of Collection:	3/13/15 5:25:00 PM
Dil. Factor:	2.21	Date of Analysis:	3/20/15 05:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.5	Not Detected
Freon 114	1.1	Not Detected	7.7	Not Detected
Chloromethane	11	Not Detected	23	Not Detected
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,3-Butadiene	1.1	Not Detected	2.4	Not Detected
Bromomethane	11	Not Detected	43	Not Detected
Chloroethane	4.4	Not Detected	12	Not Detected
Freon 11	1.1	Not Detected	6.2	Not Detected
Ethanol	4.4	18	8.3	33
Freon 113	1.1	Not Detected	8.5	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Acetone	11	Not Detected	26	Not Detected
2-Propanol	4.4	Not Detected	11	Not Detected
Carbon Disulfide	4.4	Not Detected	14	Not Detected
3-Chloropropene	4.4	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.0	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Hexane	1.1	Not Detected	3.9	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.4	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.2	Not Detected
Chloroform	1.1	Not Detected	5.4	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Cyclohexane	1.1	Not Detected	3.8	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.2	Not Detected
Benzene	1.1	Not Detected	3.5	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.5	Not Detected
Heptane	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	Not Detected	5.9	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.1	Not Detected
1,4-Dioxane	4.4	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.4	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.0	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.5	Not Detected
Toluene	1.1	1.6	4.2	5.9
trans-1,3-Dichloropropene	1.1	Not Detected	5.0	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Tetrachloroethene	1.1	Not Detected	7.5	Not Detected
2-Hexanone	4.4	Not Detected	18	Not Detected



Client Sample ID: 2118-SG-2

Lab ID#: 1503280A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032012	Date of Collection:	3/13/15 5:25:00 PM
Dil. Factor:	2.21	Date of Analysis:	3/20/15 05:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.1	Not Detected	9.4	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.5	Not Detected
Chlorobenzene	1.1	Not Detected	5.1	Not Detected
Ethyl Benzene	1.1	Not Detected	4.8	Not Detected
m,p-Xylene	1.1	Not Detected	4.8	Not Detected
o-Xylene	1.1	Not Detected	4.8	Not Detected
Styrene	1.1	Not Detected	4.7	Not Detected
Bromoform	1.1	Not Detected	11	Not Detected
Cumene	1.1	Not Detected	5.4	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.6	Not Detected
Propylbenzene	1.1	Not Detected	5.4	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.4	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.4	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.4	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.7	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
1,2,4-Trichlorobenzene	4.4	Not Detected	33	Not Detected
Hexachlorobutadiene	4.4	Not Detected	47	Not Detected
TPH ref. to Gasoline (MW=100)	110	Not Detected	450	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	107	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1503280A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032007	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/20/15 01:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected



Client Sample ID: Lab Blank

Lab ID#: 1503280A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032007	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/20/15 01:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
TPH ref. to Gasoline (MW=100)	50	Not Detected	200	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1503280A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/20/15 10:52 AM

Compound	%Recovery
Freon 12	109
Freon 114	105
Chloromethane	100
Vinyl Chloride	103
1,3-Butadiene	107
Bromomethane	104
Chloroethane	96
Freon 11	107
Ethanol	98
Freon 113	99
1,1-Dichloroethene	93
Acetone	101
2-Propanol	101
Carbon Disulfide	96
3-Chloropropene	91
Methylene Chloride	100
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	97
Hexane	94
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	103
Tetrahydrofuran	98
Chloroform	104
1,1,1-Trichloroethane	110
Cyclohexane	101
Carbon Tetrachloride	113
2,2,4-Trimethylpentane	104
Benzene	96
1,2-Dichloroethane	110
Heptane	86
Trichloroethene	99
1,2-Dichloropropane	104
1,4-Dioxane	105
Bromodichloromethane	104
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	102
Toluene	101
trans-1,3-Dichloropropene	95
1,1,2-Trichloroethane	96
Tetrachloroethene	100
2-Hexanone	101



Air Toxics

Client Sample ID: CCV

Lab ID#: 1503280A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/20/15 10:52 AM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	103
Chlorobenzene	101
Ethyl Benzene	98
m,p-Xylene	100
o-Xylene	102
Styrene	100
Bromoform	109
Cumene	102
1,1,2,2-Tetrachloroethane	102
Propylbenzene	101
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	106
1,2-Dichlorobenzene	107
1,2,4-Trichlorobenzene	109
Hexachlorobutadiene	109
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	111	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1503280A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/20/15 11:27 AM

Compound	%Recovery	Method Limits
Freon 12	106	70-130
Freon 114	106	70-130
Chloromethane	98	70-130
Vinyl Chloride	101	70-130
1,3-Butadiene	99	70-130
Bromomethane	102	70-130
Chloroethane	93	70-130
Freon 11	104	70-130
Ethanol	92	70-130
Freon 113	92	70-130
1,1-Dichloroethene	88	70-130
Acetone	89	70-130
2-Propanol	95	70-130
Carbon Disulfide	80	70-130
3-Chloropropene	77	70-130
Methylene Chloride	92	70-130
Methyl tert-butyl ether	86	70-130
trans-1,2-Dichloroethene	80	70-130
Hexane	84	70-130
1,1-Dichloroethane	91	70-130
2-Butanone (Methyl Ethyl Ketone)	79	70-130
cis-1,2-Dichloroethene	97	70-130
Tetrahydrofuran	83	70-130
Chloroform	90	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	89	70-130
Carbon Tetrachloride	98	70-130
2,2,4-Trimethylpentane	93	70-130
Benzene	81	70-130
1,2-Dichloroethane	96	70-130
Heptane	74	70-130
Trichloroethene	88	70-130
1,2-Dichloropropane	91	70-130
1,4-Dioxane	86	70-130
Bromodichloromethane	92	70-130
cis-1,3-Dichloropropene	84	70-130
4-Methyl-2-pentanone	88	70-130
Toluene	88	70-130
trans-1,3-Dichloropropene	80	70-130
1,1,2-Trichloroethane	79	70-130
Tetrachloroethene	82	70-130
2-Hexanone	83	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1503280A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/20/15 11:27 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	88	70-130
1,2-Dibromoethane (EDB)	87	70-130
Chlorobenzene	86	70-130
Ethyl Benzene	84	70-130
m,p-Xylene	85	70-130
o-Xylene	89	70-130
Styrene	84	70-130
Bromoform	96	70-130
Cumene	87	70-130
1,1,2,2-Tetrachloroethane	86	70-130
Propylbenzene	89	70-130
4-Ethyltoluene	89	70-130
1,3,5-Trimethylbenzene	93	70-130
1,2,4-Trimethylbenzene	89	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	93	70-130
alpha-Chlorotoluene	97	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	107	70-130
Hexachlorobutadiene	105	70-130
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	105	70-130





Air Toxics

Client Sample ID: LCSD

Lab ID#: 1503280A-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/20/15 11:51 AM

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	94	70-130
Chloromethane	85	70-130
Vinyl Chloride	88	70-130
1,3-Butadiene	88	70-130
Bromomethane	86	70-130
Chloroethane	82	70-130
Freon 11	92	70-130
Ethanol	87	70-130
Freon 113	82	70-130
1,1-Dichloroethene	75	70-130
Acetone	80	70-130
2-Propanol	86	70-130
Carbon Disulfide	69 Q	70-130
3-Chloropropene	70	70-130
Methylene Chloride	80	70-130
Methyl tert-butyl ether	76	70-130
trans-1,2-Dichloroethene	71	70-130
Hexane	76	70-130
1,1-Dichloroethane	80	70-130
2-Butanone (Methyl Ethyl Ketone)	79	70-130
cis-1,2-Dichloroethene	90	70-130
Tetrahydrofuran	76	70-130
Chloroform	84	70-130
1,1,1-Trichloroethane	91	70-130
Cyclohexane	83	70-130
Carbon Tetrachloride	92	70-130
2,2,4-Trimethylpentane	88	70-130
Benzene	79	70-130
1,2-Dichloroethane	94	70-130
Heptane	72	70-130
Trichloroethene	84	70-130
1,2-Dichloropropane	87	70-130
1,4-Dioxane	87	70-130
Bromodichloromethane	88	70-130
cis-1,3-Dichloropropene	82	70-130
4-Methyl-2-pentanone	86	70-130
Toluene	85	70-130
trans-1,3-Dichloropropene	78	70-130
1,1,2-Trichloroethane	78	70-130
Tetrachloroethene	82	70-130
2-Hexanone	81	70-130

Client Sample ID: LCSD

Lab ID#: 1503280A-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p032005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/20/15 11:51 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	86	70-130
1,2-Dibromoethane (EDB)	84	70-130
Chlorobenzene	83	70-130
Ethyl Benzene	81	70-130
m,p-Xylene	84	70-130
o-Xylene	87	70-130
Styrene	80	70-130
Bromoform	92	70-130
Cumene	85	70-130
1,1,2,2-Tetrachloroethane	85	70-130
Propylbenzene	86	70-130
4-Ethyltoluene	86	70-130
1,3,5-Trimethylbenzene	89	70-130
1,2,4-Trimethylbenzene	89	70-130
1,3-Dichlorobenzene	91	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	94	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	106	70-130
Hexachlorobutadiene	101	70-130
TPH ref. to Gasoline (MW=100)	Not Spiked	

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	107	70-130

3/21/2015

Mr. William Werner  
Terraphase Engineering Inc.  
1404 Franklin Street  
Suite 600  
Oakland CA 94612

Project Name: Peralta C. C.  
Project #: 0034.002.001  
Workorder #: 1503280B

Dear Mr. William Werner

The following report includes the data for the above referenced project for sample(s) received on 3/17/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori  
Project Manager

**WORK ORDER #: 1503280B**

Work Order Summary

<b>CLIENT:</b>	Mr. William Werner Terraphase Engineering Inc. 1404 Franklin Street Suite 600 Oakland, CA 94612	<b>BILL TO:</b>	Mr. William Werner Terraphase Engineering Inc. 1404 Franklin Street Suite 600 Oakland, CA 94612
<b>PHONE:</b>	510-645-1850	<b>P.O. #</b>	
<b>FAX:</b>		<b>PROJECT #</b>	0034.002.001 Peralta C. C.
<b>DATE RECEIVED:</b>	03/17/2015	<b>CONTACT:</b>	Kyle Vagadori
<b>DATE COMPLETED:</b>	03/21/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	2118-SG-1	Modified ASTM D-1946	4.3 "Hg	14.8 psi
02A	2118-SG-2	Modified ASTM D-1946	2.6 "Hg	15 psi
03A	Lab Blank	Modified ASTM D-1946	NA	NA
03B	Lab Blank	Modified ASTM D-1946	NA	NA
04A	LCS	Modified ASTM D-1946	NA	NA
04AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 03/21/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified ASTM D-1946**  
**Terraphase Engineering Inc.**  
**Workorder# 1503280B**

Two 1 Liter Summa Canister samples were received on March 17, 2015. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 X$ 's the RL.

**Receiving Notes**

There were no receiving discrepancies.

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### **Analytical Notes**

There were no analytical discrepancies.

### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds**  
**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

**Client Sample ID: 2118-SG-1**

**Lab ID#: 1503280B-01A**

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Oxygen	0.23	20

**Client Sample ID: 2118-SG-2**

**Lab ID#: 1503280B-02A**

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Oxygen	0.22	20
Helium	0.11	0.85



Air Toxics

Client Sample ID: 2118-SG-1

Lab ID#: 1503280B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9031912	Date of Collection:	3/13/15 4:22:00 PM
Dil. Factor:	2.34	Date of Analysis:	3/19/15 03:29 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	20
Methane	0.00023	Not Detected
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister





Air Toxics

Client Sample ID: 2118-SG-2

Lab ID#: 1503280B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9031913	Date of Collection:	3/13/15 5:25:00 PM
Dil. Factor:	2.22	Date of Analysis:	3/19/15 03:54 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	20
Methane	0.00022	Not Detected
Helium	0.11	0.85

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1503280B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9031905	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/19/15 10:31 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1503280B-03B

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9031904b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/19/15 10:09 AM

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Helium	0.050	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1503280B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9031902	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/19/15 09:14 AM

Compound	%Recovery	Method Limits
Oxygen	97	85-115
Methane	97	85-115
Helium	102	85-115

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1503280B-04AA

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9031924	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/19/15 09:42 PM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Oxygen	97	85-115
Methane	96	85-115
Helium	102	85-115

Container Type: NA - Not Applicable