

**SUMMARY REPORT**  
**LIMITED SUBSURFACE INVESTIGATION**  
**20-ACRE VACANT UNDEVELOPED LAND**  
**SOUTHWEST CORNER OF**  
**TRUMBLE ROAD & MAPES ROAD**  
**PERRIS, CA 92571**

*Prepared for:*

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*Prepared by:*



[ [EnvironmentalManagers.com](http://EnvironmentalManagers.com) ]

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26500 Agoura Road, Suite 102-374  
Calabasas, CA 91302

September 25, 2021

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Khalid Mahmood  
Project Director

9-25-2021  
Date

# Table of Contents

List of Figures .....	i
List of Tables .....	ii
List of Appendices.....	ii
Acronyms and Abbreviations .....	ii
1.0 INTRODUCTION .....	1-1
1.1 PROJECT OBJECTIVES.....	1-1
1.2 SCOPE OF WORK.....	1-2
2.0 SITE LOCATION, DESCRIPTION, AND BACKGROUND .....	2-1
3.0 ENVIRONMENTAL SETTING.....	3-1
3.1 TOPOGRAPHY .....	3-1
3.2 GEOLOGY .....	3-1
3.3 HYDROGEOLOGY .....	3-1
4.0 SUMMARY OF SITE INVESTIGATION ACTIVITIES.....	4-1
4.1 PREPARATORY ACTIVITIES.....	4-1
4.2 SOIL INVESTIGATION .....	4-1
4.2.1 Soil Borings Installation .....	4-2
4.2.2 Soil Sample Collection Methods and Procedures.....	4-2
4.2.3 Laboratory Analytical Methods .....	4-3
4.2.4 Soil Samples Analytical Results .....	4-3
5.0 SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATION .....	5-1
6.0 REFERENCE SOURCES .....	6-1
7.0 LIMITATIONS .....	7-1

## List of Figures

---

- Figure 1 Site Location Map  
Figure 2 Site Map with Soil Sampling Locations

## List of Appendices

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- Appendix A Laboratory Analytical Reports and Chain-of-Custody Records

## Acronyms and Abbreviations

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µg/kg	micrograms per kilogram
µg/m <sup>3</sup>	micrograms per cubic meter
AETL	American Environmental Testing Laboratory, Inc.
AF	attenuation factor
ASTM	American Standard for Testing and Materials
bgs	below ground surface
cis-1,2-DCE	cis-1,2-dichloroethene
COCs	chemicals of concern
DHS	California Department of Health Services
DPT	direct-push technology
DTSC	Department of Toxic Substance Control
EMA	Environmental Managers & Auditors, Inc.
ESA	environmental site assessment
FRE	Fulcrum Resources Environmental
HHRA	human health risk assessment
ID	sample identification
MSL	mean sea level
ND	not detected
PCE	tetrachloroethylene
PID	photoionization detector
RSL	Regional Screening Level
SLs	Screening Levels
SWRCB	California State Water Resources Control Board
TCE	trichloroethylene
USA	Underground Service Alert
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOCs	volatile organic compounds

# 1.0 INTRODUCTION

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This Summary Report has been prepared by Environmental Managers & Auditors, Inc. (EMA) to summarize and document the completion of a limited subsurface investigation conducted at the Southwest Corner of Trumble Road & Mapes Road, in the City of Perris, California (Figure 1, herein after referred to as the Site) on September 6, 2021. This subsurface environmental investigational work involved soil sampling in the Storm Water Catch Basin and associated drainpipe and southern portion the property. The Catch Basin has been utilized to receive storm water from on-site as well as off-site adjacent facilities. The subsurface investigation activities were performed to evaluate if potential chemical releases from off-site businesses have adversely impacted the subject property.

EMA was retained by Blue Arch Investments, Inc. to perform the site investigation work and prepare this Summary Report. The work was conducted in accordance with the scope of work contained in the EMA's proposal dated August 31, 2021, and per the request and authorization of Mr. Kamran Benji.

In the following subsections of Section 1.0, the project objectives and scope of work are discussed. Section 2.0 of this report describes site location, description and background. Section 3.0 summarizes the site investigation field activities. Summary of findings, conclusions and recommendations are presented in Section 4.0. References cited in the text are provided in Section 5.0. The limitation of this investigation and report are presented in Section 6.0.

The appendices included in this Summary Report are:

Appendix A Laboratory Analytical Reports and Chain-of-Custody Records

## 1.1 PROJECT OBJECTIVES

The objectives of this project are as follows:

- Collect soil samples from the Storm Water Catch Basin and associated drainpipe and southern portion of the subject property to evaluate the potential presence of contamination beneath the Site.
- Evaluate the laboratory analytical data and prepare report summarizing the work that was performed, the procedures used, the data obtained, and a discussion of the results and conclusions.

## **1.2 SCOPE OF WORK**

In order to meet the project objectives and effectively characterize the integrity of subsurface media in the vicinity of Storm Water Catch Basin and associated drainpipe at the Site, the following investigational field activities were conducted; 1) Drilling of five (5) direct-push technology (DPT) borings in the vicinity of Storm Water Catch Basin and associated drainpipe and southern portion; and Collection of shallow soil samples at discrete depths and laboratory analysis for total petroleum hydrocarbons, volatile organic compounds (VOCs), California Title 22 CAM Metals and polychlorinated biphenyls (PCBs).

## 2.0 SITE LOCATION, DESCRIPTION, AND BACKGROUND

---

Environmental Managers & Auditors, Inc. (EMA) performed a Phase I Environmental Site Assessment (ESA) in general accordance with ASTM 1527-13 for the property located in the Southwest Corner of Trumble Road and Mapes Road (Assessor Parcel Numbers: 329-020-033, 329-020-034, 329-020-044 and 329-020-046), in the City of Perris, Riverside County, California in August 2021.

The Phase I Environmental Site Assessment was designed to provide Blue Arch Investments, Inc. an assessment concerning environmental conditions (limited to those issues identified in the report) as they exist at the property. This assessment was conducted utilizing generally accepted ESA industry standards in accordance with ASTM E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

The subject property is located in the Southwest Corner of Trumble Road and Mapes Road (Assessor Parcel Numbers: 329-020-033, 329-020-034, 329-020-044 and 329-020-046), in the City of Perris, Riverside County, California. The subject property is located in a commercial and light industrial area in the City of Perris, Riverside County, California. All surrounding areas consist of vacant undeveloped land, commercial and light industrial developments.

The subject property consists of 20.0 acres of vacant undeveloped land. During the site reconnaissance, no structures were noted at the site. A fenced area used as a Catch Basin for the storm water runoff was noted in the middle of the property. A belowgrade stormwater drainpipe running northwest connected to the Catch Basin inflow pipe. The Catch Basin is utilized to contain storm water runoff from the subject property as well as surrounding facilities.

Access to the subject property is from Trumble Road to the east and Mapes Road to the north. Drainage is accomplished via collecting surface water in the Catch Basin and directing it into the storm control channel located to the northwest of the subject property. No structures or other significant surface features, except for a Catch Basin located in a fenced area in the middle of the property, were noted on the subject property at the time of site reconnaissance. The storm water runoff from the subject property and surrounding properties is collected in this Catch Basin and subsequently discharged into the storm control channel located to the northwest of the subject property via a belowground drainpipe.

The subject property is bounded by Mapes Road to the north, beyond which are Eastern Municipal Water District, Big League Dreams Baseball Field, vacant undeveloped land and other commercial and light industrial developments, Trumble Road to the east, beyond which are

Southern California Gas Company and other commercial and light industrial developments, Escondido Freeway 215 to the west, beyond which are Perris Valley Regional Water and vacant undeveloped land and Sacks Thrift Avenue Thrift Store and Sunstate Equipment to the south, beyond which are vacant undeveloped land and other commercial and industrial developments.

At the time of the site reconnaissance, the subject property was vacant undeveloped land with no structures on-site. The site was generally covered with bare dirt, dead vegetation and shrubs. During the site reconnaissance, a fenced area used as Catch Basin for storm water runoff from the subject property as well as surrounding facilities was noted in the middle of the property. A belowgrade stormwater drainpipe running northwest was observed in the catch basin. The drainpipe is connected to Catch Basin inflow pipe.

During the site reconnaissance, no hazardous materials and/or hazardous wastes were noted at the site. No chemical odors, hummock topography, closed depressions or other evidence of hazardous waste dumping was observed on-site. No evidence of waste dumping was noted on adjacent properties during the site visit by EMA personnel. During a visual inspection of contiguous properties, there was no evidence to suggest that a significant surface release of a hazardous substance(s) had recently occurred.

No industrial manufacturing activities were observed on the property. No industrial wastewater was discharged, or no wastewater treatment devices were observed. No air emission sources requiring permits were observed at the subject property during the site reconnaissance. No pad-mounted or pole-mounted transformers were observed on-site. During the site reconnaissance, no solid waste or trash accumulation were noted on-site.

A review of historical aerial photographs taken from 2004 to present revealed presence of a catch basin in the middle of the property. Significant water accumulation was noted in the Catch Basin and in the southern portion of the site. It should be noted that Catch Basin is utilized to contain storm water runoff from the subject property as well as surrounding businesses. Some of these surrounding business of potential environmental concern (i.e., Sunstate Equipment Company, Southern California Gas Company, Hot Line Construction, Inc., Crown Auto Body, etc.) are located in the immediate vicinity of the subject property. A review of government database report indicated that these surrounding businesses use, store and generate significant quantities of hazardous materials/hazardous wastes (i.e., hydrocarbon solvents, oil containing wastes, aqueous solution with total organic residues, oxygenated solvents, tank bottom wastes, gasoline, diesel, oil containing solids, motor oil, transmission fluids, waste oil and mixed oil, polychlorinated biphenyls (PCBs) and materials containing PCBs, contaminated sludges, etc.) in their operations. Close proximity of these businesses and potential stormwater runoff from these businesses into



the Catch Basin, located in the middle of the subject property, presents a potential recognized environmental condition to the subject property.

Based on the conclusions of this assessment, EMA recommended that a limited investigation should be conducted to ascertain that the subsurface media has not been impacted from potential off-site businesses such as Sunstate Equipment Company, Southern California Gas Company, Hot Line Construction, Inc., Crown Auto Body, etc. sites located in the immediate vicinity of the subject property.

## **3.0 ENVIRONMENTAL SETTING**

---

This section describes the environmental setting of the Site, including topography, geology, and hydrogeology.

### **3.1 TOPOGRAPHY**

The United States Geological Survey (USGS) 7.5 Minute Series topographic map of USGS Perris Quadrangle indicates that the site is situated at an elevation of approximately 1,420 feet above mean sea level (MSL). The topography of the site is generally flat, and the land surface slope is in a westerly direction.

### **3.1 GEOLOGY AND HYDROGEOLOGY**

The site is found in the Upper Santa Ana River Watershed, approximately nine miles south of the Riverside Mountains, and 1.4 miles northwest of the Santa Ana River. The Perris Flood Control Channel is located approximately 0.2 miles east of the site. No other major bodies of surface water (i.e., oceans, lakes, rivers, reservoirs, streams) are known to exist within an approximate one-mile radius of the site (USGS, 1980). The site is characterized by flat topography with a very slight slope towards the south. The approximate site elevation is 1,005 feet above mean sea level (msl). The average annual precipitation rate in the region is approximately 15 inches (National Oceanic and Atmospheric Administration, 2002).

Shallow soils beneath the general vicinity consists of fine sands with varying amounts of fine gravel. Information from nearby subsurface investigations (approximately 300 to 1,300 feet east of the site) indicates that soil in the upper approximate 100 feet likely consists of fine to medium sands, with some gravel, and occasional interbedded silt zones.

The site is located in the Upper Santa Ana River Watershed, within the Middle Santa Ana River Groundwater Basin. The site is found within the Riverside A Hydrologic Subarea of this basin. The Santa Ana Regional Water Quality Control Board (SARWQCB) has designated beneficial uses of groundwater within the general area to include municipal, agricultural, industrial and process supply.

The information collected from nearby subsurface investigations indicates that a perched groundwater zone exists at a depth of approximately 90 to 100 feet deep. This perched zone is underlain by a 5 to 20 feet thick silt zone. Groundwater in the perched zone is reported to flow to the south and southwest. Below the perched groundwater zone, a regional water table aquifer exists at approximately 130 to 150 feet deep.

## **4.0 SUMMARY OF SITE INVESTIGATION ACTIVITIES**

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In this following section the strategy, methods and procedures used during the fieldwork activities at the Site, which included advancement of DPT borings, soil sampling; installation of soil vapor probes, soil vapor sample collection, sample handling and documentation are described.

### **4.1 PREPARATORY ACTIVITIES**

On September 6, 2021, subsurface utilities clearance was performed by Spectrum Geophysics of Burbank, California. The geophysical subcontractor identified underground piping, utilities, and other types of metallic underground structures within and near the planned work areas. Utilities were marked on the ground with indications (standard colors, letters, and numbers) of the assumed type of utility. The location and type of utilities were also compared with existing subsurface utility maps. Before drilling activities begin, the public underground utility location service, USA, was contacted to document utilities within their responsibility and a final visual inspection for subsurface utilities was made, including a review of drawings and site markings.

### **4.2 SOIL INVESTIGATION**

On September 6, 2021, to evaluate the potential presence of contamination beneath the Site, soil samples were collected from a total of five (5) DPT boring locations (SB1 through SB5) as follows:

- Soil borings SB1 through SB3 were drilled in the vicinity of Storm Water Catch Basin. Each boring was drilled to a maximum depth of 5 feet belowground surface (bgs) using a limited-access DPT GeoProbe® rig. In order to obtain unsaturated vadose zone samples, soil samples were collected at 5 feet bgs for lithologic description, field screening by a photoionization detector (PID) and laboratory analyses. The soil samples collected at 5-foot bgs from each soil boring were submitted for laboratory analyses.
- Soil boring SB4 was drilled in the southern portion of the property, south of Catch Basin, where significant water accumulation was noted in historical aerial photographs. The soil boring was drilled to a maximum depth of 5 feet bgs using a limited-access DPT GeoProbe® rig. In order to obtain unsaturated vadose zone samples, soil samples were collected at 5 feet bgs for lithologic description, field screening by a PID and laboratory analyses. The soil samples collected at 5-foot bgs were submitted for laboratory analyses.

- Soil boring SB5 was drilled in the vicinity of drainpipe, approximately 30 feet northwest of Catch Basin, associated with the Storm Water Catch Basin. The soil boring was drilled to a maximum depth of 5 feet bgs using a limited-access DPT GeoProbe® rig. In order to obtain unsaturated vadose zone samples, soil samples were collected at 5 feet bgs for lithologic description, field screening by a PID and laboratory analyses. The soil samples collected at 5-foot bgs were submitted for laboratory analyses.

#### **4.2.1 Soil Sample Collection Methods and Procedures**

Soil borings SB1 through SB5 were drilled using a limited-access DPT (GeoProbe®) rig equipped with a 12-inch-long bore sampling rod with a plastic sample tube. After pushing the sampler to the desired depth, a soil sample was collected in the sample tube. When the sampler is brought to the surface, the top 6-inch of the sample tube was used for field analysis using the photoionization detector (PID) and the bottom portion of the sample tube for other laboratory analysis. Then the sample tubes were capped with Teflon™ squares and plastic end caps. The outer surface of the sample tubes was wiped clean with a fresh paper towel and properly labeled. Next, the sample tubes were placed in individual self-sealing plastic bags and immediately packed into a thermally insulated ice chilled cooler maintained at  $4^0 \pm 2^0$  C prior to and during transportation of the samples to the laboratory. A chain-of-custody form was prepared, listing the samples inside the cooler, the desired analyses, and other necessary information. The chain-of-custody form was placed in a self-sealing plastic bag and placed inside the cooler. The cooler was adequately sealed, and a signed custody seal was applied to the opposite sides of the cooler lid for security and accountability. The sampling rod was decontaminated between each sample location using standard detergent and deionized water rinse procedures. After the soil sampling was completed, borings were abandoned by filling them with bentonite chips/cement mix.

#### **4.2.2 Laboratory Analytical Methods**

Soil samples collected during this investigation were delivered to Chemtek Environmental Laboratories (CHEMTEK), an offsite analytical laboratory located in Santa Fe Springs, California for chemical analysis. CHEMTEK is a California Department of Health Services (DHS)-certified laboratory. All soil samples were analyzed for total petroleum hydrocarbons-carbon chain [that includes total petroleum hydrocarbons quantified as gasoline (TPH-G), total petroleum hydrocarbons quantified as diesel (TPH-D), total petroleum hydrocarbons quantified as motor oil (TPH-MO)] by United States Environmental Protection Agency (USEPA) 8015 Modified, VOCs, including perchloroethylene (PCE), and associated chlorinated compounds (trichloroethylene [TCE], cis-1,2-dichloroethene [cis-1,2-DCE], trans-1,2-dichloroethene [trans-1,2-DCE], and vinyl chloride), by USEPA Method 5035/8260B, California Title 22 CAM Metals

by USEPA Method 6010B/7471A and polychlorinated biphenyls (PCBs) by USEPA Method 8082.

### 4.2.3 Soil Samples Analytical Results

- **Volatile Organic Compounds**

None of the VOCs listed under USEPA Method 8260B were detected above their respective laboratory method detection limits or laboratory reporting limits in the soil samples.

- **Total Petroleum Hydrocarbons Full Carbon Chain (Gasoline, Diesel and Heavy Oil Fractions)**

None of the constituents listed under USEPA Method 8015M (gasoline, diesel, and heavy oil fractions) were detected above their respective laboratory method detection limits or laboratory reporting limits in the soil samples.

- **California Title 22 CAM Metals**

Barium, chromium, cobalt, copper, lead, nickel, vanadium and zinc were detected at significantly low /trace levels in the soil samples. The barium concentrations ranged from non-detect (ND) to 11 milligrams per kilogram (mg/kg), chromium concentrations ranged from ND to 5 mg/kg, cobalt concentrations ranged from ND to 4.6 mg/kg, copper concentrations ranged from ND to 4.2 mg/kg, lead concentrations ranged from ND to 3.6 mg/kg, nickel concentrations ranged from ND to 4.3 mg/kg, vanadium concentrations ranged from ND to 4.2 mg/kg and zinc concentrations ranged from ND to 9.2 mg/kg. The Department of Toxic Substances Control Human and Ecological Risk Office Human Health Risk Assessment, Note 3, Recommended Screening Levels for Soil (June 2018) are the following: Barium - Not Listed (NL); Chromium – 170,000 mg/kg; Cobalt – NL; Copper – NL; Lead – 320 mg/kg; Nickel – 64,000 mg/kg; Vanadium – 1,000 mg/kg and Zinc – NL.

The metals concentrations detected in the soil samples collected from the site are significantly below the Department of Toxic Substances Control Human and Ecological Risk Office Human Health Risk Assessment, Note 3, Recommended Screening Levels for Soil (June 2018) and appear to be naturally occurring. The significantly low/trace levels of these metals' concentrations detected do not warrant further investigation.

- **Polychlorinated Bi Phenyls (PCBs)**

None of the PCBs listed under USEP Method 8082 were detected their respective laboratory method detection limits or laboratory reporting limits in the soil samples.

## 5.0 SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

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The findings and conclusions presented in this section are based on the soil analytical data from the site characterization activities conducted on September 6, 2021. The findings and conclusions of this site investigation are as follows:

- During field screening by a PID, no significant readings were noted on any of the soil samples collected at the Site. PID readings recorded on the soil samples were at background levels.
- No significant staining or odor was noted on any of the soil samples collected at the Site.
- The soils encountered during the drilling of the DPT soil borings at the Site consist of predominantly silty sand and clay. The depth to groundwater at the Site is anticipated greater than 100 feet bgs
- None of the VOCs listed under USEPA Method 8260B were detected above their respective laboratory method detection limits or laboratory reporting limits in any of the soil samples collected from the site.
- None of the constituents listed under USEPA Method 8015M (gasoline, diesel, and heavy oil fractions) were detected above their respective laboratory method detection limits or laboratory reporting limits in the soil samples.
- Significantly low/trace levels of metals (i.e., barium, chromium, cobalt, copper, lead, nickel, vanadium and zinc) were detected in the soil samples. The metals concentrations detected in the soil samples collected from the site are significantly below the Department of Toxic Substances Control Human and Ecological Risk Office Human Health Risk Assessment, Note 3, Recommended Screening Levels for Soil (June 2018) and appear to be naturally occurring. The significantly low/trace levels of these metals' concentrations detected do not warrant further investigation.
- None of the PCBs listed under USEPA Method 8082B were detected above their respective laboratory method detection limits or laboratory reporting limits in any of the soil samples collected from the site.

Based on the Limited Phase II Subsurface Investigation, it does not appear that subsurface media has been adversely impacted at the subject Site.

Based on the Phase II findings, EMA does not recommend further investigation at the Site.



## 6.0 REFERENCE SOURCES

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Department of Toxic Substances Control (DTSC, 2020). Public Draft Supplemental Guidance: Screening and Evaluating Vapor Intrusion. DTSC Modification February 2020.

Department of Toxic Substances Control (DTSC, 2019). Modified Screening Levels-Human Health Risk Assessment (HHRA), Note 3. DTSC Modification June 2020.

Environmental Managers & Auditors, Inc. (EMA, 2021). Phase I Environmental Site Assessment, Southwest Corner Of Trumble Road & Mapes Road, Perris, California August 2021.

United States Environmental Protection Agency, Pacific Southwest, Region 9, Regional Screening Level (RSL) Summary Table (TR=1E-6, HQ=1.0), Screening Levels, Industrial/commercial Soil. Updated May 2020.

## 7.0 LIMITATIONS

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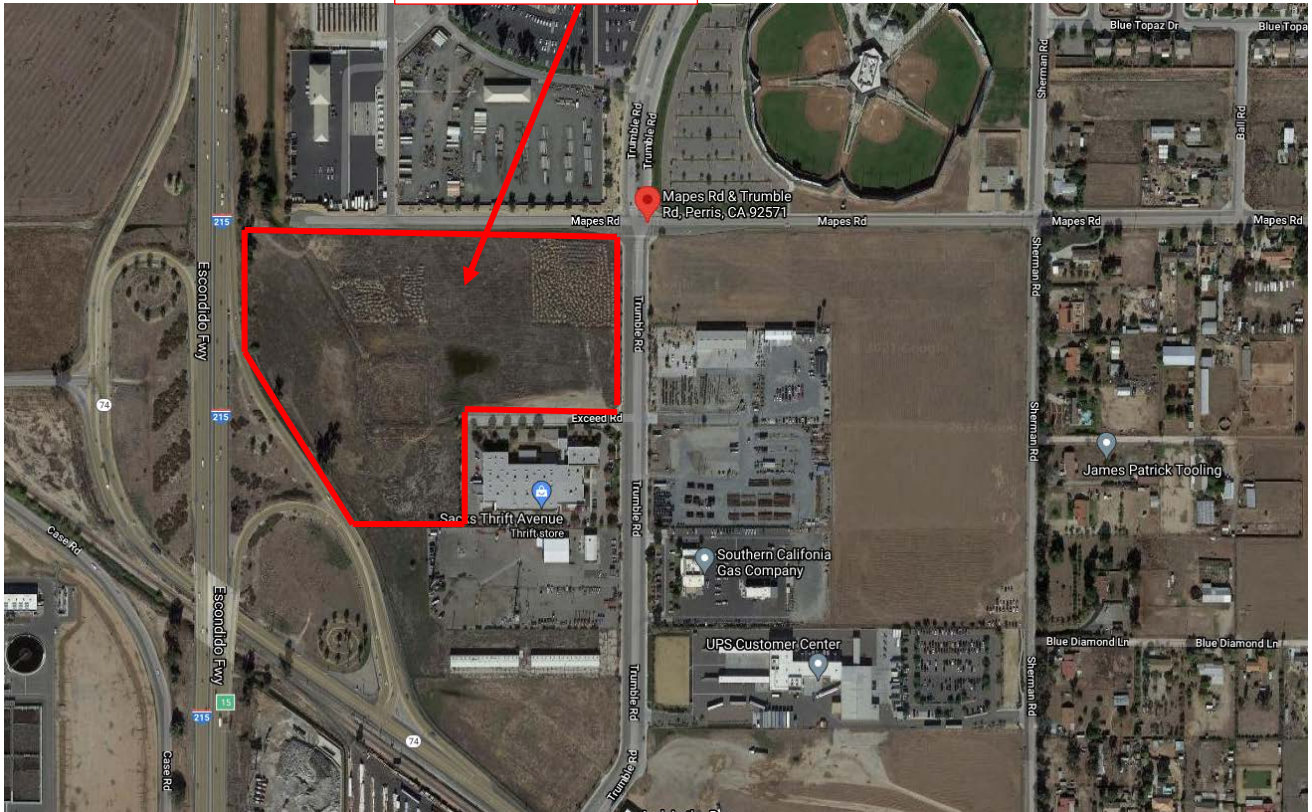
The content of this report is based on information collected during the previous investigation, our present understanding of the site conditions, and our professional judgment in light of such information at the time of this report. The results and conclusions presented in this report are based on data that have been obtained at relatively widely spaced locations of soil and soil vapor samples; therefore, estimation of extent of contamination may vary. The contents of this report are based on our opinion, and no warranty is expressed, implied, or made as to the conclusions, advice and recommendations offered in this report.

EMA has provided its best professional judgment and performed the agreed-upon services in accordance with standard and accepted consulting practices and procedures. The environmental conditions may vary considerably from those observed during this investigation. Should any additional data become available, these data should be reviewed by EMA and the conclusions presented herein modified as appropriate. The conclusions of this report are valid as presented, at the date presented. This report has been prepared in accordance with EMA's standard terms and conditions. No other warranty, expressed or implied, is made.

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## Figures

**Subject Property**



**FIGURE 1. SITE LAYOUT MAP**

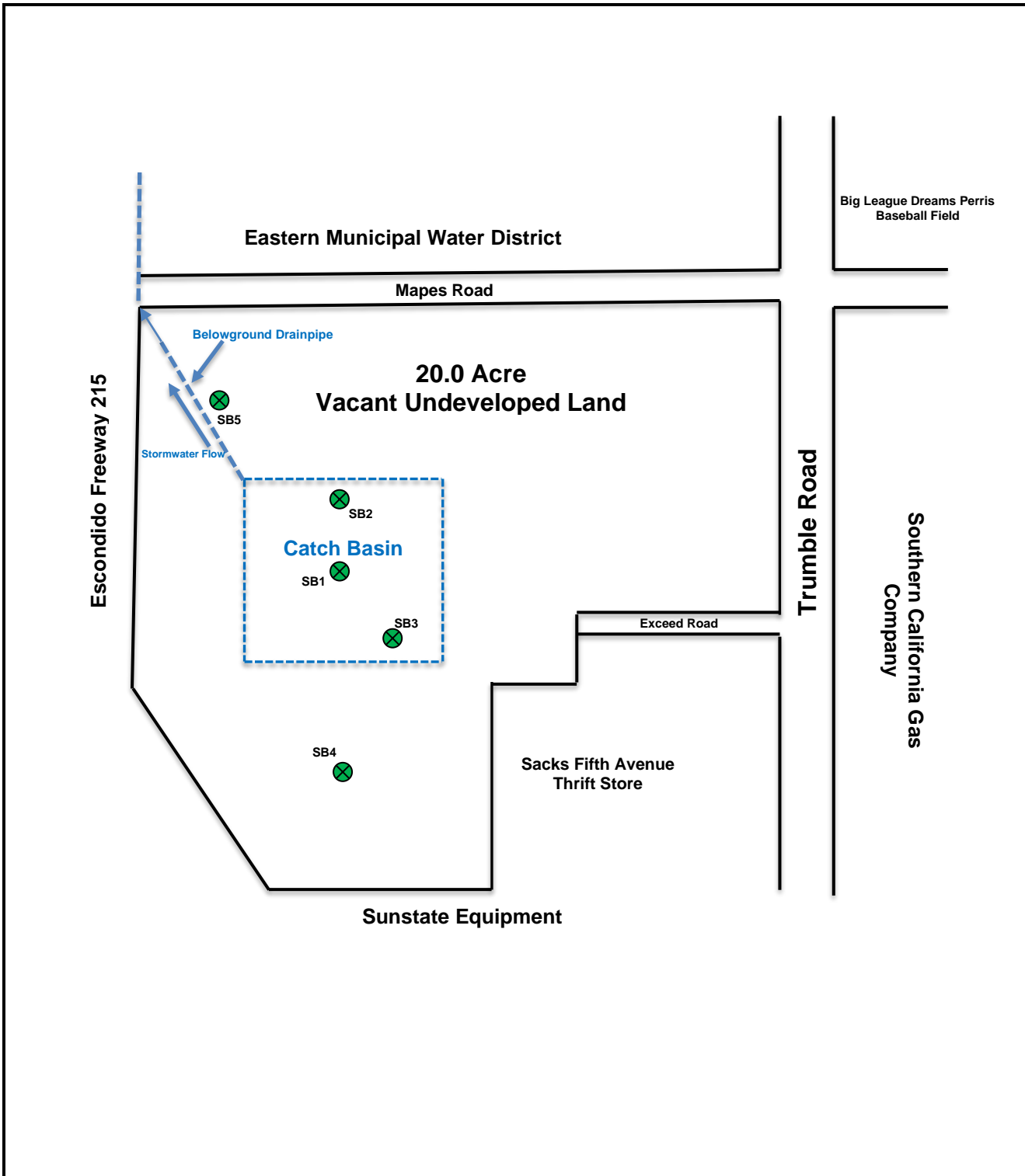
**DRAWING NOT TO SCALE** N ↑



**Environmental Managers & Auditors, Inc.**  
26500 Agoura Rd, Suite 102-374  
Calabasas, CA 91302

**Site: SWC of Trumble Road & Mapes Road**  
APNs: 329-020-044,033, 034, and 046  
Perris, CA 92571

**Project No.: 2021-786-05**



**LEGEND:**  
 SB1 through SB5 – Soil Sampling Locations SB1 through SB5

<p><b>FIGURE 2. SOIL SAMPLING LOCATION MAP</b></p>	<p><b>DRAWING NOT TO SCALE</b> </p>
<p> <b>Environmental Managers &amp; Auditors, Inc.</b>          26500 Agoura Rd, Suite 102-374          Calabasas, CA 91302</p>	<p><b>Site Name: 20-ACRE VACANT LAND          SWC of Trumble &amp; Mapes          Perris, CA 92571</b></p> <p><b>Project No.: 2021-786-5B</b></p>

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**Appendix A**

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**Laboratory Analytical Reports and  
Chain-of-Custody Records**

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**Certificate of Analysis**

**Client:** EMA  
26500 Agoura Rd #102-374  
Calabasas

**Project No.**  
**Project Site:** SWC of Trumble & Mapes Road

**Job No:** 512316  
**Report Date:** 09/21/21  
**Date Received:** 09/07/21  
**Number of Samples:** 5  
**Sample Matrix:** Soil

**Attention:** Al Mahmood

**This is the Certificate of Analysis for the following samples:**

SAMPLE IDENTIFICATION	DATE OF SAMPLE	LABORATORY IDENTIFICATION
SB1-5	09/06/21	512316-01A
SB2-5	09/06/21	512316-02A
SB3-5	09/06/21	512316-03A
SB4-5	09/06/21	512316-04A
SB5-5	09/06/21	512316-05A

**Reviewed and Approved:**

For

**Michael C.C. Lu**  
Laboratory Director

**Certificate of Analysis**

<b>Client:</b> EMA	<b>Project No.:</b>	<b>Job No.:</b> 512316
<b>Sample Matrix:</b> Soil	<b>Project Site:</b> SWC of Trumble & Mapes Road	<b>Report Date:</b> 09/21/21
<b>EPA Method:</b> 8260B	<b>Units:</b> ppb or µg/kg	<b>Date of Sample:</b> 09/06/21
		<b>Date Received:</b> 09/07/21

Client Sample ID:	SB1-5	SB2-5	SB3-5	SB4-5	SB5-5	Detection
Dilution Factor:	1	1	1	1	1	Limit
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
Benzene	ND	ND	ND	ND	ND	1
Bromobenzene	ND	ND	ND	ND	ND	1
Bromochloromethane	ND	ND	ND	ND	ND	1
Bromoform	ND	ND	ND	ND	ND	1
Bromomethane	ND	ND	ND	ND	ND	1
n-Butylbenzene	ND	ND	ND	ND	ND	1
sec-Butylbenzene	ND	ND	ND	ND	ND	1
tert-Butylbenzene	ND	ND	ND	ND	ND	1
Carbon Tetrachloride	ND	ND	ND	ND	ND	1
Chlorobenzene	ND	ND	ND	ND	ND	1
Chloroethane	ND	ND	ND	ND	ND	1
Chloroform	ND	ND	ND	ND	ND	1
Chloromethane	ND	ND	ND	ND	ND	1
2-Chlorotoluene	ND	ND	ND	ND	ND	1
4-Chlorotoluene	ND	ND	ND	ND	ND	1
2-Chloroethyl vinyl ether	ND	ND	ND	ND	ND	2
Dibromochloromethane	ND	ND	ND	ND	ND	1
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1
Dibromomethane	ND	ND	ND	ND	ND	1
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	1
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1
Dichlorodifluoromethane	ND	ND	ND	ND	ND	1
1,1-Dichloroethane	ND	ND	ND	ND	ND	1
1,2-Dichloroethane	ND	ND	ND	ND	ND	1
1,1-Dichloroethene	ND	ND	ND	ND	ND	1
cis-1,2 Dichloroethene	ND	ND	ND	ND	ND	1
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1
1,2-Dichloropropane	ND	ND	ND	ND	ND	1
1,3-Dichloropropane	ND	ND	ND	ND	ND	1
2,2-Dichloropropane	ND	ND	ND	ND	ND	1
1,1-Dichloropropene	ND	ND	ND	ND	ND	1
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1
Ethylbenzene	ND	ND	ND	ND	ND	1
Hexachlorobutadiene	ND	ND	ND	ND	ND	1
Isopropylbenzene	ND	ND	ND	ND	ND	1
4-Isopropyltoluene	ND	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	ND	5
Naphthalene	ND	ND	ND	ND	ND	1
n-propylbenzene	ND	ND	ND	ND	ND	1
Styrene	ND	ND	ND	ND	ND	1
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1
Tetrachloroethene(PCE)	ND	ND	ND	ND	ND	1
Toluene	ND	ND	ND	ND	ND	1
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	1
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	1
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1
Trichloroethene(TCE)	ND	ND	ND	ND	ND	1
Trichlorofluoromethane	ND	ND	ND	ND	ND	1
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1
Vinyl Chloride	ND	ND	ND	ND	ND	1
Total Xylenes	ND	ND	ND	ND	ND	2
Ethanol	ND	ND	ND	ND	ND	250
MTBE	ND	ND	ND	ND	ND	1
ETBE	ND	ND	ND	ND	ND	1
DIPE	ND	ND	ND	ND	ND	1
TAME	ND	ND	ND	ND	ND	1
TBA	ND	ND	ND	ND	ND	20
MEK	ND	ND	ND	ND	ND	10
MIBK	ND	ND	ND	ND	ND	10
2-Hexanone	ND	ND	ND	ND	ND	10
Acetone	ND	ND	ND	ND	ND	50

**Analysis Date:** 9/13/21 9/13/21 9/13/21 9/13/21 9/13/21

ND: Not Detected Below (DF x Detection Limit)

DF: Dilution Factor





**Certificate of Analysis**

<b>Client:</b> EMA	<b>EPA Method:</b> 8015M	<b>Job No:</b> 512316
<b>Project Site:</b> SWC of Trumble & Mapes Road	<b>units:</b> mg/kg	<b>Report Date:</b> 09/21/21
		<b>Date of Sample:</b> 09/06/21
		<b>Date Received:</b> 09/07/21
		<b>Sample Matrix:</b> Soil

Sample ID	UNITS	Gas Range (C4-C12)			Diesel Range (C13-C22)			Oil Range (C23-36)			NOTES
		DF	DL		DF	DL		DF	DL		
SB1-5	mg/kg	ND	1	0.2	ND	1	5.0	ND	1	10	
SB2-5	mg/kg	ND	1	0.2	ND	1	5.0	ND	1	10	
SB3-5	mg/kg	ND	1	0.2	ND	1	5.0	ND	1	10	
SB4-5	mg/kg	ND	1	0.2	ND	1	5.0	ND	1	10	
SB5-5	mg/kg	ND	1	0.2	ND	1	5.0	ND	1	10	
Method Blank	mg/kg	ND	1	0.2	ND	1	5.0	ND	1	10	

<b>Sample Date:</b>	09/06/21	09/06/21	09/06/21
<b>Analysis Date:</b>	09/13/21	09/13/21	09/13/21

ND: Not Detected Below (DF x Detection Limit)

DF: Dilution Factor

DL: Detection Limit



**Certificate of Analysis**

<b>Client:</b> EMA	<b>Job No:</b> 512316
<b>Project Site:</b> SWC of Trumble & Mapes Road	<b>Report Date:</b> 09/21/21
	<b>Date of Sample:</b> 09/06/21
	<b>Date Received:</b> 09/07/21
<b>EPA Method:</b> 6010B Metals	<b>Units:</b> ppm or mg/kg
	<b>Sample Matrix:</b> Soil

Client Sample ID:	SB1-5	SB2-5	SB3-5	SB4-5	SB5-5	Detection
Dilution Factor:	1	1	1	1	1	Limit
Analyte	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Antimony	ND	ND	ND	ND	ND	2.00
Arsenic	ND	ND	ND	ND	ND	2.00
Barium	11	ND	9	ND	ND	1.00
Beryllium	ND	ND	ND	ND	ND	1.00
Cadmium	ND	ND	ND	ND	ND	1.00
Chromium	5	3	6	ND	ND	1.00
Cobalt	4.1	3.2	ND	3.6	ND	2.00
Copper	4.2	2.3	3.2	4.5	ND	2.00
Lead	ND	3.6	3.2	ND	3.1	2.00
Molybdenum	ND	ND	ND	ND	ND	2.00
Nickel	4.3	ND	ND	3.9	3.1	2.00
Selenium	ND	ND	ND	ND	ND	2.00
Silver	ND	ND	ND	ND	ND	1.00
Thallium	ND	ND	ND	ND	ND	2.00
Vanadium	4.2	3.6	ND	6.2	ND	2.00
Zinc	9.2	5.9	ND	6.2	ND	5.00

**Analysis Date:** 09/13/21 09/13/21 09/13/21 09/13/21 09/13/21

Client Sample ID:	SB1-5	SB2-5	SB3-5	SB4-5	SB5-5	Detection
Dilution Factor:	1	1	1	1	1	Limit
Analyte	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mercury	ND	ND	ND	ND	ND	0.05

**Analysis Date:** 09/13/21 09/13/21 09/13/21 09/13/21 09/13/21

ND: Not Detected Below (DF x Detection Limit)

DF: Dilution Factor



**Certificate of Analysis**

**Client:** EMA

**Project Site:** SWC of Trumble & Mapes Road

**Job No:** 512316

**Report Date:** 09/21/21

**Date of Sample:** 09/06/21

**Date Received:** 09/07/21

**Sample Matrix:** Soil

**EPA Method:** 8082

**Units:** ppm or mg/kg

<b>Client Sample ID:</b>	<b>SB1-5</b>	<b>SB2-5</b>	<b>SB3-5</b>	<b>SB4-5</b>	<b>SB5-5</b>	
<b>Dilution Factor:</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>PQL</b>
	<b>(ppb)</b>	<b>(ppb)</b>	<b>(ppb)</b>	<b>(ppb)</b>	<b>(ppb)</b>	<b>(ppb)</b>
<b>PCB 1016</b>	ND	ND	ND	ND	ND	50.0
<b>PCB 1221</b>	ND	ND	ND	ND	ND	50.0
<b>PCB 1232</b>	ND	ND	ND	ND	ND	50.0
<b>PCB 1242</b>	ND	ND	ND	ND	ND	50.0
<b>PCB 1248</b>	ND	ND	ND	ND	ND	50.0
<b>PCB 1254</b>	ND	ND	ND	ND	ND	50.0
<b>PCB 1260</b>	ND	ND	ND	ND	ND	50.0
<b>PCB 1262</b>	ND	ND	ND	ND	ND	50.0
<b>PCB-1268</b>	ND	ND	ND	ND	ND	50.0

**Analysis Date:** 09/13/21 09/13/21 09/13/21 09/13/21 09/13/21