MEMORANDUM

To: Chris Holmquist (Murphy's Bowl LLC)

From: James Yoon, P.E. (EKI Environment & Water, Inc.)

Subject: Soil and Soil Gas Investigations
(EKI B71091.00)

EKI has prepared this Technical Memorandum summarizing environmental sampling activities conducted on portions of the Project Condor site located in Inglewood, California (the "subject property"). Soil and soil gas samples were collected by EKI in two portions of the subject property: the Western Parking Structure area comprising 27 parcels and approximately 5.54 acres and the Well Site area comprising two parcels and approximately 0.70 acres. The location of the subject property is shown on Figure 1.

The Western Parking Structure and Well Site portions of the subject property are occupied by vacant land owned by the City of Inglewood or City of Inglewood Successor Agency.

The conclusions and recommendations presented herein are our professional opinion and are not a warranty or guaranty as to the presence, absence, or extent of contamination at the subject property or of releases from or near the subject property. The facts presented herein are based on available information obtained by EKI staff and represent existing conditions at the subject property at the time the information was collected.

1 SCOPE OF SERVICES

EKI conducted limited soil and soil gas sampling in the Western Parking Structure and Well Site portions of the subject property.

1.1 Collection of Soil Samples from Boreholes

On 8 March 2019, EKI advanced a total of eight boreholes on the subject property using a hand auger to collect soil samples in two portions of the Western Parking Structure area and the Well Site area; the areas are labeled PC-10 through PC-12 as shown on Figure 2. Generally, for each

borehole, soil samples were collected from depths of 0 to 1 foot bgs and 4 to 5 feet bgs. For each sampling area, all soil samples collected from 0 to 1 foot bgs from the boreholes were field-composited into a single multi-increment soil sample, and all soil samples collected from 4 to 5 feet bgs were field-composited into a single multi-increment soil sample. In sampling region PC-10, a deeper soil sample was collected from 9 to 5 feet bgs at borehole PC-10-3, located in an area where a print shop was may have been located based on historical records reviewed by EKI during a prior investigation. The soil samples were placed in pre-cleaned glass jars provided by the analytical laboratory, labeled with a unique identification number, and placed in a chilled cooler for transport to Eurofins Calscience, Inc. in Garden Grove, California ("Calscience"). Calscience is a State-certified analytical laboratory. The analytical results for the soil samples are presented in Section 1.2 below.

1.2 Shallow Soil Screening using XRF

In addition to samples collected from boreholes, EKI collected surface soil samples from 25 locations within the sampling areas for field screening using a field-portable x-ray fluorescence spectrometer ("FPXRF"). These samples were analyzed using United States Environmental Protection Agency ("U.S. EPA") Method 6200, which included calibration testing of the FPXRF during the sampling event and confirmatory analyses of seven samples by an analytical laboratory as part of quality assurance/quality control ("QA/QC") measures; these QA/QC results are presented in Tables 4 and 5.

1.3 Collection of Soil Gas Sample

A soil vapor sample was collected from borehole PC-10SV-1 in the Western Parking Structure area (PC-10) at a depth of 5 feet bgs following collection of the soil sample at this depth. A temporary soil vapor probe ("SVP") was constructed within the borehole as described below.

The SVP was constructed in general accordance with the California-Environmental Protection Agency's ("Cal-EPA") July 2015 guidance entitled Advisory – Active Soil Gas Investigations. The SVP was constructed using a 6-inch long, ½-inch diameter stainless-steel wire mesh screen attached to a length of continuous ¼-inch diameter flexible fluorinated ethylene propylene ("FEP") tubing, sealed at the top using a stainless-steel laboratory-grade plug valve with Swagelok-type compression fittings. The SVP screen was suspended using a guide pipe at the approximate center of the filter pack interval, between approximately 5 and 5.5 feet bgs. The borehole annular space around the SVP screen was backfilled with a 1.5-foot vertical filter pack of prewashed silica sand, poured slowly into the borehole. After placement of the filter pack, the guide pipe will be slowly removed from the borehole while maintaining the position and depth of the SVP screen. Above the filter pack, the SVP borehole was backfilled with a six-inch layer of dry medium granular bentonite, per Cal-EPA guidance. Above the dry granular bentonite, the borehole was sealed to existing grade with medium bentonite chips, emplaced and hydrated in approximately 6-inch lifts. Bentonite at the top of the seal was covered with approximately 6 to 8 inches of sand.

1.3.1 SVP Sampling Procedures

Consistent with current Cal-EPA guidance for soil gas wells, the soil gas sample was collected four days after installation of the SVP. The soil gas sample was collected in a laboratory-provided, pre-cleaned (batch certified) and pre-evacuated 1-liter SUMMA-passivated stainless-steel sample canister equipped with a flow controller set at a flow rate of approximately 100 milliliters per minute ("mL/min").

A shroud was maintained around the SVP during sample collection to allow a controlled atmosphere containing the leak-detection compound, 1,1-difluoroethate or "DFA," to be maintained around the SVP and sampling apparatus. The air inside the shroud will be sampled to determine the concentration of DFA around the sampling apparatus.

Immediately before sampling, the SVP will be purged at least three times the volume of the tubing and sand pack. After purging, the SVP, a SUMMA canister and flow controller will be attached to the SVP and a static vacuum check will be conducted. If the sample train holds vacuum, the air inside the shroud will be spiked with DFA to screen for leaks in the sampling system, if any. Soil vapor sampling then will be initiated by opening the SUMMA canister valve.

The sampling canister will be allowed to fill until a small residual vacuum remains, at which point the valve will be closed. The air inside the shroud will be sampled using a separate SUMMA canister and analyzed for DFA, so that the concentration ratio between shroud sample and SVP sample can be used to estimate dilution, in the event of leakage, although no significant leaks are anticipated.

The collected soil vapor and leak-check sample will be labeled with unique identification numbers, the date and time of collection, and other pertinent information, and prepared for shipment to Eurofins laboratory under chain-of-custody procedures.

1.3.2 Abandonment of SVP

Following completion of soil gas sampling, the SVP will be decommissioned by excavating the borehole to approximately one foot below grade and removing the tubing from the SVP. Once the tubing has been removed, the borehole will be grouted to the surface.

1.4 Analytical Results for Soil Samples

The soil samples collected from boreholes as shown on Figure 2 were analyzed by Calscience for the following constituents:

- Method 8015BM for gasoline-range TPH with U.S. EPA Method 5035 preparation;

- U.S. EPA Method 8015BM with silica gel extract for diesel- and oil-range TPH;
- U.S. EPA Method 8260B for VOCs and fuel oxygenates, with U.S. EPA Method 5035 preparation;
- U.S. EPA Method 6020 for California Title 22 metals and mercury;
- U.S. EPA Method 7199 for hexavalent chromium;
- U.S. EPA Method 8270C SIM for PAHs with U.S. EPA Method 3540C preparation;
- U.S. EPA Method 8082 for PCBs with U.S. EPA Method 3540C preparation;
- U.S. EPA Method 8081A for organochlorine pesticides with U.S. EPA Method 3545 preparation;
- U.S. EPA Method 8141A for organophosphorus pesticides with U.S. EPA Method 3545 preparation;
- U.S. EPA Method 8151A for chlorinated herbicides;
- ASTM Method D-2216 for moisture content.

The analytical results were compared to the U.S. EPA Regional Screening Levels ("RSLs") for residential land use (U.S. EPA, 2018), as modified by DTSC Human and Ecological Risk Office ("HERO") Note 3 (DTSC, 2018). These screening levels are referred to as the "HERO Note 3-modified RSLs".

The laboratory analytical results for TPH in soil samples are presented in Table 1. No gasoline-, diesel-, or motor oil-range TPH was detected above the HERO Note 3-modified RSLs for residential land use in any of the soil samples collected during this investigation. The highest detected concentrations of diesel- and motor oil-range TPH are 33 mg/kg and 66 mg/kg, respectively, in the sample collected from 0 to 1 foot bgs in area PC-12; these concentrations are below the respective residential land use screening levels.

The laboratory analytical results for detected organochlorine pesticides are presented in Table 1. One compound was detected at a concentration above the HERO Note 3-modified RSL for residential land use: chlordane in the sample collected form 0 to 1 foot bgs in area PC-12, at 990 micrograms per kilogram ("ug/kg"). The residential land use screening level for chlordane is 440 ug/kg. The other organochlorine pesticides detected during the investigation are 4,4'-DDE [1,1'-(2,2-dichloroethene-1,1-diyl)bis(4-chlorobenzene)]; 4,4'-DDT [1,1'-(2,2,2-trichloroethane-1,1-diyl)bis(4-chlorobenzene)]; and heptachlor epoxide; these compounds were all detected at concentrations well below the respective residential land use screening levels.

The laboratory analytical results for metals (including hexavalent chromium and mercury) in soil samples are presented in Table 2. Hexavalent chromium was detected above the HERO Note 3-modified RSLs for residential land use and below the HERO Note 3-modified RSL for commercial/industrial land use in six of the seven soil samples at concentrations from 0.340 to

0.600 mg/kg; the residential land use screening level is 0.30 mg/kg. The laboratory reported that hexavalent chromium was also present in the method blank associated with these samples, and thus may have been a laboratory contaminant. Thallium was detected in the sample collected from 0 to 1 foot bgs in area PC-11 at 0.858 mg/kg, just above the residential land use screening level of 0.78 mg/kg. Arsenic was not detected above the DTSC regional background arsenic concentration of 12 mg/kg (DTSC, 2008) in any of the soil samples analyzed by Calscience, and no other metals were detected above the respective HERO Note 3-modified RSLs for residential land use.

The FPXRF analytical results for arsenic and lead in soil samples are presented in Table 3. Arsenic was not detected above the DTSC regional background arsenic concentration in any of the surface samples analyzed using FPXRF. Lead was detected above the HERO Note 3-modified RSL for residential land use of 80 mg/kg in 2 of the 25 soil samples analyzed using FPXRF, at concentrations of 89 and 126 mg/kg in two sample locations in PC-11. Lead was not detected above the HERO Note 3-modified RSL for commercial/industrial land use. If shallow soil in the PC-11 area is expected to be moved or disposed off-site, soil containing lead at concentrations above 50 mg/kg should be analyzed using the Toxicity Characteristic Leaching Procedure ("TCLP") or Soluble Threshold Limit Concentration ("STLC") extraction methods to determine if the soil is a hazardous waste requiring special disposal procedures.

VOCs, PAHs, PCBs, organophosphorus pesticides, and chlorinated herbicides were not detected above the respective HERO Note 3-modified RSLs for residential land use, and are not presented in tables. The laboratory reports for all analyses conducted by Calscience are presented in Attachment E.

1.5 Analytical Results for Soil Gas Sample

The soil gas sample collected from the temporary probe at borehole PC-10-4 as shown on Figure 2 was analyzed by Calscience for VOCs using U.S. EPA Method TO-15. The analytical results were compared to the HERO Note 3-modified RSLs for indoor air, modified using the attenuation factor of 33 for soil gas as recommended by the U.S. EPA (OSWER, 2015).

Acetone, benzene, 2-butanone, carbon disulfide, dichlorodifluoromethane, 1,1-difluoroethane, isopropanol, tetrachloroethene ("PCE"), toluene, trichloroethene ("TCE"), and trichlorofluoromethane were detected at low concentrations in the soil gas sample, below the applicable screening criteria for residential land use. The laboratory report for the soil gas analyses conducted by Calscience is presented in Attachment E.

2 SUMMARY OF ANALYTICAL RESULTS

EKI collected shallow soil samples and a soil gas sample to evaluate soil conditions in the Western Parking Structure and Well Site portions of the subject property. Soil samples contained low concentrations of hexavalent chromium above the residential screening level;

however, the samples may be affected by laboratory contamination, and based on the low concentrations detected, these results do not appear to be indicative of a shallow soil source for hexavalent chromium.

The shallow composite soil sample in area PC-11 contained a low concentration of thallium, approximately 10% above the residential soil screening level. This low detected concentration does not appear to be indicative of a shallow soil source for thallium.

Arsenic was not detected in the soil samples at concentrations above the applicable screening level, but lead was detected at concentrations above the residential screening level in surface samples in area PC-11. Possible sources of lead could include lead-based paint from former buildings or deposition from diesel exhaust from the nearby roadways.

The shallow soil gas sample collected from area PC-10 in the Western Parking Structure area, near a dry cleaning site on the adjoining property to the east, did not contain VOCs at concentrations above residential screening levels. Based on these results, there does not appear to be any significant impact from dry cleaning chemicals at this location.

Tables

Table 1 – TPH Analytical Results for Soil Samples
Table 2 – Summary of Metals and Moisture Content Analytical Results for Soil Samples
Table 3 – Arsenic and Lead Detected in Surface Soil Samples
Table 4 – FPXRF Calibration Verification Analyses
Table 5 – FPXRF Confirmatory Soil Samples and Precision Measurements

Figures
Figure 1 – Property Location Map
Figure 2 – Soil Sample Locations

Attachment

Attachment A – Laboratory Analytical Reports

References

DTSC, 2008. *Determination of a Southern California Regional Background Arsenic Concentration in Soil,* California Department of Toxic Substances Control, 2008.

DTSC, 2018. *Human Health Risk Assessment Note 3 – DTSC-Modified Screening Levels (DTSC-SLs), June 2018 Updated,* California Department of Toxic Substances Control, 2018.

OSWER, 2015. *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air,* United States Environmental Protection Agency Office of Solid Waste and Emergency Response, June 2015.

U.S. EPA. 2018. *Regional Screening Levels (RSLs) – Generic Tables (November 2018),* United States Environmental Protection Agency, November 2018.

TABLE 1

TPH and Organochlorine Pesticide Analytical Results for Soil Samples

Investigation Area ID	Sample ID	Depth (feet bgs)	Sample Date	Analytical Results (a)						
				TPH (mg/kg) (b)			Organochlorine Pesticides (ug/kg) (c)			
				Gasoline-Range TPH (d)	Diesel-Range TPH (e)	Motor Oil-Range TPH (f)	Chlordane	4,4'-DDE	4,4'-DDT	Heptachlor Epoxide
PC-10	PC-10-0.0-1.0	0.0 - 1.0	3/8/2019	<0.55	10 HD,SG	20 HD,SG,J	46 J	8.2	4.4 J	<11
	PC-10-4.0-5.0	4.0 - 5.0	3/8/2019	<0.57	2.8 HD,SG,J	<27 SG	<56	<5.6	<5.6	<11
	PC-10-9.0-10.0	9.0 - 10.0	3/8/2019	<0.12	11 HD,SG	15 HD,SG,J	<55	<5.5	<5.5	<11
PC-11	PC-11-0.0-1.0	0.0 - 1.0	3/8/2019	<0.55	4.3 HD,SG,J	<28 SG	<56	<5.6	<5.6	<11
	PC-11-4.0-5.0	4.0 - 5.0	3/8/2019	<0.56	3.0 HD,SG,J	<28 SG	<56	<5.6	<5.6	<11
PC-12	PC-12-0.0-1.0	0.0 - 1.0	3/8/2019	<0.13	33 HD,SG	66 HD,SG	**990**	28	14	13
	PC-12-4.0-5.0	4.0 - 5.0	3/8/2019	<0.10	3.9 HD,SG,J	<28 SG	<57	<5.7	<5.7	<11
Screening Level Criteria for Residential Soil (a)				***82***	***96***	***2,500***	***440***	***2,000***	***1,900***	***130***
Screening Level Criteria for Industrial Soil (a)				***420***	***440***	***33,000***	***1,500***	***9,300***	***8,500***	***630***

Abbreviations:

-- = not applicable

<26 = compound not detected at or above indicated laboratory reporting limit

bgs = below ground surface

C = carbon chain length

4,4'-DDE = 1,1′-(2,2-dichloroethene-1,1-diyl)bis(4-chlorobenzene)

4,4'-DDT = 1,1′-(2,2,2-trichloroethane-1,1-diyl)bis(4-chlorobenzene)

EC = equivalent carbon number

HD = the chromatograph pattern was inconsistent with the profile of the reference fuel standard

J = analyte detected below the reporting limit and above the method detection limit, reported value is estimated

mg/kg = milligrams per kilogram

RSLs = U.S. EPA Region 9 Regional Screening Levels

SG = the sample extract was subjected to silica gel treatment prior to analysis

TPH = total petroleum hydrocarbons

ug/kg = micrograms per kilogram

U.S. EPA = United States Environmental Protection Agency

TABLE 1
TPH and Organochlorine Pesticide Analytical Results for Soil Samples

Notes:

(a) The screening level criteria are presented in *Regional Screening Levels (RSLs) - Generic Tables (November 2018)* (U.S. EPA, 2018).

(b) U.S. EPA laboratory analytical methods have not yet been established that differentiate between aliphatic and aromatic hydrocarbons and provide analytical results that can be directly compared to the RSLs. Samples were analyzed using existing U.S. EPA Method 8015 for TPH in the gasoline, diesel, and motor oil ranges, which do not directly correspond to the low, medium, and high aliphatic and aromatic TPH ranges defined by the RSLs due to variations between analytical laboratories and TPH standards, but are compared to these ranges for screening purposes.

(c) Samples were analyzed using U.S. EPA Method 8081A with U.S. EPA Method 3545 preparation. Only detected compounds are shown. Analytical data detected above the respective screening level criteria for residential land use are shown in **bold** above.

(d) Analytical results for TPH in the gasoline range are compared to the RSLs for both TPH aliphatic low (C5-C8, EC5-EC8) and TPH aromatic low (C6-C8, EC6-EC<9).

(e) Analytical results for TPH in the diesel range are compared to the RSLs for both TPH aliphatic medium (C9-C18, EC>8-EC16) and TPH aromatic medium (C9-C16, EC9-EC<22).

(f) Analytical results for TPH in the motor oil range are compared to the RSLs for both TPH aliphatic high (C19-C32, EC>16-EC35) and TPH aromatic high (C17-C32, EC>22-EC35).

References:

U.S. EPA, 2018. *Regional Screening Levels (RSLs) - Generic Tables (November 2018),* United States Environmental Protection Agency, November 2018.

TABLE 2

Summary of Metals and Moisture Content Analytical Results for Soil Samples

Investigation Area ID	Sample ID	Sample Date	Sample Depth (feet bgs)	Analytical Results (mg/kg) (a)																	
				California Title 22 Metals																	
				Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Chromium, Hexavalent	Mercury	Moisture (%)
PC-10	PC-10-0.0-1.0	0.0 - 1.0	3/8/2019	<11.2	2.63 J	112	<5.60	<5.60	15.6	7.27	21.2	22.3	<5.60	9.96	<5.60	<5.60	<5.60	27.7	73.5	**0.390 B,J**	0.0686 J	11
	PC-10-4.0-5.0	4.0 - 5.0	3/8/2019	<11.2	2.42 J	129	<5.62	<5.62	21	11.4	24.3	5.91	<5.62	13.4	<5.62	<5.62	<5.62	46	57.8	**0.520 B**	0.0710 J	11
	PC-10-9.0-10.0	9.0 - 10.0	3/8/2019	<11.0	<5.48	29	<5.48	<5.48	3.72 J	2.57 J	4.99 J	1.98 J	<5.48	2.98 J	<5.48	<5.48	<5.48	8.31 J	11.1 J	<0.440	0.0203 J	8.7
PC-11	PC-11-0.0-1.0	0.0 - 1.0	3/8/2019	1.70 J	<5.61	143	<5.61	<5.61	23.9	12.3	25.6	6.97	4.68 J	13.5	<5.61	<5.61	**0.858 J**	50.8	61.6	**0.510 B**	0.265	11
	PC-11-4.0-5.0	4.0 - 5.0	3/8/2019	<11.2	2.39 J	144	<5.62	<5.62	23.4	13.3	26.8	6.1	<5.62	15.3	<5.62	<5.62	<5.62	49.4	63.6	**0.600 B**	0.0835 J	11
PC-12	PC-12-0.0-1.0	0.0 - 1.0	3/8/2019	<11.4	2.66 J	97.9	<5.71	1.25 J	14.9	6.01	53.6	72.1	<5.71	12.4	<5.71	0.946 J	<5.71	21.7	285	**0.340 B,J**	0.0797 J	12
	PC-12-4.0-5.0	4.0 - 5.0	3/8/2019	<11.4	<5.70	69.2	<5.70	<5.70	11.9	5.54 J	14.8	3.08 J	<5.70	7.46	<5.70	<5.70	<5.70	22.8	35.4	**0.420 B,J**	0.0219 J	12
Screening Level Criteria for Residential Soil (b)				***31***	***12 (c)***	***15,000***	***15***	***5.2***	***36,000***	***23***	***3,100***	***80***	***390***	***490***	***390***	***390***	***0.78***	***390***	***23,000***	***0.3***	***1.0***	**--**
Screening Level Criteria for Industrial Soil (b)				**470**	**12 (c)**	***220,000***	***210***	***7.3***	***170,000***	***350***	***47,000***	***320***	***5,800***	***3,100***	***5,800***	***1,500***	***12***	***1,000***	***350,000***	***6.3***	***4.5***	**--**

Abbreviations:

-- = not applicable
<2.09 = compound not detected at or above indicated laboratory reporting limit
ASTM = American Society for Testing and Materials
B = analyte also detected in associated method blank
bgs = below ground surface
DTSC = California Department of Toxic Substances Control
J = analyte detected below the reporting limit and above the method detection limit, reported value is estimated
mg/kg = milligrams per kilogram
RSLs = regional screening levels
U.S. EPA = United States Environmental Protection Agency

Notes:

(a) Samples were analyzed for California Title 22 metals using U.S. EPA Method 6020, chromium VI using U.S. EPA method 7199, mercury using U.S. EPA Method 7471A, and moisture using ASTM D-2216 by Eurofins Calscience, Inc., Garden Grove, CA.

(b) The screening level criteria are presented in *Human Health Risk Assessment Note 3 - DTSC-Modified Screening Levels (DTSC-SLs), June 2018 Updated* (DTSC, 2018). Screening level criteria not available in the DTSC HERO Note 3, are presented in *Regional Screening Levels (RSLs) - Generic Tables (November 2018)* (U.S. EPA, 2018). Analytical data detected above the respective screening level criteria for residential land use are shown in **bold** above.

(c) In 2008, the DTSC published *Determination of a Southern California Regional Background Arsenic Concentration in Soil* (DTSC, 2008), which analyzed data for shallow soil samples collected from 52 school sites distributed across Southern California. This included a total of 1,097 soil samples collected from 19 schools in Los Angeles County. DTSC calculated the upper bound of its data set as the 95% upper confidence limit of the 99th quantile of the arsenic data set excluding outliers. The DTSC also utilized a probability plot of arsenic concentrations to determine an upper bound of background concentrations. The DTSC Report concluded that 12 mg/kg is an appropriate upper bound concentration representative of background concentrations of arsenic for school sites in Southern California.

References:

DTSC, 2008. *Determination of a Southern California Regional Background Arsenic Concentration in Soil* , California Department of Toxic Substances Control, 2008.

DTSC, 2018. *Human Health Risk Assessment Note 3 - DTSC-Modified Screening Levels (DTSC-SLs), June 2018 Updated* , California Department of Toxic Substances Control, June 2018.

U.S. EPA, 2018. *Regional Screening Levels (RSLs) - Generic Tables (November 2018),* United States Environmental Protection Agency, November 2018.

TABLE 3
Arsenic and Lead Detected in Surface Soil Samples

Investigation Area ID	Sample ID	Sample Date	Analytical Results by FPXRF (a,b,c)	
			Arsenic (mg/kg)	Lead (mg/kg)
PC-10	PC-10X-1	3/8/2019	<10	16
	PC-10X-2	3/12/2019	7.0	39
	PC-10X-3	3/8/2019	<11	21
	PC-10X-4	3/8/2019	9.0	40
	PC-10X-5	3/12/2019	5.0	28
	PC-10X-6	3/8/2019	<11	36
	PC-10X-7	3/8/2019	<12	28
	PC-10X-8	3/8/2019	<12	45
	PC-10X-9	3/8/2019	<11	27
PC-11	PC-11X-1	3/8/2019	<11	43
	PC-11X-2	3/8/2019	<9	34
	PC-11X-3	3/12/2019	6.0	39
	PC-11X-4	3/12/2019	<6	**89**
	PC-11X-5	3/12/2019	<6	**126**
	PC-11X-6	3/12/2019	<10	63
	PC-11X-7	3/8/2019	<12	59
	PC-11X-8	3/8/2019	<12	65
	PC-11X-9	3/12/2019	11	67
	PC-11X-10	3/12/2019	4.0	42
	PC-11X-11	3/8/2019	<11	26
	PC-11X-12	3/12/2019	4.0	23
PC-12	PC-12X-1	3/8/2019	<9	42
	PC-12X-2	3/8/2019	<12	62
	PC-12X-3	3/8/2019	<9	41
	PC-12X-4	3/8/2019	<9	38
Screening Level Criteria for Residential Soil (d)			***12 (e)***	***80***
Screening Level Criteria for Industrial Soil (d)			***12 (e)***	***320***

Abbreviations:

DTSC = California Department of Toxic Substances Control
FPXRF = field portable x-ray fluorescence spectrometer
mg/kg = milligrams per kilogram
U.S. EPA = United States Environmental Protection Agency

TABLE 3
Arsenic and Lead Detected in Surface Soil Samples

Notes:

(a) Arsenic and lead were analyzed using U.S. EPA Method 6200 by an Olympus Delta Premium RK field field portable x-ray fluorescence spectrometer.

(b) FPXRF field screening was performed on surface soil samples. The FPXRF automatically adjusts readings using algorithms to correct for moisture content variations.

(c) Analytical data detected above the screening level criterion for residential land use are shown in **bold.**

(d) The screening level criterion for lead is presented in *Human Health Risk Assessment Note 3 - DTSC-Modified Screening Levels (DTSC-SLs), August 2017 Updated* (DTSC, 2017).

(e) In 2008, the DTSC published *Determination of a Southern California Regional Background Arsenic Concentration in Soil* (DTSC, 2008), which analyzed data for shallow soil samples collected from 52 school sites distributed across Southern California. This included a total of 1,097 soil samples collected from 19 schools in Los Angeles County. DTSC calculated the upper bound of its data set as the 95% upper confidence limit of the 99th quantile of the arsenic data set excluding outliers. The DTSC also utilized a probability plot of arsenic concentrations to determine an upper bound of background concentrations. The DTSC Report concluded that 12 mg/kg is an appropriate upper bound concentratior representative of background concentrations of arsenic for school sites in Southern California.

References:

DTSC, 2008. *Determination of a Southern California Regional Background Arsenic Concentration in Soil,* California Department of Toxic Substances Control, 2008.

DTSC, 2018. *Human Health Risk Assessment Note 3 - DTSC-Modified Screening Levels (DTSC-SLs), June 2018 Updated*, California Department of Toxic Substances Control, June 2018.

TABLE 4
FPXRF Calibration Verification Analyses

Calibration Standard	Laboratory	Date	FPXRF Arsenic Concentration (a) (mg/kg)	Calibration Standard Laboratory-Verified Concentration (b) (mg/kg)	PD (c) (%)	RSD (%)	FPXRF Lead Concentration (d) (mg/kg)	Calibration Standard Laboratory-Verified Concentration (e) (mg/kg)	PD (c) (%)	RSD (%)
Standard Reference Materials (SRMs)										
2709A	NIST	3/8/2019	10	10.5	-5%	8%	19.0	17.3	10%	15%
2709A	NIST	3/8/2019	10	10.5	-5%	8%	20	17.3	16%	15%
2709A	NIST	3/8/2019	11	10.5	5%	8%	21.0	17.3	**21%**	15%
2709A	NIST	3/12/2019	10.0	10.5	-5%	8%	20	17.3	16%	15%
2709A	NIST	3/12/2019	12	10.5	14%	8%	14	17.3	-19%	15%
2710A	NIST	3/8/2019	1429	1540	-7%	1%	5533	5520	0%	0%
2710A	NIST	3/8/2019	1421	1540	-8%	1%	5550	5520	1%	0%
2710A	NIST	3/8/2019	1401	1540	-9%	1%	5586	5520	1%	0%
2710A	NIST	3/12/2019	1448	1540	-6%	1%	5535	5520	0%	0%
2710A	NIST	3/12/2019	1429	1540	-7%	1%	5546	5520	0%	0%
2711A	NIST	3/8/2019	65	107	**-39%**	6%	1442	1400	3%	2%
2711A	NIST	3/8/2019	70	107	**-35%**	6%	1452	1400	4%	2%
2711A	NIST	3/8/2019	74	107	**-31%**	6%	1460	1400	4%	2%
2711A	NIST	3/12/2019	69	107	**-36%**	6%	1509	1400	8%	2%
2711A	NIST	3/12/2019	64	107	**-40%**	6%	1443	1400	3%	2%
Instrument Blank Measurements										
Instrument Blank (f)	Olympus	3/8/2019	<6	N/A	N/A	N/A	<9	N/A	N/A	N/A
Instrument Blank (f)	Olympus	3/8/2019	<6	N/A	N/A	N/A	<10	N/A	N/A	N/A
Instrument Blank (f)	Olympus	3/8/2019	<6	N/A	N/A	N/A	<10	N/A	N/A	N/A
Instrument Blank (f)	Olympus	3/12/2019	<6	N/A	N/A	N/A	<9	N/A	N/A	N/A
Instrument Blank (f)	Olympus	3/12/2019	<3	N/A	N/A	N/A	<4	N/A	N/A	N/A

TABLE 4
FPXRF Calibration Verification Analyses

Abbreviations:

C&T= Curtis & Tompkins Laboratories
FPXRF = field portable x-ray fluorescence
mg/kg = milligrams per kilogram
N/A = not applicable
NIST = National Institute of Standards and Testing
PD = percent difference
RSD = relative standard deviation
SRM = standard reference material
SSCS = site specific calibration standard
U.S. EPA = United States Environmental Protection Agency

Notes:

(a) Arsenic was analyzed using U.S. EPA Method 6200 by an Olympus Delta Premium RK field portable x-ray fluorescence spectrometer.
(b) Arsenic was analyzed using U.S. EPA Method 6020 by the laboratory indicated.
(c) Percent difference greater than 20% is shown in **bold** in the table above.
(d) Lead was analyzed using U.S. EPA Method 6200 by an Olympus Delta Premium RK field portable x-ray fluorescence spectrometer.
(e) Lead was analyzed using U.S. EPA Method 6020 by the laboratory indicated.
(f) The instrument blank provided by the equipment manufacturer was damaged, thus a purified sand from Olympus Scientific was used as a replacement instrument blank. The actual concentration of arsenic and lead in the purified sand is unknown, but assumed to be near the detection limit of the FPXRF spectrometer.

References:

U.S. EPA, 2007. *Method 6200 – Field Portable X-Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment, Revision 0.* United States Environmental Protection Agency, February 2007.

TABLE 5

FPXRF Confirmatory Soil Samples and Precision Measurements

Investigation Area ID	Sample ID	Sample Date	Analytical Results																		
			Analytical Laboratory (a)		FPXRF Precision Sample Measurements																
			Arsenic (mg/kg) (b)	Lead (mg/kg) (c)	Arsenic (mg/kg) (b,d)								RSD (e)	Lead (mg/kg) (c,d)								RSD (e)
PC-10	PC-10X-7	3/12/2019	4.55	**125**	4.0	4.0	<6	<6	<6	6.0	7.0	<6	29%	**106**	**107**	**108**	**115**	**114**	**112**	**117**	**127**	6%
	PC-10X-9	3/8/2019	<5.00	37.2	<11	<10	<10	<10	<10	<11	<11	<11	N/A	43	33	38	40	36	43	39	41	9%
PC-11	PC-11X-3	3/12/2019	3.72	62.3	7.0	5.0	6.0	6.0	6.0	7.0	5.0	5.0	14%	78	**85**	**84**	**80**	**81**	79	**82**	**81**	3%
	PC-11X-12	3/8/2019	3.87	21.2	<12	10.0	<11	8.0	<11	<12	<11	10.0	12%	47	26	33	33	30	30	32	33	19%
PC-12	PC-12X-1	3/8/2019	<5.00	45.5	<12	<11	<12	<12	<11	<11	<12	<11	N/A	62	58	60	59	54	55	52	53	6%
Screening Level Criteria for Residential Soil			***12 (f)***	***80 (g)***	***12***	***12***	***12***	***12***	***12***	***12***	***12***	***12***	--	***80***	***80***	***80***	***80***	***80***	***80***	***80***	***80***	--
Screening Level Criteria for Industrial Soil			***12 (f)***	***320 (g)***	***12***	***12***	***12***	***12***	***12***	***12***	***12***	***12***	--	***320***	***320***	***320***	***320***	***320***	***320***	***320***	***320***	--

Abbreviations:

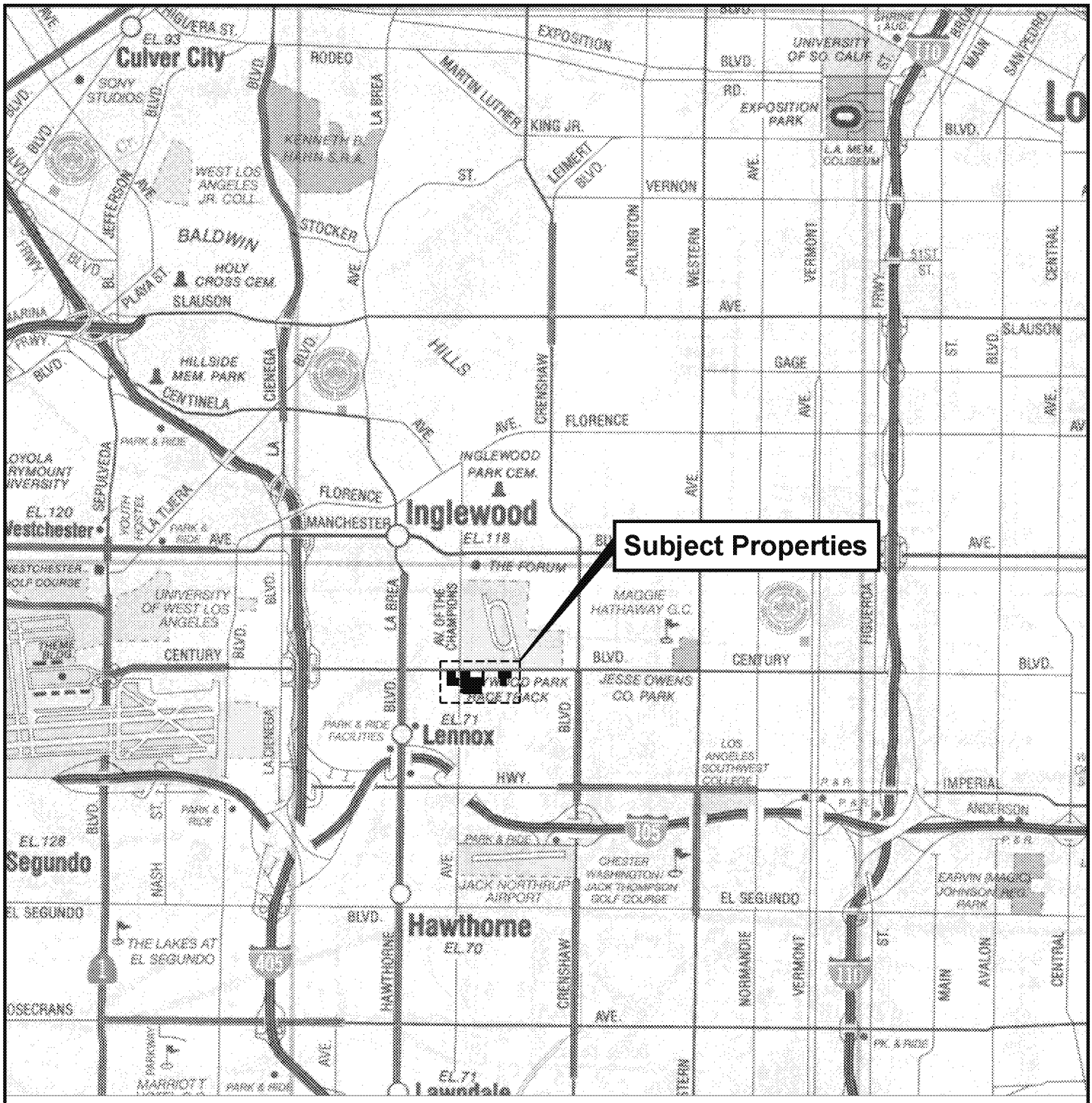
-- = not analyzed
ASTM = American Society for Testing and Materials
DTSC = California Department of Toxic Substances Control
FPXRF = field portable x-ray fluorescence
mg/kg = milligrams per kilogram
RSD = relative standard deviation
U.S. EPA = United States Environmental Protection Agency

Notes:

(a) Soil samples were analyzed for lead and arsenic using U.S. EPA Method 6020 by Eurofins Calscience, Inc., Garden Grove, CA.
(b) Concentrations of arsenic detected above the screening criterion are shown in **bold** in the table above.
(c) Concentrations of lead detected above the screening criterion are shown in **bold** in the table above.
(e) RSD was calculated for each set of eight FPXRF precision sample measurements.
(f) In 2008, the DTSC published *Determination of a Southern California Regional Background Arsenic Concentration in Soil* (DTSC, 2008), which analyzed data for shallow soil samples collected from 52 school sites distributed across Southern California. This included a total of 1,097 soil samples collected from 19 schools in Los Angeles County. DTSC calculated the upper bound of its data set as the 95% upper confidence limit of the 99th quantile of the arsenic data set excluding outliers. The DTSC also utilized a probability plot of arsenic concentrations to determine an upper bound of background concentrations. The DTSC Report concluded that 12 mg/kg is an appropriate upper bound concentration representative of background concentrations of arsenic for school sites in Southern California.
(g) The screening level criterion for lead is presented in *Human Health Risk Assessment Note 3 - DTSC-Modified Screening Levels (DTSC-SLs), June 2018 Updated* (DTSC, 2018).

References:

DTSC, 2008. *Determination of a Southern California Regional Background Arsenic Concentration in Soil*, California Department of Toxic Substances Control, 2008.
DTSC, 2018. *Human Health Risk Assessment Note 3 - DTSC-Modified Screening Levels (DTSC-SLs), June 2018 Updated,* California Department of Toxic Substances Control, June 2018.



Reference: The Thomas Guide Digital Edition, State of California, 2003/2004.

N

0 10,000 20,000

(Scale in Feet)

Note:

1. All locations are approximate.

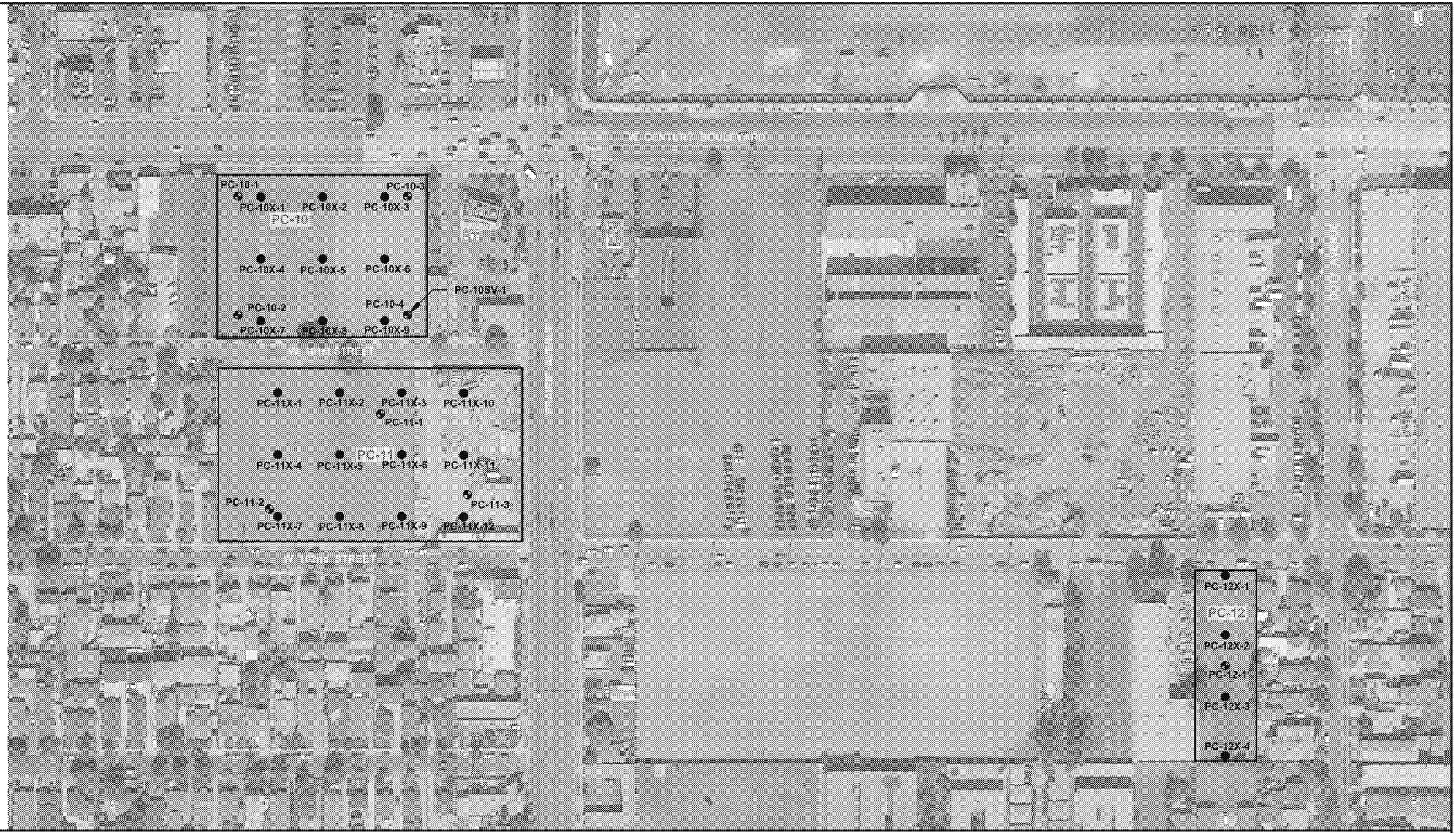
Subject Property Location Map

eki environment & water

Inglewood, CA
November 2017
EKI B71091.00

Figure 1

20180416.14571269 C:\Users\ricsanta\appdata\local\temp\AcPublish_31560\Figure 01.dwg Figure 01



Legend:

———	Subject Property Boundary
PC-1	Investigation Area Identifier
PC-10-1	Borehole and Soil Sample Location
PC-10SV-1	Soil Vapor Sample Location
PC-10X-1	Surface Soil XRF Sample Location

Notes:

1. All locations are approximate.
2. Basemap source: Google Earth Pro, date of imagery 18 October 2017.

N

0 150 300
(Scale in Feet)

Soil Sample Locations

Project Condor Property
Inglewood, CA
February 2019
EKI B71091.00
Figure 2

eki environment & water

20171101.0928577 C:\Users\rcasato\Documents\Drawing1.dwg Layout1