

Preliminary Air Monitoring Summary

Los Palos Warehouse Fire

Los Angeles, California

Prepared by: Onterris Response and Recovery, LLC

Air Monitoring Period: July 11, 2026

1.0 Introduction

Onterris Response and Recovery, LLC. (Onterris) personnel were contacted to provide air monitoring and environmental support regarding a cold-storage warehouse fire located at 1400 S. Los Palos Street in Los Angeles, California (herein referred to as the “Site”). Onterris personnel began real-time air monitoring on behalf of Lineage Logistics on June 23, 2026, at approximately 0006 Pacific Daylight Time (PDT). This report summarizes preliminary real-time air monitoring data collected by Onterris personnel from 0000 through 23:59 PDT on July 11, 2026. All data provided in this summary are considered preliminary; these data have not undergone full quality assurance and quality control (QA/QC) review and are subject to change.

2.0 Air Monitoring and Sampling Methods

Prior to Onterris arriving to Site, a Preliminary Air Sampling and Analysis Plan (SAP) was developed to document and quantify analytes of concern potentially associated with the Site. The SAP is provided in **Appendix A** and includes air monitoring plans for Community Monitoring and Site Assessment. This preliminary summary includes Community Monitoring data with all testing locations listed in **Appendix B**.

Onterris personnel conducted Community Monitoring at residential and commercial locations immediately surrounding the Site at a height consistent with the typical human breathing zone. The Community Monitoring plan incorporated two separate air monitoring strategies: 1) roaming real-time air monitoring using direct-reading instruments at locations throughout the community upwind, downwind, and crosswind from the Site, and 2) stationary air monitoring using a combination of real-time and analytical sampling methodologies at eight discrete locations throughout the community as listed in **Table 1**. Importantly, all analytes, air sampling methodologies, and locations for stationary monitoring were selected in coordination with the United States Environmental Protection Agency (US EPA) and South Coast Air Quality Management District (AQMD).

Table 1: Stationary Monitoring Locations

Location Code	Location Description
AS01	Humphreys Ave Elementary School
AS02	Ford Boulevard Elementary School
AS03	Maywood Elementary School
AS04	4355 Downey Road
AS05	Christopher Dena Elementary School
AS06	Lorena Street Elementary School
AS07	Eastman Elementary School
AS08	Stevenson Middle School

2.1 Real-Time Air Monitoring Methods

Real-time air monitoring was conducted by Onterris in the community surrounding the Site, in coordination with US EPA and South Coast AQMD. Two air monitoring strategies were utilized and are described below. All instrumentation was calibrated daily or in accordance with manufacturer's recommendations.

Roaming Community Air Monitoring

Between 0000 PDT June 23, 2026, and 0700 PDT June 26, 2026, Onterris personnel conducted roaming real-time air monitoring for carbon monoxide (CO), atmospheric flammability measured as a percentage of the lower explosive limit (%LEL), ammonia (NH₃), nitrogen dioxide (NO₂), atmospheric oxygen percentage (O₂), fine particulate matter measuring less than 2.5 micrometers (PM_{2.5}), coarse particulate matter measuring less than 10 micrometers (PM₁₀), sulfur dioxide (SO₂), and total volatile organic compounds (VOCs). Monitoring was conducted using Honeywell MultiRAE and AreaRAE chemical-specific sensors and photoionization detectors (PIDs), Gastec colorimetric piston pumps and colorimetric detector tubes, and TSI SidePak AM520 aerosol monitors. MultiRAE and AreaRAE PIDs were equipped with 10.6 electron volt (eV) lamps as a screening tool for VOCs. Roaming Community Air Monitoring was temporarily discontinued on June 26, 2026, at the request of US EPA and South Coast AQMD. All instrumentation was calibrated daily or in accordance with manufacturer's recommendations.

On June 26, 2026, the Los Angeles City Fire Department requested that Onterris conduct additional fenceline air monitoring at perimeter locations around the Site, as well as reinstate roaming air monitoring within the community. Due to extensive structural damage to the Site, food product spoilage has been noted, likely due to exposure to unrefrigerated, ambient conditions. Aerobic and anaerobic processes during organic matter degradation can off gas chemical constituents, including NH₃, VOCs, methane (%LEL), and hydrogen sulfide (H₂S). Chlorine (Cl₂) gas is also a potential air contaminant associated with use of cleaning products during indoor cleaning operations. As such, Onterris personnel updated the SAP (**Appendix A**) to incorporate these products, and at approximately 0730 PDT on June 27, 2026, Onterris field teams implemented the updated air monitoring strategy at the fenceline of the Site and within the broader community.

On July 5, 2026, mobile AreaRAE monitoring was employed to continuously assess air for VOCs, %LEL, NH₃, H₂S, and O₂ concentrations at proposed community monitoring locations adjacent to the Site. Onterris personnel conducted mobile monitoring using an AreaRAE equipped with sensors capable of measuring VOCs, %LEL, NH₃, H₂S, and O₂ concentrations in real-time at approximately 30-second intervals while recording GPS coordinates for each data point. VOC, %LEL, H₂S, and NH₃ detections at individual sensor limits of detection identified during mobile monitoring prompt field personnel to safely stop the vehicle and further assess conditions at the location.

Stationary Air Monitoring

At the request of US EPA and South Coast AQMD, stationary real-time particulate air monitoring for PM_{2.5} and PM₁₀ was conducted and collocated with sampling media at eight discrete locations (**Table**

1). For the beginning phase of the stationary particulate monitoring, AM520 aerosol monitors were utilized. At each monitoring location, PM_{2.5} and PM₁₀ data were collected over 24-hour periods, from 0:00 PDT to 23:59 PDT, with respective real-time readings at each location yielding a daily average.

2.2 Analytical Air Sampling Methods

To complement real-time air monitoring data collected at stationary air monitoring locations, analytical sampling for VOCs and metals were deployed over 24-hour and 12-hour periods, respectively, in the community (**Table 1**). In reference to the methodologies employed below, analytical air sampling refers to the collection of discrete quantities of air using containers or chemical-specific media that are sent to an off-site laboratory for chemical analysis under chain of custody. All laboratories used for analytical air sampling are accredited through the National Environmental Laboratory Accreditation Conference (NELAC), California Environmental Laboratory Accreditation Program (CA ELAP), and/or American Industrial Hygiene Association (AIHA). Condition of analytical sampling containers collected by Onterris field personnel may dictate if samples are suitable for accessioning and processing by respective laboratories. Because of this, deployed analytical samples that are tampered with by non-field personnel or stolen, will be unavailable for laboratory processing.

Volatile Organic Compounds

Beginning June 23, 2026, Onterris personnel initially deployed air samples in the community at AS01-AS08 (**Appendix C**). Analytical air sampling was conducted using 1.4-L evacuated canisters to enable off-site laboratory analysis of VOCs via US EPA Method TO-15 in accordance with the SAP (**Appendix A**). Analytical air samples were collected for a duration of approximately 24 hours and were deployed at a height representative of the human breathing zone. From June 23, 2026, analytical samples have been deployed daily for 24-hour periods at stationary air monitoring locations AS01-AS08.

Metal Particulate Sampling

Beginning June 23, 2026, Onterris personnel deployed air samples at one upwind (AS03) and two downwind locations (AS07 and AS08; **Appendix C**) to assess airborne metal particulates. Analytical air sampling for metals were collected using SKC sampling pumps calibrated to a flow rate of 3 liters per minute (L/min), and sampling pumps were set up to draw air through 0.8-µm mixed cellulose ester membrane filter cassettes. Samples were collected over 12- to 24-hour (approximately 720 to 1,440 minutes) periods at a height representative of the human breathing zone and sent to an off-site laboratory under chain of custody for analysis of target metals via NIOSH Method 7303. Sample volume recommendations by the laboratory were followed for achieving appropriate lower detection limits for respective metal analysis. From June 23, 2026, analytical samples have been deployed daily at stationary air monitoring locations AS03, AS07, and AS08.

3.0 Air Monitoring and Sampling Results

Results of real-time air monitoring are summarized in **Tables 2** through **5**, respectively. Maps of the incident site and real-time air monitoring locations are provided in **Appendix B**. VOC and metal particulate results are excluded from this summary as no new laboratory results were received since

the last preliminary summary was submitted. Laboratory results will be made available upon receipt. The map of analytical air sampling locations is provided in **Appendix C**. Meteorological data during this reporting period were acquired from the Santa Monica Airport and are provided in **Appendix D**.

Table 2: Community Handheld Air Monitoring Results
Collected July 11, 2026

Location Category	Analyte	Instrument	Number of Readings	Number of Detections	Concentration Range*
Community Monitoring	Chlorine	Gastec #8La	49	0	< 0.1 ppm
	CO	MultiRAE	63	0	< 1 ppm
	H ₂ S	MultiRAE	63	0	< 0.1 ppm
	% LEL	MultiRAE	63	0	< 1 %
	NH ₃	MultiRAE	62	0	< 1 ppm
	NO ₂	Gastec #9L	44	0	< 0.1 ppm
		MultiRAE	6	0	< 0.1 ppm
	O ₂	MultiRAE	56	56	20.9 – 21.4 %
	PM _{2.5}	AM520	62	62	0.004 - 0.041 mg/m ³
	PM ₁₀	AM520	61	61	0.005 - 0.040 mg/m ³
	SO ₂	MultiRAE	62	0	< 0.1 ppm
	VOCs	MultiRAE	62	0	< 0.1 ppm

Abbreviations: ppm = parts per million; mg/m³ = milligrams per cubic meter

Note: This is a preliminary data summary, indicating that the data provided have not undergone the full quality assurance and quality control (QA/QC) process and should be considered preliminary at this time.

*Analytes with no detections are reported as less than (“<”) the instrument’s Limit of Detection (LOD)

Table 3: Mobile AreaRAE Air Monitoring Results
Collected July 11, 2026

Date	Analyte	Number of Readings	Number of Detections	Concentration Range*
July 11, 2026	% LEL	5,510	0	< 1
	H ₂ S	5,510	0	< 0.1 ppm
	NH ₃	5,510	0	< 1.0 ppm
	O ₂	5,510	5,510	20.5 - 21.3 %
	VOCs	5,510	1	0.3 ppm

Abbreviations: ppm = parts per million

Note: This is a preliminary data summary, indicating that the data provided have not undergone the full quality assurance and quality control (QA/QC) process and should be considered preliminary at this time.

*Analytes with no detections are reported as less than (“<”) the instrument’s Limit of Detection (LOD)

Table 4: Fenceline Handheld Air Monitoring Results
Collected July 11, 2026

Location Category	Analyte	Instrument	Number of Readings	Number of Detections	Concentration Range*
Fenceline Monitoring	Chlorine	Gastec #8La	83	0	< 0.1 ppm
	CO	MultiRAE	85	0	< 1 ppm
	H ₂ S	MultiRAE	26	0	< 0.1 ppm
	% LEL	MultiRAE	86	0	< 1 %
	NH ₃	MultiRAE	85	0	< 1 ppm
	NO ₂	MultiRAE	28	0	< 0.1 ppm
	O ₂	MultiRAE	88	88	20.9 %
	PM _{2.5}	AM520	86	86	0.007 - 0.077 mg/m ³
	PM ₁₀	AM520	26	26	0.008 - 0.071 mg/m ³
	SO ₂	MultiRAE	28	0	< 0.1 ppm
	VOCs	MultiRAE	86	0	< 0.1 ppm

Abbreviations: ppm = parts per million; mg/m³ = milligrams per cubic meter

Note: This is a preliminary data summary, indicating that the data provided have not undergone the full quality assurance and quality control (QA/QC) process and should be considered preliminary at this time.

*Analytes with no detections are reported as less than (“<”) the instrument’s Limit of Detection (LOD)

Table 5: Stationary Particulate Monitoring Results
Collected July 11, 2026

Date	Location Code	Analyte	Number of Readings	Minimum Concentration (mg/m ³)	Maximum Concentration (mg/m ³)	Average Concentration (mg/m ³)
July 11, 2026	AS01	PM _{2.5}	7	0.006	0.018	0.011
		PM ₁₀	7	0.006	0.021	0.010
	AS02	PM _{2.5}	6	0.014	0.041	0.023
		PM ₁₀	6	0.012	0.040	0.022
	AS03	PM _{2.5}	6	0.015	0.024	0.018
		PM ₁₀	6	0.011	0.030	0.020
	AS04	PM _{2.5}	6	0.004	0.014	0.007
		PM ₁₀	6	0.006	0.015	0.009
	AS05	PM _{2.5}	6	0.004	0.014	0.010
		PM ₁₀	6	0.005	0.015	0.011
	AS06	PM _{2.5}	7	0.008	0.020	0.011
		PM ₁₀	7	0.005	0.023	0.011
	AS07	PM _{2.5}	6	0.013	0.025	0.019
		PM ₁₀	6	0.017	0.032	0.026
	AS08	PM _{2.5}	6	0.018	0.026	0.023
		PM ₁₀	6	0.023	0.033	0.027

Abbreviations: mg/m³ = milligrams per cubic meter

† Note: This is a preliminary data summary, indicating that the data provided have not undergone the full quality assurance and quality control (QA/QC) process and should be considered preliminary at this time.

Appendix A Sampling and Analysis Plan

Air Sampling and Analysis Plan

Boyle Heights Warehouse Fire
Los Angeles, California

Prepared by: Onterris Response and Recovery, LLC

June 27, 2026

Version 1.2

	Name/Organization	Signature	Date Signed
Prepared by:	Max Ford, PhD / Onterris	<i>Max Ford</i>	6/23/2026
Reviewed by:			
Reviewed by:			

Air Monitoring and Sampling Strategy

Onterris is focusing on the mixtures, chemicals, and indicators of flammability chosen below because they are among the most important and readily monitored airborne hazards during a cold storage facility fire. The possible hazards may vary by the source and type of refrigerant used within the facility as well as with the combustion and environmental conditions associated with the incident. Monitoring and/or sampling for some chemicals associated with the event may be added, conducted less frequently, or discontinued as site-specific information becomes available or as monitoring and/or sampling results indicate that these chemicals and indicators do not pose a health concern.

The strategy is to utilize three broadly defined monitoring plans, namely **1) Community Monitoring**, **2) and 3) Site Assessment**. While some of these plans may not be implemented immediately, this document delineates variations in these monitoring plans, should they be implemented. Community Monitoring will occur in publicly accessible community areas, including residential and/or commercial locations surrounding the incident site, at a height representative of the human breathing zone. Community Monitoring may also include Fenceline Monitoring, which may occur at the perimeter or outer fenceline of the incident site or work area, at a height representative of the human breathing zone. If conducted, detections observed during Fenceline Monitoring are intended to be a first-line indicator of potential issues at the site and are not necessarily indicative of exposure to downwind receptors. Unlike Community Monitoring, Site Assessment may involve a variety of different monitoring tasks intended to provide information that may help to delineate the nature and extent of the release (e.g., worst case determination, container headspace, ground level) and is not necessarily representative of ambient air monitoring near breathing zone level.

Free-roaming handheld real-time air monitoring may be conducted in a variety of areas based on levels of activity, proximity to the release, and site conditions. The presence or absence of odors, including odor characteristics and description if an odor is detected, will be documented with every handheld real-time air monitoring reading.

Radio-telemetry real-time air monitoring units may be deployed at discrete (stationary) locations to allow for continuous air monitoring in multiple areas. Readings collected using stationary real-time air monitoring instruments will be received and monitored in a centralized location by field personnel to allow for recognition, communication, and rapid response to changing conditions.

Air samples may be collected and sent to an off-site laboratory for chemical analysis. These analytical air sampling techniques may be used to provide air quality data beyond the scope of real-time instruments. When necessary, air samples may be collected on individual workers (personal sampling) to provide exposure data over the course of a work shift for more direct comparison to occupational exposure values.

Site-Specific Action Levels

Onterris site-specific action levels are employed to provide information for corrective action to limit potential exposures. These values do not replace occupational or community exposure standards or guidelines but, rather, are intended to represent a concentration limit that triggers a course of action to better address worker and public safety. Action level exceedances will be communicated to Site Management and the Onterris Project Manager (PM) and/or Project Technical Director (PTD). Work practices will be assessed and adjusted as necessary. Site-specific action levels are not utilized for Site Assessment monitoring.

Plan 1: Community/Fenceline Monitoring

Objective: Report air levels before they reach those causing nuisance or health issues

Analyte	Action Level ¹	Action to be Taken	Basis ¹	Instrument	Detection Limit	Notes	Correction Factor
Total volatile organic compounds (VOCs) ²	0.5 ppm 15 min	Assess for ammonia vapor with secondary instrument; note odors for all detections; report ammonia detections to PM/PTD	1/6 of AEGL-1 for ammonia	MultiRAE PID (10.6 eV lamp)	0.1 ppm	Range: 0.1 – 5,000 ppm	Variable ⁴
Ammonia	Detection	Confirm with secondary instrument; note odors for all detections; report reading to PM/PTD.	Inform PM/PTD of potential off-site impact	MultiRAE Sensor AreaRAE Sensor	1.0 ppm	Range: 1 – 100 ppm	N/A
				Gastec #3L	0.2 ppm	Range: 1 – 30 ppm Volume: 100 mL Pull one 100-mL pump stroke	Variable ⁴
Hydrogen Sulfide	Detection	Assess for hydrogen sulfide with secondary instrument; note odors for all detections; report hydrogen sulfide detections to PM/PTD	Inform PM/PTD of potential off-site impact	MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0 – 100 ppm	NA
				Gastec tube #4LL	0.1 ppm	Range: 0.25 – 120 ppm Volume: 1,000 mL (10 x 100 mL pump strokes)	Var.
Chlorine	Detection	Assess for chlorine with secondary instrument; note odors for all detections; report hydrogen sulfide detections to PM/PTD	Indicator of potential off-site impacts	Gastec tube #8La	0.05 ppm	Range: 0.1 – 16 ppm Volume: 500 mL (5 x 100-mL pump strokes)	Variable ⁴
Mercaptans	Detection	Assess for mercaptans with secondary instrument; note odors for all detections; report hydrogen sulfide detections to PM/PTD	Indicator of potential off-site impacts	Gastec tube #70L	0.1 ppm	Range: 0.1 – 8 ppm Volume: 400 mL (4 x 100-mL pump strokes)	Variable ⁴
Oxygen (O ₂)	< 19.5 % Immediate	Exit area; Report reading to PM/PTD	O ₂ -deficient atmosphere, as defined by 29 CFR 1910.134	MultiRAE Sensor	0.1 %	Range: 0 – 30 %	N/A
				AreaRAE Sensor	0.1 %	Range: 0 – 30 %	N/A

¹ Community action levels are generally set as “detection” to inform the PM/PTD of any potential off-site impact. Protective Action Criteria (PAC-1) established by the United States Department of Energy (US DOE) for the chemical analytes listed above are provided in Table 1. A PAC-1 is the airborne concentration (expressed as ppm [parts per million] or mg/m³ [milligrams per cubic meter]) of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience notable discomfort, irritation, certain asymptomatic, or nonsensory effects, or may perceive a clearly defined objectionable odor. However, these effects are not disabling and are transient and reversible upon cessation of exposure.

² 10.6 eV PID must be used for ammonia concentrations over 50 ppm to avoid ammonia sensor exhaustion/damage.

³ Readings collected using the MultiRAE PID and AreaRAE PID are recorded as uncorrected (raw) concentrations. Correction factors for various compounds are listed in Honeywell Technical Notes TN-106B (MultiRAE) and TN-106A (AreaRAE).

⁴ Readings collected using Gastec tubes are recorded as uncorrected (raw) concentrations. The correction factors for Gastec tubes are dependent on volume of air used (i.e., number of pump strokes).

Abbreviations: VOCs = volatile organic compounds; ppm = parts per million; PM = Onterris Project Manager; PTD = Onterris Project Technical Director; PID = photoionization detector; eV = electron volt; N/A = not applicable; CFR = Code of Federal Regulations

Plan 1: Community/Fenceline Monitoring – Combustion Products¹

Analyte	Action Level	Action to be Taken	Basis ²	Instrument	Detection Limit	Notes	Correction Factor
Particulate matter with a diameter of 2.5 microns or less (PM _{2.5})	0.035 mg/m ³ 1 hour	Report reading to PM/PTD	Upper-bound breakpoint for AQI category considered Moderate	TSI SidePak AM510/AM520 TSI DuskTrak	0.001 mg/m ³	Range: 0.001 – 100 mg/m ³ PM _{2.5} impactor: 50% cut-off at 2.5 microns	0.38 ³
Particulate matter with a diameter of 10 microns or less (PM ₁₀)	0.15 mg/m ³ 1 hour	Report reading to PM/PTD	Upper-bound breakpoint for AQI category considered Moderate	TSI SidePak AM510/AM520 TSI DuskTrak	0.001 mg/m ³	Range: 0.001 – 100 mg/m ³ PM ₁₀ impactor: 50% cut-off at 10 microns	0.38 ³
Carbon monoxide (CO)	Detection	Report reading to PM/PTD	Inform PM/PTD of potential off-site impact	MultiRAE Sensor AreaRAE Sensor	1 ppm	Range: 1 – 500 ppm	NA
				Gastec tube #1LC	0.5 ppm	Range: 1 – 30 ppm Volume: Pull 1 100-mL pump strokes	Variable ⁴
Sulfur dioxide (SO ₂)	Detection	Report reading to PM/PTD	Inform PM/PTD of potential off-site impact	Gastec tube #5Lb	0.01 ppm	Range: 0.05 – 10 ppm Volume: Pull 8 100-mL pump strokes	Variable ⁴
				MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0.1 – 20 ppm	N/A
Nitrogen dioxide (NO ₂)	Detection	Report reading to PM/PTD	Inform PM/PTD of potential off-site impact	MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0.1 – 20 ppm	N/A
				Gastec tube #9L	0.1 ppm	Range: 0.5 – 125 ppm Volume: Pull 2 100-mL pump strokes	Variable ⁴

¹ Monitoring for combustion products may be discontinued when the fire is extinguished.

² Community action levels are generally set as “detection” to inform the PM/PTD of any potential off-site impact. Protective Action Criteria (PAC-1) established by the United States Department of Energy (US DOE) for the chemical analytes listed above are provided in Table 1. A PAC-1 is the airborne concentration (expressed as ppm [parts per million] or mg/m³ [milligrams per cubic meter]) of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience notable discomfort, irritation, certain asymptomatic, or nonsensory effects, or may perceive a clearly defined objectionable odor. However, these effects are not disabling and are transient and reversible upon cessation of exposure.

³ Readings collected using the SidePak AM510/AM520 or DustTrak are recorded as uncorrected (raw) concentrations. A Photometric Calibration Factor (PCF) of 0.38 is used, which TSI indicates is appropriate for ambient/fugitive emissions monitoring applications. Photometric instruments (e.g., SidePak AM520) will overstate the mass of an aerosol compared to its gravimetric weight due to humid conditions; PM_{2.5} is especially prone to interference from high humidity. In cases of high humidity, PM₁₀ impactors may be used, which are not as sensitive to humidity.

⁴ Readings collected using Gastec tubes are recorded as uncorrected (raw) concentrations. The correction factors for Gastec tubes are dependent on volume of air used (i.e., number of pump strokes).

Abbreviations: mg/m³ = milligrams per cubic meter; PM = Onterris Project Manager; PTD = Onterris Project Technical Director; CO = carbon monoxide; ppm = parts per million; N/A = not applicable;

Plan 1: Community/Fenceline Monitoring – Flammability

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
% LEL	1 % Instant	Report reading to PM/PTD	Detection of % LEL	MultiRAE Sensor AreaRAE Sensor	1 %	Range: 0 – 100 %	Variable ¹

¹ Readings collected using the % LEL sensor are recorded as uncorrected (raw) concentrations. Correction factors for various compounds are listed in Honeywell Technical Note TN-156.

Abbreviations: % LEL = atmospheric flammability measured as a percentage of the lower explosive limit; PM = Onterris Project Manager; PTD = Onterris Project Technical Director

TABLE 1: Community Health-Based Screening Values for Analytes (Air Monitoring)

Analyte	CAS RN	Protective Action Criteria 1 (PAC-1) ¹	OEHHA Acute Reference Exposure Level (REL) ²
Total volatile organic compounds (VOCs)	N/A	N/A	N/A
Ammonia	7664-41-7	30 ppm	3,200 µg/m ³ (4.59 ppm)
Carbon monoxide (CO)	630-08-0	75 ppm	23,000 µg/m ³ (20.08 ppm)
Sulfur dioxide (SO ₂)	7446-09-5	0.2 ppm	660 µg/m ³ (0.25 ppm)
Nitrogen dioxide (NO ₂)	10102-44-0	0.5 ppm	470 µg/m ³ (0.25 ppm)

¹ United States Department of Energy (US DOE): <https://www.energy.gov/ehss/protective-action-criteria-pac-aegls-erpgs-teels>. A Protective Action Criteria 1 (PAC-1) is the airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience notable discomfort, irritation, or certain asymptomatic, nonsensory effects, or may perceive a clearly defined objectionable odor. However, these effects are not disabling and are transient and reversible upon cessation of exposure.

² Office of Environmental Health Hazard Assessment (OEHHA) of the California Environmental Protection Agency (CalEPA): <https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary>. An Acute Reference Exposure Level (REL) is the airborne concentration of a substance below which is not expected to cause non-cancer health effects for an exposure of one hour or less.

Abbreviations: CAS RN = Chemical Abstracts Service Registry Number; PAC-1 = Protective Action Criteria 1; OEHHA = Office of Environmental Health Hazard Assessment; REL = Reference Exposure Level; VOCs = volatile organic compounds; CO = carbon monoxide; ppm = parts per million; µg/m³ = micrograms per cubic meter; HCl = hydrogen chloride; HCN = hydrogen cyanide; HF = hydrogen fluoride; SO₂ = sulfur dioxide; NO₂ = nitrogen dioxide

TABLE 2: US EPA AQI Categories Associated with Airborne PM_{2.5} and PM₁₀ Levels

US EPA AQI Category	24-Hour Average PM _{2.5} Concentration (µg/m ³)	24-Hour Average PM ₁₀ Concentration (µg/m ³)
Good (0 – 50)	0.0 – 9.0	0 – 54
Moderate (51 – 100)	9.1 – 35.4	55 – 154
Unhealthy for Sensitive Groups (101-150)	35.5 – 55.4	155 – 254
Unhealthy (151 – 200)	55.5 – 125.4	255 – 354
Very Unhealthy (201-300)	125.5 – 225.4	355 – 424
Hazardous (301+)	225.5+	425+

Abbreviations: US EPA = United States Environmental Protection Agency; AQI = Air Quality Index; PM_{2.5} = particulate matter with a diameter of 2.5 microns or less; PM₁₀ = particulate matter with a diameter of 10 microns or less; µg/m³ = micrograms per cubic meter

Plan 2: Site Assessment

Objective: Characterize nature and extent of potential release

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
Total volatile organic compounds (VOCs)	N/A	Report reading to PM/PTD	N/A	MultiRAE PID (10.6 eV lamp)	0.1 ppm	Range: 0.1 – 5,000 ppm	Variable ¹
				AreaRAE PID (10.6 eV lamp)	0.1 ppm	Range: 0.1 – 5,000 ppm	Variable ¹
				MultiRAE Sensor AreaRAE Sensor	1.0 ppm	Range: 1 – 100 ppm	N/A
Ammonia	N/A	Report reading to PM/PTD	N/A	Gastec #3L	0.2 ppm	Range: 1 – 30 ppm Volume: 100 mL (1 x 100 mL pump strokes)	Variable ³
				Gastec #3M	2 ppm	Range: 10 – 500 ppm Volume: 500 mL (5 x 100-mL pump strokes)	Variable ³
Hydrogen Sulfide	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0 – 100 ppm	NA
				Gastec tube #4LL	0.1 ppm	Range: 0.25 – 120 ppm Volume: 1,000 mL (10 x 100 mL pump strokes)	Var.
Chlorine	N/A	Report reading to PM/PTD	N/A	Gastec tube #8La	0.05 ppm	Range: 0.1 – 16 ppm Volume: 500 mL (5 x 100-mL pump strokes)	Variable ⁴
Mercaptans	N/A	Report reading to PM/PTD	N/A	Gastec tube #70L	0.1 ppm	Range: 0.1 – 8 ppm Volume: 400 mL (4 x 100-mL pump strokes)	Variable ⁴
Oxygen (O ₂)	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor	0.1 %	Range: 0 – 30 %	N/A
				AreaRAE Sensor	0.1 %	Range: 0 – 30 %	N/A

¹ Readings collected using the MultiRAE PID and AreaRAE PID are recorded as uncorrected (raw) concentrations. Correction factors for various compounds are listed in Honeywell Technical Notes TN-106B (MultiRAE) and TN-106A (AreaRAE).

² Readings collected using Gastec tubes are recorded as corrected concentrations. The correction factors for Gastec tubes are dependent on volume of air used (i.e., number of pump strokes).

³ 10.6 eV PID must be used for ammonia concentrations over 50 ppm to avoid ammonia sensor exhaustion/damage.

Abbreviations: VOCs = volatile organic compounds; NA = not applicable; PM = Onterris Project Manager; PTD = Onterris Project Technical Director; PID = photoionization detector; eV = electron volt; ppm = parts per million; O₂ = oxygen

Plan 2: Site Assessment – Combustion Products

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
Particulate matter with a diameter of 2.5 or less (PM _{2.5}) or 10 microns or less (PM ₁₀)	N/A	Report reading to PM/PTD	N/A	TSI SidePak AM510/AM520	0.001 mg/m ³	Range: 0.001 – 100 mg/m ³ PM _{2.5} impactor: 50% cut-off at 2.5 microns; PM ₁₀ impactor: 50% cut-off at 10 microns	0.38 ¹
				DustTrak	0.001 mg/m ³	Range: 0.001 – 100 mg/m ³ PM _{2.5} impactor: 50% cut-off at 2.5 microns; PM ₁₀ impactor: 50% cut-off at 10 microns	0.38 ¹
Carbon monoxide (CO)	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor AreaRAE Sensor	1 ppm	Range: 1 – 500 ppm	N/A
				Gastec tube #1LC	0.5 ppm	Range: 1 – 30 ppm Volume: Pull 1 100-mL pump strokes	Variable ²
Sulfur dioxide (SO ₂)	N/A	Report reading to PM/PTD	N/A	Gastec tube #5Lb	0.01 ppm	Range: 0.05 – 10 ppm Volume: Pull 8 100-mL pump strokes	Variable ²
				MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0.1 – 20 ppm	N/A
Nitrogen dioxide (NO ₂)	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0.1 – 20 ppm	N/A
				Gastec tube #9L	0.1 ppm	Range: 0.5 – 125 ppm Volume: Pull 2 100-mL pump strokes	Variable ²

¹ Readings collected using the SidePak AM510/AM520 or DustTrak are recorded as corrected concentrations. A Photometric Calibration Factor (PCF) of 0.38 is used, which TSI indicates is appropriate for ambient/fugitive emissions monitoring applications. Photometric instruments (e.g., SidePak AM520) will overstate the mass of an aerosol compared to its gravimetric weight due to humid conditions; PM_{2.5} is especially prone to interference from high humidity. In cases of high humidity, PM₁₀ impactors may be used, which are not as sensitive to humidity.

² Readings collected using Gastec tubes are recorded as uncorrected (raw) concentrations. The correction factors for Gastec tubes are dependent on volume of air used (i.e., number of pump strokes).

Abbreviations: PM_{2.5} = particulate matter with a diameter of 2.5 microns or less; PM₁₀ = particulate matter with a diameter of 10 microns or less; NA = not applicable; PM = Onterris Project Manager; PTD = Onterris Project Technical Director; mg/m³ = milligrams per cubic meter

Plan 3: Site Assessment – Flammability

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
% LEL	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor	1 %	Range: 0 – 100 %	Variable ¹
				AreaRAE Sensor	1 %	Range: 0 – 100 %	Variable ¹

¹ Readings collected using the % LEL sensor are recorded as uncorrected (raw) concentrations. Correction factors for various compounds are listed in Honeywell Technical Note TN-156.

Abbreviations: % LEL = atmospheric flammability measured as a percentage of the lower explosive limit; PM = Onterris Project Manager; PTD = Onterris Project Technical Director

Air Sampling Methods - Community Monitoring

Analyte	Media/Can	Method	Notes
VOCs	1.4 L Evacuated Cannisters	USEPA TO-15	
Ammonia	Anasorb 747 (226-29)	Method 6015	LOD: ~ 0.5 µg
Metals	Mixed cellulose ester (MCE) filter (35-5,000 L; 1-4 LPM)	Mod. NIOSH 7303 (ICP/MS)	

Abbreviations: L = liters; USEPA = United States Environmental Protection Agency

Preliminary SF

General Information on Procedures (Assessment Techniques) Used

Procedure	Description
Handheld Real-Time Air Monitoring	Onterris personnel may utilize handheld real-time air monitoring instruments (e.g., MultiRAE, ChemLogic CLPx, Gastec colorimetric detector tubes) to measure airborne chemical concentrations in real time. Onterris personnel will use these handheld instruments primarily to monitor the ambient air quality at breathing zone level. Additionally, measurements may be made at grade level, as well as in elevated workspaces, as indicated by chemical properties or site conditions. Onterris personnel may also use these techniques to verify detections observed by the AreaRAE network.
Fixed Real-Time Air Monitoring Locations	Multiple locations may be identified and monitored at the same location approximately once per hour using handheld real-time air monitoring instruments. This allows the use of statistical analysis more effectively than with a random approach.
Analytical Air Sampling	Analytical air sampling may be used to validate the fixed and handheld real-time air monitoring data, or to provide data beyond the scope of real-time instruments. Analytical air samples may be collected as whole air samples in evacuated canisters or on specific collection media and sent to an off-site laboratory for further chemical analysis.
Particulate Monitoring Network	A network of data-logging particulate monitors may be set up and positioned in various locations.

Not all procedures listed in this table may be utilized.

Quality Assurance/Quality Control (QA/QC) Procedures

Method	Procedure
Real-Time Air Monitoring	All real-time air monitoring instruments will be calibrated per the manufacturer's recommendations, whenever indicated by site conditions or instrument readings, and/or at the start of every 12-hour shift. Serial numbers for all equipment used will be recorded. If Gastec tubes are used, the tube expiration date, lot number, and air volume (number of pump strokes) will be recorded.
Analytical Air Sampling	Chain-of-custody documentation will be completed for each air sample. Serial numbers for all analytical equipment used will be recorded. Co-located air samples may be conducted to assess field accuracy and precision (at least one co-located air sample per day or per 10 air samples). Level II data validation may be performed on all air samples. Level IV data validation may be performed on the first and last sample delivery groups (SDGs) and on at least 10% of all air samples. Level IV data validation may be performed on 10% of all samples.
Reporting	Daily data summaries may be provided for informational purposes using data that have not undergone complete QA/QC procedures. Comprehensive reports of real-time and/or analytical data may be generated following QA/QC and may be delivered 60 days following receipt of validated results, if applicable.

Glossary

Term	Definition
Sustained	Instrument reading above the action level continuously for the listed time period
Breathing Zone	The area within an approximate 10-inch radius of an individual's nose and mouth
Ambient Air	The portion of the atmosphere (indoor or outdoor) to which workers and the general public have access

Version Control

Version	Date	Author	Reviewer	Summary of Changes
1.0	6/21/26	Elysia Masters, PhD	Joseph Lucas, PhD	Initial Version
1.1	6/27/26	Max Ford, PhD		Added hydrogen sulfide to monitoring plan
1.2	7/6/26	Max Ford, PhD		Add mercaptan and chlorine monitoring to plan

Air Monitoring and Sampling Strategy

Onterris is focusing on the mixtures, chemicals, and indicators of flammability chosen below because they are among the most important and readily monitored airborne hazards during a cold storage facility fire. The possible hazards may vary by the source and type of refrigerant used within the facility as well as with the combustion and environmental conditions associated with the incident. Monitoring and/or sampling for some chemicals associated with the event may be added, conducted less frequently, or discontinued as site-specific information becomes available or as monitoring and/or sampling results indicate that these chemicals and indicators do not pose a health concern.

The strategy is to utilize three broadly defined monitoring plans, namely **1) Community Monitoring**, **2) and 3) Site Assessment**. While some of these plans may not be implemented immediately, this document delineates variations in these monitoring plans, should they be implemented. Community Monitoring will occur in publicly accessible community areas, including residential and/or commercial locations surrounding the incident site, at a height representative of the human breathing zone. Community Monitoring may also include Fenceline Monitoring, which may occur at the perimeter or outer fenceline of the incident site or work area, at a height representative of the human breathing zone. If conducted, detections observed during Fenceline Monitoring are intended to be a first-line indicator of potential issues at the site and are not necessarily indicative of exposure to downwind receptors. Unlike Community Monitoring, Site Assessment may involve a variety of different monitoring tasks intended to provide information that may help to delineate the nature and extent of the release (e.g., worst case determination, container headspace, ground level) and is not necessarily representative of ambient air monitoring near breathing zone level.

Free-roaming handheld real-time air monitoring may be conducted in a variety of areas based on levels of activity, proximity to the release, and site conditions. The presence or absence of odors, including odor characteristics and description if an odor is detected, will be documented with every handheld real-time air monitoring reading.

Radio-telemetry real-time air monitoring units may be deployed at discrete (stationary) locations to allow for continuous air monitoring in multiple areas. Readings collected using stationary real-time air monitoring instruments will be received and monitored in a centralized location by field personnel to allow for recognition, communication, and rapid response to changing conditions.

Air samples may be collected and sent to an off-site laboratory for chemical analysis. These analytical air sampling techniques may be used to provide air quality data beyond the scope of real-time instruments. When necessary, air samples may be collected on individual workers (personal sampling) to provide exposure data over the course of a work shift for more direct comparison to occupational exposure values.

Site-Specific Action Levels

Onterris site-specific action levels are employed to provide information for corrective action to limit potential exposures. These values do not replace occupational or community exposure standards or guidelines but, rather, are intended to represent a concentration limit that triggers a course of action to better address worker and public safety. Action level exceedances will be communicated to Site Management and the Onterris Project Manager (PM) and/or Project Technical Director (PTD). Work practices will be assessed and adjusted as necessary. Site-specific action levels are not utilized for Site Assessment monitoring.

Plan 1: Community/Fenceline Monitoring

Objective: Report air levels before they reach those causing nuisance or health issues

Analyte	Action Level ¹	Action to be Taken	Basis ¹	Instrument	Detection Limit	Notes	Correction Factor
Total volatile organic compounds (VOCs) ²	0.5 ppm 15 min	Assess for ammonia vapor with secondary instrument; note odors for all detections; report ammonia detections to PM/PTD	1/6 of AEGL-1 for ammonia	MultiRAE PID (10.6 eV lamp)	0.1 ppm	Range: 0.1 – 5,000 ppm	Variable ⁴
Ammonia	Detection	Confirm with secondary instrument; note odors for all detections; report reading to PM/PTD.	Inform PM/PTD of potential off-site impact	MultiRAE Sensor AreaRAE Sensor	1.0 ppm	Range: 1 – 100 ppm	N/A
				Gastec #3L	0.2 ppm	Range: 1 – 30 ppm Volume: 100 mL Pull one 100-mL pump stroke	Variable ⁴
Hydrogen Sulfide	Detection	Assess for hydrogen sulfide with secondary instrument; note odors for all detections; report hydrogen sulfide detections to PM/PTD	Inform PM/PTD of potential off-site impact	MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0 – 100 ppm	NA
				Gastec tube #4LL	0.1 ppm	Range: 0.25 – 120 ppm Volume: 1,000 mL (10 x 100 mL pump strokes)	Var.
Chlorine	Detection	Assess for chlorine with secondary instrument; note odors for all detections; report hydrogen sulfide detections to PM/PTD	Indicator of potential off-site impacts	Gastec tube #8La	0.05 ppm	Range: 0.1 – 16 ppm Volume: 500 mL (5 x 100-mL pump strokes)	Variable ⁴
Mercaptans	Detection	Assess for mercaptans with secondary instrument; note odors for all detections; report hydrogen sulfide detections to PM/PTD	Indicator of potential off-site impacts	Gastec tube #70L	0.1 ppm	Range: 0.1 – 8 ppm Volume: 400 mL (4 x 100-mL pump strokes)	Variable ⁴
Oxygen (O ₂)	< 19.5 % Immediate	Exit area; Report reading to PM/PTD	O ₂ -deficient atmosphere, as defined by 29 CFR 1910.134	MultiRAE Sensor	0.1 %	Range: 0 – 30 %	N/A
				AreaRAE Sensor	0.1 %	Range: 0 – 30 %	N/A

¹ Community action levels are generally set as “detection” to inform the PM/PTD of any potential off-site impact. Protective Action Criteria (PAC-1) established by the United States Department of Energy (US DOE) for the chemical analytes listed above are provided in Table 1. A PAC-1 is the airborne concentration (expressed as ppm [parts per million] or mg/m³ [milligrams per cubic meter]) of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience notable discomfort, irritation, certain asymptomatic, or nonsensory effects, or may perceive a clearly defined objectionable odor. However, these effects are not disabling and are transient and reversible upon cessation of exposure.

² 10.6 eV PID must be used for ammonia concentrations over 50 ppm to avoid ammonia sensor exhaustion/damage.

³ Readings collected using the MultiRAE PID and AreaRAE PID are recorded as uncorrected (raw) concentrations. Correction factors for various compounds are listed in Honeywell Technical Notes TN-106B (MultiRAE) and TN-106A (AreaRAE).

⁴ Readings collected using Gastec tubes are recorded as uncorrected (raw) concentrations. The correction factors for Gastec tubes are dependent on volume of air used (i.e., number of pump strokes).

Abbreviations: VOCs = volatile organic compounds; ppm = parts per million; PM = Onterris Project Manager; PTD = Onterris Project Technical Director; PID = photoionization detector; eV = electron volt; N/A = not applicable; CFR = Code of Federal Regulations

Plan 1: Community/Fenceline Monitoring – Combustion Products¹

Analyte	Action Level	Action to be Taken	Basis ²	Instrument	Detection Limit	Notes	Correction Factor
Particulate matter with a diameter of 2.5 microns or less (PM _{2.5})	0.035 mg/m ³ 1 hour	Report reading to PM/PTD	Upper-bound breakpoint for AQI category considered Moderate	TSI SidePak AM510/AM520 TSI DuskTrak	0.001 mg/m ³	Range: 0.001 – 100 mg/m ³ PM _{2.5} impactor: 50% cut-off at 2.5 microns	0.38 ³
Particulate matter with a diameter of 10 microns or less (PM ₁₀)	0.15 mg/m ³ 1 hour	Report reading to PM/PTD	Upper-bound breakpoint for AQI category considered Moderate	TSI SidePak AM510/AM520 TSI DuskTrak	0.001 mg/m ³	Range: 0.001 – 100 mg/m ³ PM ₁₀ impactor: 50% cut-off at 10 microns	0.38 ³
Carbon monoxide (CO)	Detection	Report reading to PM/PTD	Inform PM/PTD of potential off-site impact	MultiRAE Sensor AreaRAE Sensor	1 ppm	Range: 1 – 500 ppm	NA
				Gastec tube #1LC	0.5 ppm	Range: 1 – 30 ppm Volume: Pull 1 100-mL pump strokes	Variable ⁴
Sulfur dioxide (SO ₂)	Detection	Report reading to PM/PTD	Inform PM/PTD of potential off-site impact	Gastec tube #5Lb	0.01 ppm	Range: 0.05 – 10 ppm Volume: Pull 8 100-mL pump strokes	Variable ⁴
				MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0.1 – 20 ppm	N/A
Nitrogen dioxide (NO ₂)	Detection	Report reading to PM/PTD	Inform PM/PTD of potential off-site impact	MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0.1 – 20 ppm	N/A
				Gastec tube #9L	0.1 ppm	Range: 0.5 – 125 ppm Volume: Pull 2 100-mL pump strokes	Variable ⁴

¹ Monitoring for combustion products may be discontinued when the fire is extinguished.

² Community action levels are generally set as “detection” to inform the PM/PTD of any potential off-site impact. Protective Action Criteria (PAC-1) established by the United States Department of Energy (US DOE) for the chemical analytes listed above are provided in Table 1. A PAC-1 is the airborne concentration (expressed as ppm [parts per million] or mg/m³ [milligrams per cubic meter]) of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience notable discomfort, irritation, certain asymptomatic, or nonsensory effects, or may perceive a clearly defined objectionable odor. However, these effects are not disabling and are transient and reversible upon cessation of exposure.

³ Readings collected using the SidePak AM510/AM520 or DustTrak are recorded as uncorrected (raw) concentrations. A Photometric Calibration Factor (PCF) of 0.38 is used, which TSI indicates is appropriate for ambient/fugitive emissions monitoring applications. Photometric instruments (e.g., SidePak AM520) will overstate the mass of an aerosol compared to its gravimetric weight due to humid conditions; PM_{2.5} is especially prone to interference from high humidity. In cases of high humidity, PM₁₀ impactors may be used, which are not as sensitive to humidity.

⁴ Readings collected using Gastec tubes are recorded as uncorrected (raw) concentrations. The correction factors for Gastec tubes are dependent on volume of air used (i.e., number of pump strokes).

Abbreviations: mg/m³ = milligrams per cubic meter; PM = Onterris Project Manager; PTD = Onterris Project Technical Director; CO = carbon monoxide; ppm = parts per million; N/A = not applicable;

Plan 1: Community/Fenceline Monitoring – Flammability

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
% LEL	1 % Instant	Report reading to PM/PTD	Detection of % LEL	MultiRAE Sensor AreaRAE Sensor	1 %	Range: 0 – 100 %	Variable ¹

¹ Readings collected using the % LEL sensor are recorded as uncorrected (raw) concentrations. Correction factors for various compounds are listed in Honeywell Technical Note TN-156.

Abbreviations: % LEL = atmospheric flammability measured as a percentage of the lower explosive limit; PM = Onterris Project Manager; PTD = Onterris Project Technical Director

TABLE 1: Community Health-Based Screening Values for Analytes (Air Monitoring)

Analyte	CAS RN	Protective Action Criteria 1 (PAC-1) ¹	OEHHA Acute Reference Exposure Level (REL) ²
Total volatile organic compounds (VOCs)	N/A	N/A	N/A
Ammonia	7664-41-7	30 ppm	3,200 µg/m ³ (4.59 ppm)
Carbon monoxide (CO)	630-08-0	75 ppm	23,000 µg/m ³ (20.08 ppm)
Sulfur dioxide (SO ₂)	7446-09-5	0.2 ppm	660 µg/m ³ (0.25 ppm)
Nitrogen dioxide (NO ₂)	10102-44-0	0.5 ppm	470 µg/m ³ (0.25 ppm)

¹ United States Department of Energy (US DOE): <https://www.energy.gov/ehss/protective-action-criteria-pac-aegls-erpgs-teels>. A Protective Action Criteria 1 (PAC-1) is the airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience notable discomfort, irritation, or certain asymptomatic, nonsensory effects, or may perceive a clearly defined objectionable odor. However, these effects are not disabling and are transient and reversible upon cessation of exposure.

² Office of Environmental Health Hazard Assessment (OEHHA) of the California Environmental Protection Agency (CalEPA): <https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary>. An Acute Reference Exposure Level (REL) is the airborne concentration of a substance below which is not expected to cause non-cancer health effects for an exposure of one hour or less.

Abbreviations: CAS RN = Chemical Abstracts Service Registry Number; PAC-1 = Protective Action Criteria 1; OEHHA = Office of Environmental Health Hazard Assessment; REL = Reference Exposure Level; VOCs = volatile organic compounds; CO = carbon monoxide; ppm = parts per million; µg/m³ = micrograms per cubic meter; HCl = hydrogen chloride; HCN = hydrogen cyanide; HF = hydrogen fluoride; SO₂ = sulfur dioxide; NO₂ = nitrogen dioxide

TABLE 2: US EPA AQI Categories Associated with Airborne PM_{2.5} and PM₁₀ Levels

US EPA AQI Category	24-Hour Average PM _{2.5} Concentration (µg/m ³)	24-Hour Average PM ₁₀ Concentration (µg/m ³)
Good (0 – 50)	0.0 – 9.0	0 – 54
Moderate (51 – 100)	9.1 – 35.4	55 – 154
Unhealthy for Sensitive Groups (101-150)	35.5 – 55.4	155 – 254
Unhealthy (151 – 200)	55.5 – 125.4	255 – 354
Very Unhealthy (201-300)	125.5 – 225.4	355 – 424
Hazardous (301+)	225.5+	425+

Abbreviations: US EPA = United States Environmental Protection Agency; AQI = Air Quality Index; PM_{2.5} = particulate matter with a diameter of 2.5 microns or less; PM₁₀ = particulate matter with a diameter of 10 microns or less; µg/m³ = micrograms per cubic meter

Plan 2: Site Assessment

Objective: Characterize nature and extent of potential release

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
Total volatile organic compounds (VOCs)	N/A	Report reading to PM/PTD	N/A	MultiRAE PID (10.6 eV lamp)	0.1 ppm	Range: 0.1 – 5,000 ppm	Variable ¹
				AreaRAE PID (10.6 eV lamp)	0.1 ppm	Range: 0.1 – 5,000 ppm	Variable ¹
				MultiRAE Sensor AreaRAE Sensor	1.0 ppm	Range: 1 – 100 ppm	N/A
Ammonia	N/A	Report reading to PM/PTD	N/A	Gastec #3L	0.2 ppm	Range: 1 – 30 ppm Volume: 100 mL (1 x 100 mL pump strokes)	Variable ³
				Gastec #3M	2 ppm	Range: 10 – 500 ppm Volume: 500 mL (5 x 100-mL pump strokes)	Variable ³
Hydrogen Sulfide	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0 – 100 ppm	NA
				Gastec tube #4LL	0.1 ppm	Range: 0.25 – 120 ppm Volume: 1,000 mL (10 x 100 mL pump strokes)	Var.
Chlorine	N/A	Report reading to PM/PTD	N/A	Gastec tube #8La	0.05 ppm	Range: 0.1 – 16 ppm Volume: 500 mL (5 x 100-mL pump strokes)	Variable ⁴
Mercaptans	N/A	Report reading to PM/PTD	N/A	Gastec tube #70L	0.1 ppm	Range: 0.1 – 8 ppm Volume: 400 mL (4 x 100-mL pump strokes)	Variable ⁴
Oxygen (O ₂)	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor	0.1 %	Range: 0 – 30 %	N/A
				AreaRAE Sensor	0.1 %	Range: 0 – 30 %	N/A

¹ Readings collected using the MultiRAE PID and AreaRAE PID are recorded as uncorrected (raw) concentrations. Correction factors for various compounds are listed in Honeywell Technical Notes TN-106B (MultiRAE) and TN-106A (AreaRAE).

² Readings collected using Gastec tubes are recorded as corrected concentrations. The correction factors for Gastec tubes are dependent on volume of air used (i.e., number of pump strokes).

³ 10.6 eV PID must be used for ammonia concentrations over 50 ppm to avoid ammonia sensor exhaustion/damage.

Abbreviations: VOCs = volatile organic compounds; NA = not applicable; PM = Onterris Project Manager; PTD = Onterris Project Technical Director; PID = photoionization detector; eV = electron volt; ppm = parts per million; O₂ = oxygen

Plan 2: Site Assessment – Combustion Products

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
Particulate matter with a diameter of 2.5 microns or less (PM _{2.5}) or 10 microns or less (PM ₁₀)	N/A	Report reading to PM/PTD	N/A	TSI SidePak AM510/AM520	0.001 mg/m ³	Range: 0.001 – 100 mg/m ³ PM _{2.5} impactor: 50% cut-off at 2.5 microns; PM ₁₀ impactor: 50% cut-off at 10 microns	0.38 ¹
				DustTrak	0.001 mg/m ³	Range: 0.001 – 100 mg/m ³ PM _{2.5} impactor: 50% cut-off at 2.5 microns; PM ₁₀ impactor: 50% cut-off at 10 microns	0.38 ¹
Carbon monoxide (CO)	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor AreaRAE Sensor	1 ppm	Range: 1 – 500 ppm	N/A
				Gastec tube #1LC	0.5 ppm	Range: 1 – 30 ppm Volume: Pull 1 100-mL pump strokes	Variable ²
Sulfur dioxide (SO ₂)	N/A	Report reading to PM/PTD	N/A	Gastec tube #5Lb	0.01 ppm	Range: 0.05 – 10 ppm Volume: Pull 8 100-mL pump strokes	Variable ²
				MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0.1 – 20 ppm	N/A
Nitrogen dioxide (NO ₂)	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor AreaRAE Sensor	0.1 ppm	Range: 0.1 – 20 ppm	N/A
				Gastec tube #9L	0.1 ppm	Range: 0.5 – 125 ppm Volume: Pull 2 100-mL pump strokes	Variable ²

¹ Readings collected using the SidePak AM510/AM520 or DustTrak are recorded as corrected concentrations. A Photometric Calibration Factor (PCF) of 0.38 is used, which TSI indicates is appropriate for ambient/fugitive emissions monitoring applications. Photometric instruments (e.g., SidePak AM520) will overstate the mass of an aerosol compared to its gravimetric weight due to humid conditions; PM_{2.5} is especially prone to interference from high humidity. In cases of high humidity, PM₁₀ impactors may be used, which are not as sensitive to humidity.

² Readings collected using Gastec tubes are recorded as uncorrected (raw) concentrations. The correction factors for Gastec tubes are dependent on volume of air used (i.e., number of pump strokes).

Abbreviations: PM_{2.5} = particulate matter with a diameter of 2.5 microns or less; PM₁₀ = particulate matter with a diameter of 10 microns or less; NA = not applicable; PM = Onterris Project Manager; PTD = Onterris Project Technical Director; mg/m³ = milligrams per cubic meter

Plan 3: Site Assessment – Flammability

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
% LEL	N/A	Report reading to PM/PTD	N/A	MultiRAE Sensor	1 %	Range: 0 – 100 %	Variable ¹
				AreaRAE Sensor	1 %	Range: 0 – 100 %	Variable ¹

¹ Readings collected using the % LEL sensor are recorded as uncorrected (raw) concentrations. Correction factors for various compounds are listed in Honeywell Technical Note TN-156.

Abbreviations: % LEL = atmospheric flammability measured as a percentage of the lower explosive limit; PM = Onterris Project Manager; PTD = Onterris Project Technical Director

Air Sampling Methods - Community Monitoring

Analyte	Media/Can	Method	Notes
VOCs	1.4 L Evacuated Cannisters	USEPA TO-15	
Ammonia	Anasorb 747 (226-29)	Method 6015	LOD: ~ 0.5 µg
Metals	Mixed cellulose ester (MCE) filter (35-5,000 L; 1-4 LPM)	Mod. NIOSH 7303 (ICP/MS)	

Abbreviations: L = liters; USEPA = United States Environmental Protection Agency

General Information on Procedures (Assessment Techniques) Used

Procedure	Description
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Fixed Real-Time Air Monitoring Locations	Multiple locations may be identified and monitored at the same location approximately once per hour using handheld real-time air monitoring instruments. This allows the use of statistical analysis more effectively than with a random approach.
Analytical Air Sampling	Analytical air sampling may be used to validate the fixed and handheld real-time air monitoring data, or to provide data beyond the scope of real-time instruments. Analytical air samples may be collected as whole air samples in evacuated canisters or on specific collection media and sent to an off-site laboratory for further chemical analysis.
Particulate Monitoring Network	A network of data-logging particulate monitors may be set up and positioned in various locations.

Not all procedures listed in this table may be utilized.

Quality Assurance/Quality Control (QA/QC) Procedures

Method	Procedure
Real-Time Air Monitoring	All real-time air monitoring instruments will be calibrated per the manufacturer's recommendations, whenever indicated by site conditions or instrument readings, and/or at the start of every 12-hour shift. Serial numbers for all equipment used will be recorded. If Gastec tubes are used, the tube expiration date, lot number, and air volume (number of pump strokes) will be recorded.
Analytical Air Sampling	Chain-of-custody documentation will be completed for each air sample. Serial numbers for all analytical equipment used will be recorded. Co-located air samples may be conducted to assess field accuracy and precision (at least one co-located air sample per day or per 10 air samples). Level II data validation may be performed on all air samples. Level IV data validation may be performed on the first and last sample delivery groups (SDGs) and on at least 10% of all air samples. Level IV data validation may be performed on 10% of all samples.
Reporting	Daily data summaries may be provided for informational purposes using data that have not undergone complete QA/QC procedures. Comprehensive reports of real-time and/or analytical data may be generated following QA/QC and may be delivered 60 days following receipt of validated results, if applicable.

Glossary

Term	Definition
Sustained	Instrument reading above the action level continuously for the listed time period
Breathing Zone	The area within an approximate 10-inch radius of an individual's nose and mouth
Ambient Air	The portion of the atmosphere (indoor or outdoor) to which workers and the general public have access

Version Control

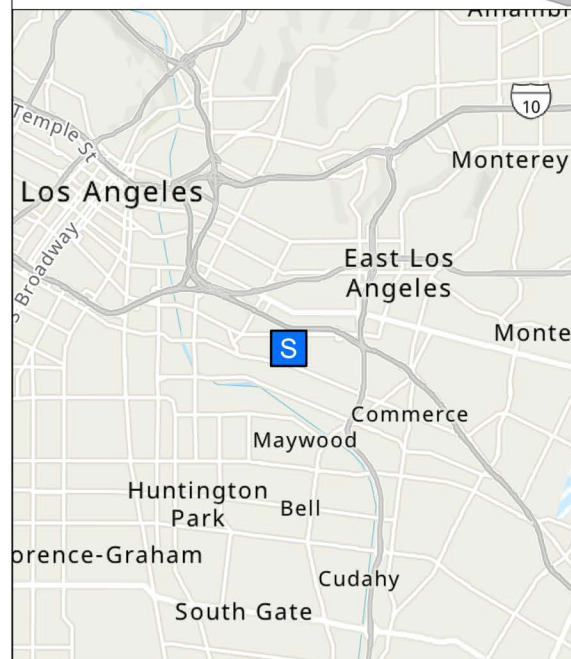
Version	Date	Author	Reviewer	Summary of Changes
1.0	6/21/26	Elysia Masters, PhD	Joseph Lucas, PhD	Initial Version
1.1	6/27/26	Max Ford, PhD		Added hydrogen sulfide to monitoring plan
1.1	6/27/26	Max Ford, PhD		Add mercaptan and chlorine monitoring to plan

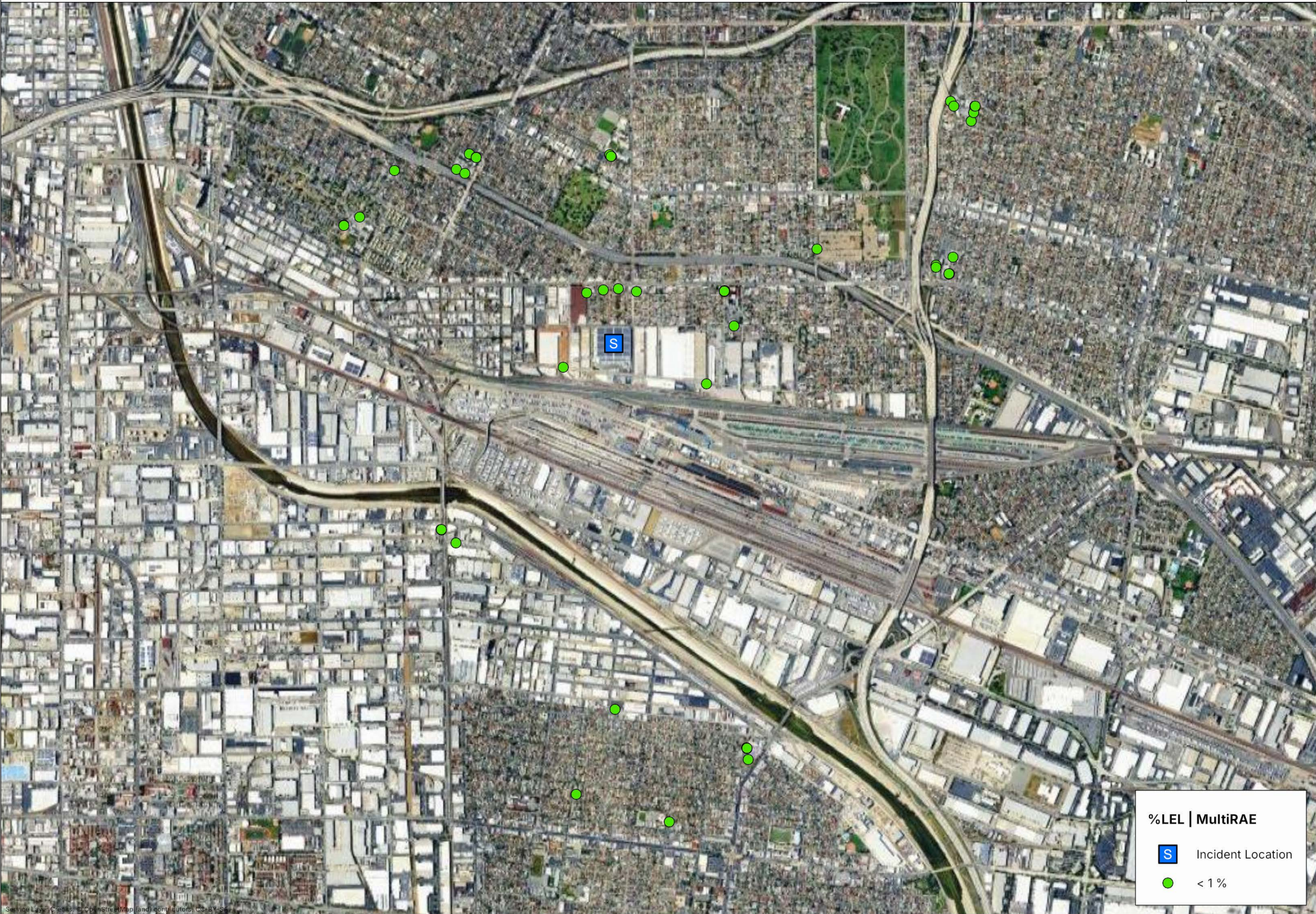
Appendix B Incident Site and Real-Time Air Monitoring Locations

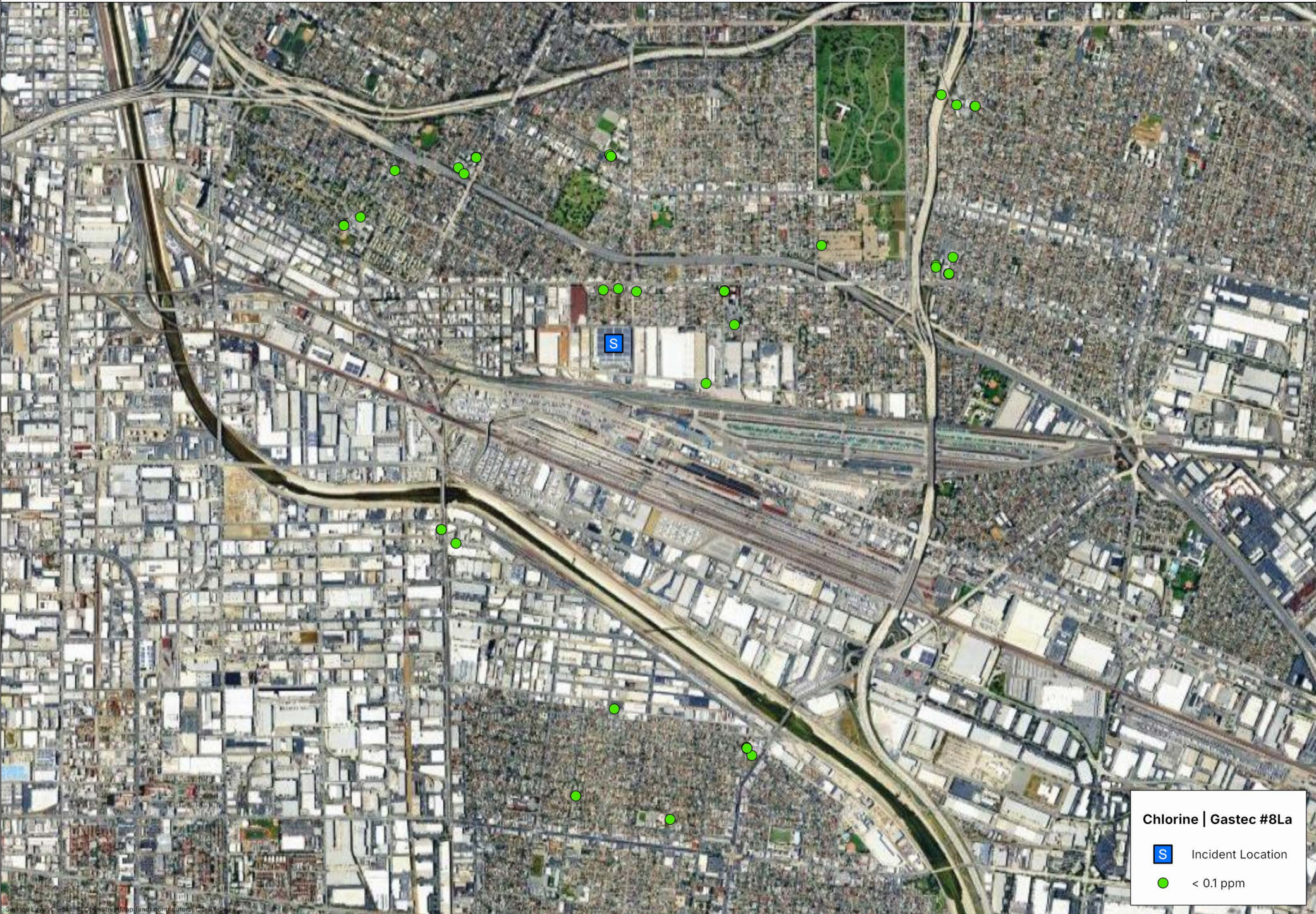


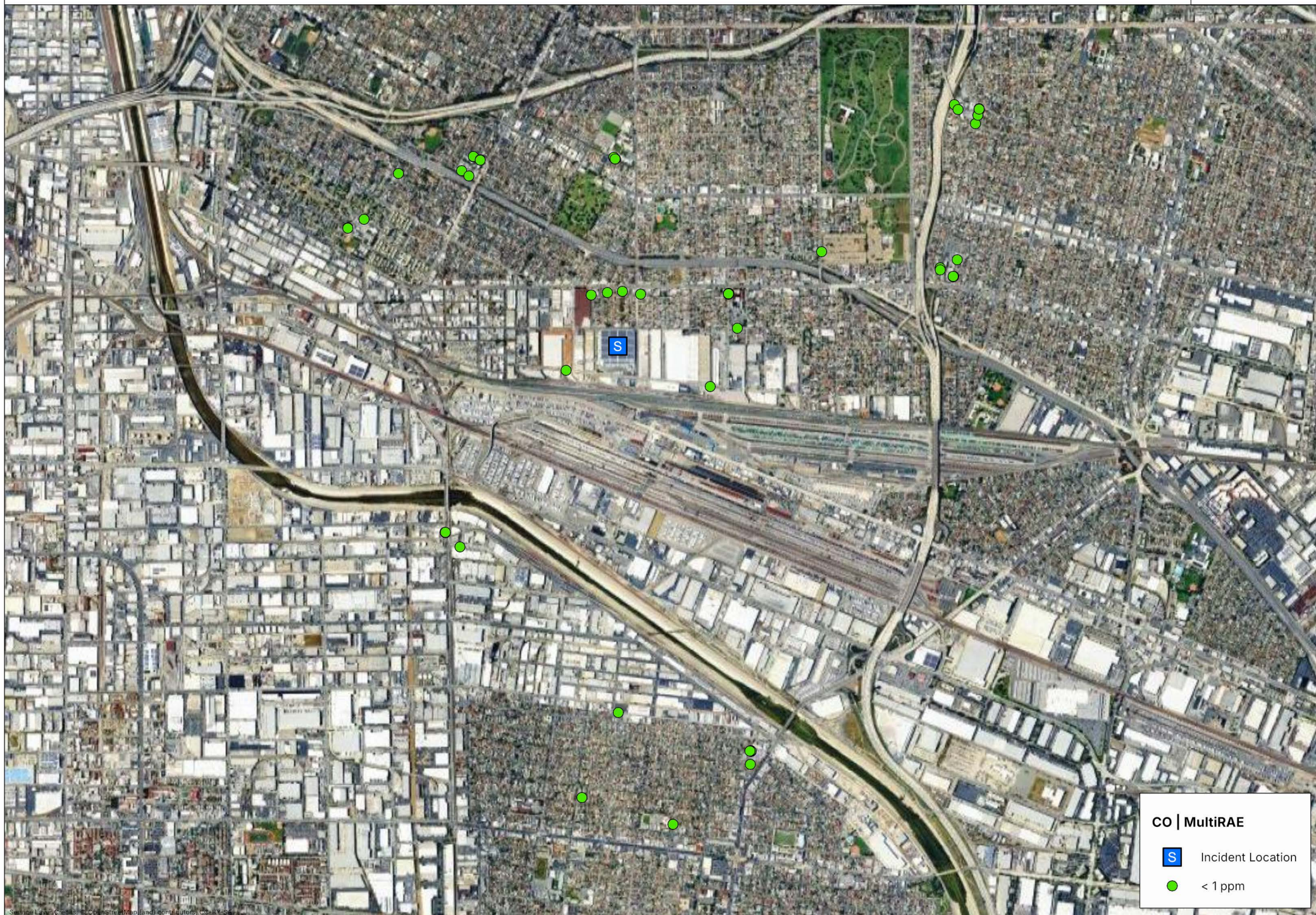
Los Palos Warehouse Fire

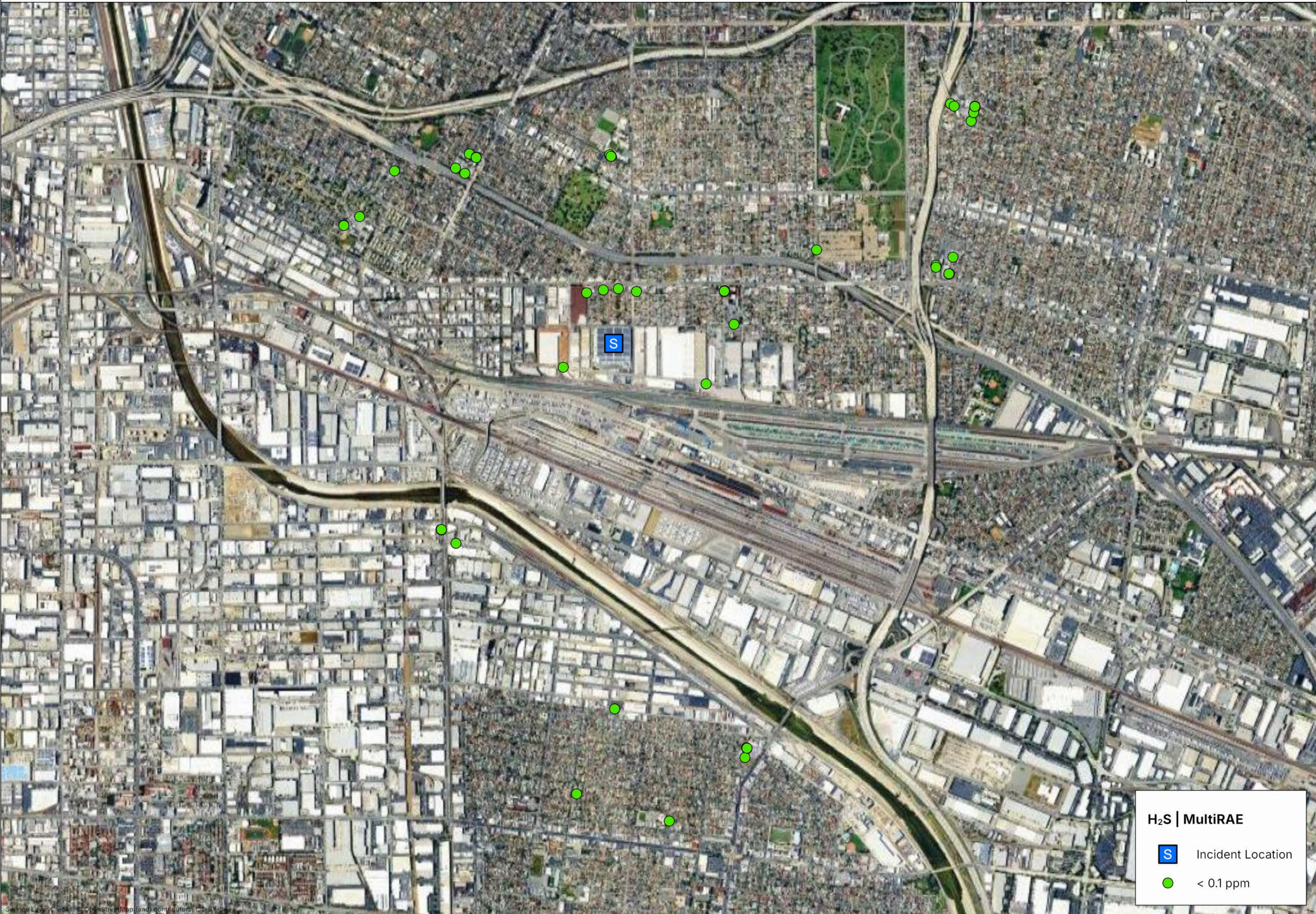
Incident Location
Los Angeles, CA | Los Angeles County
PROJ-069775

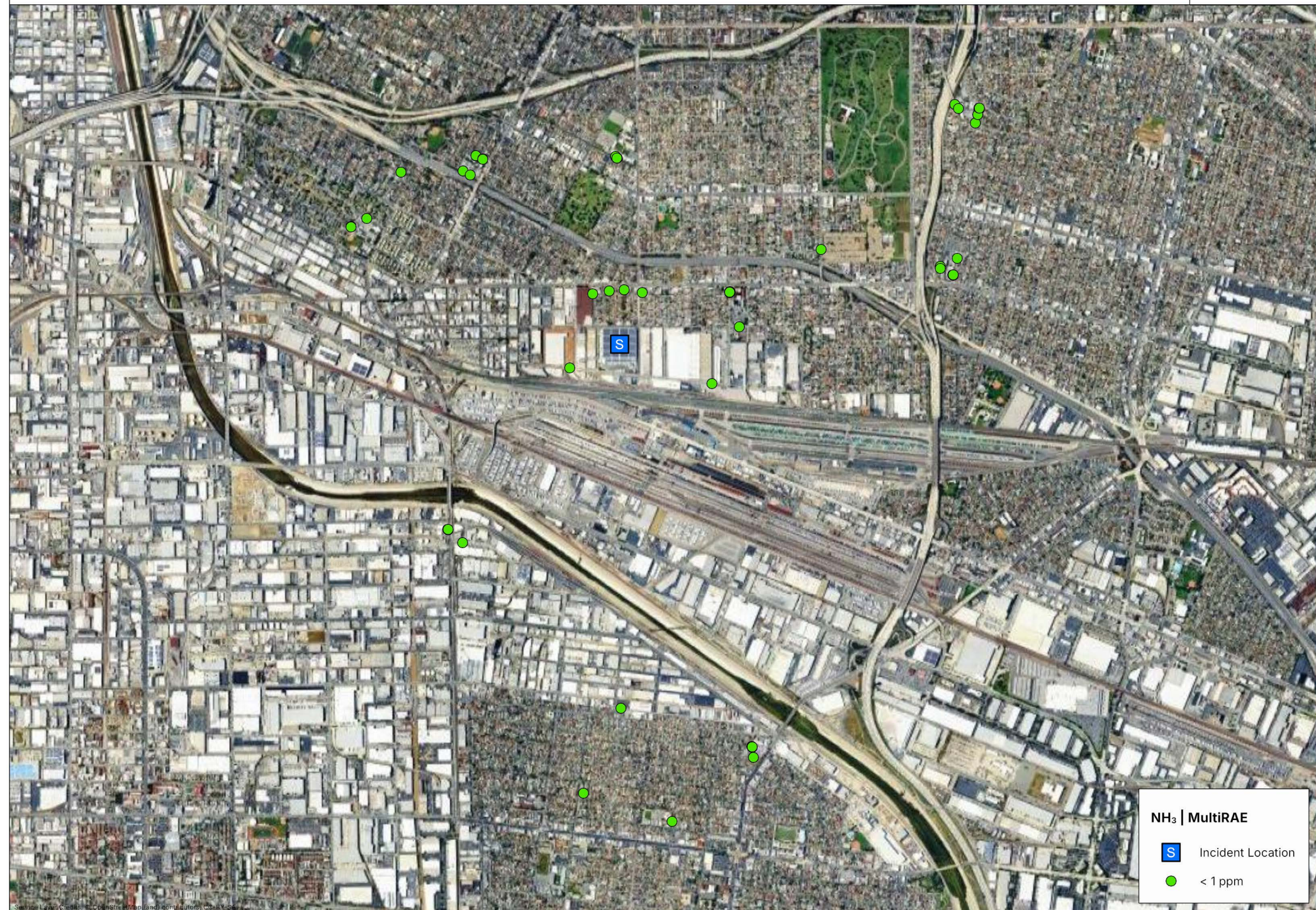








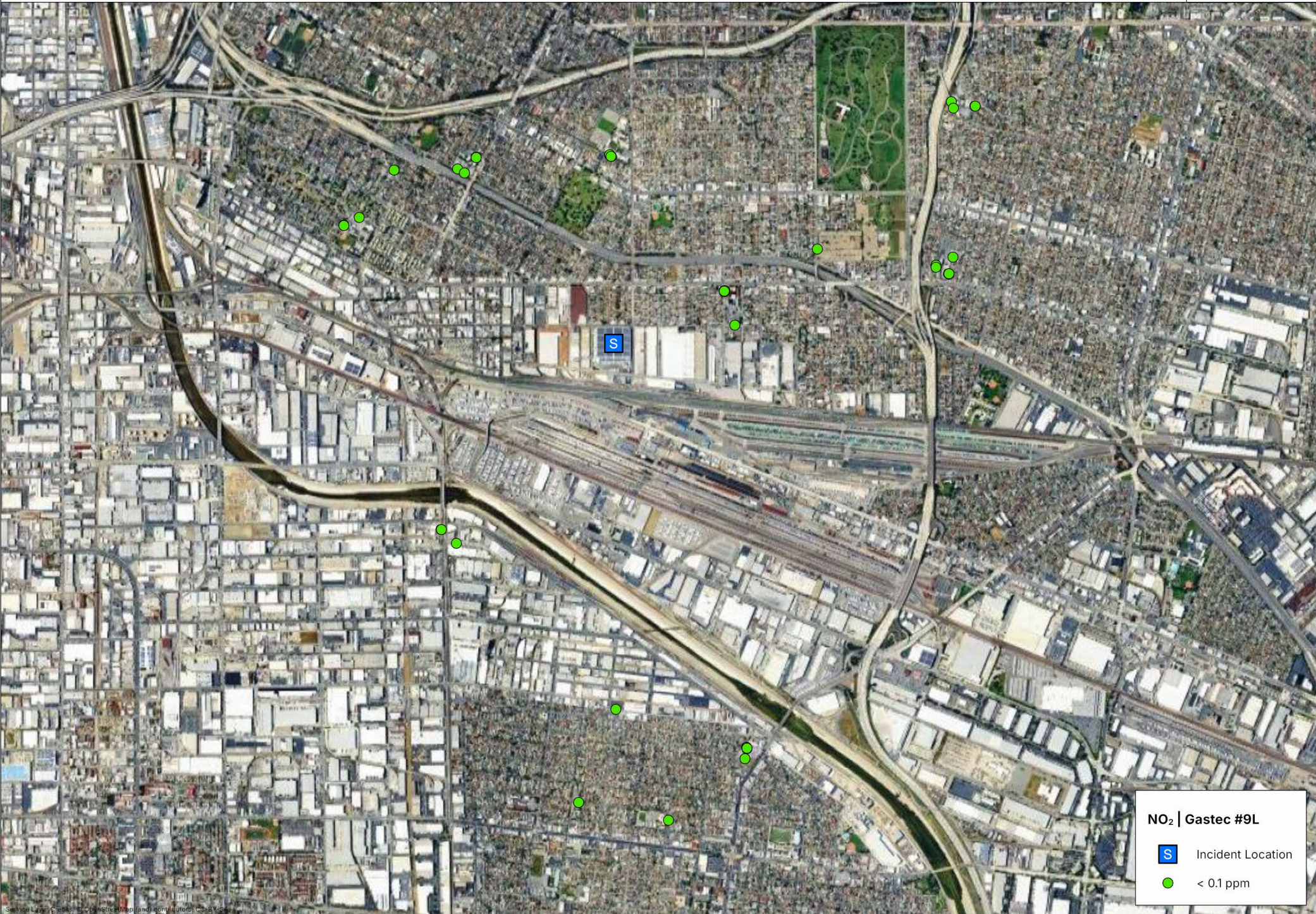


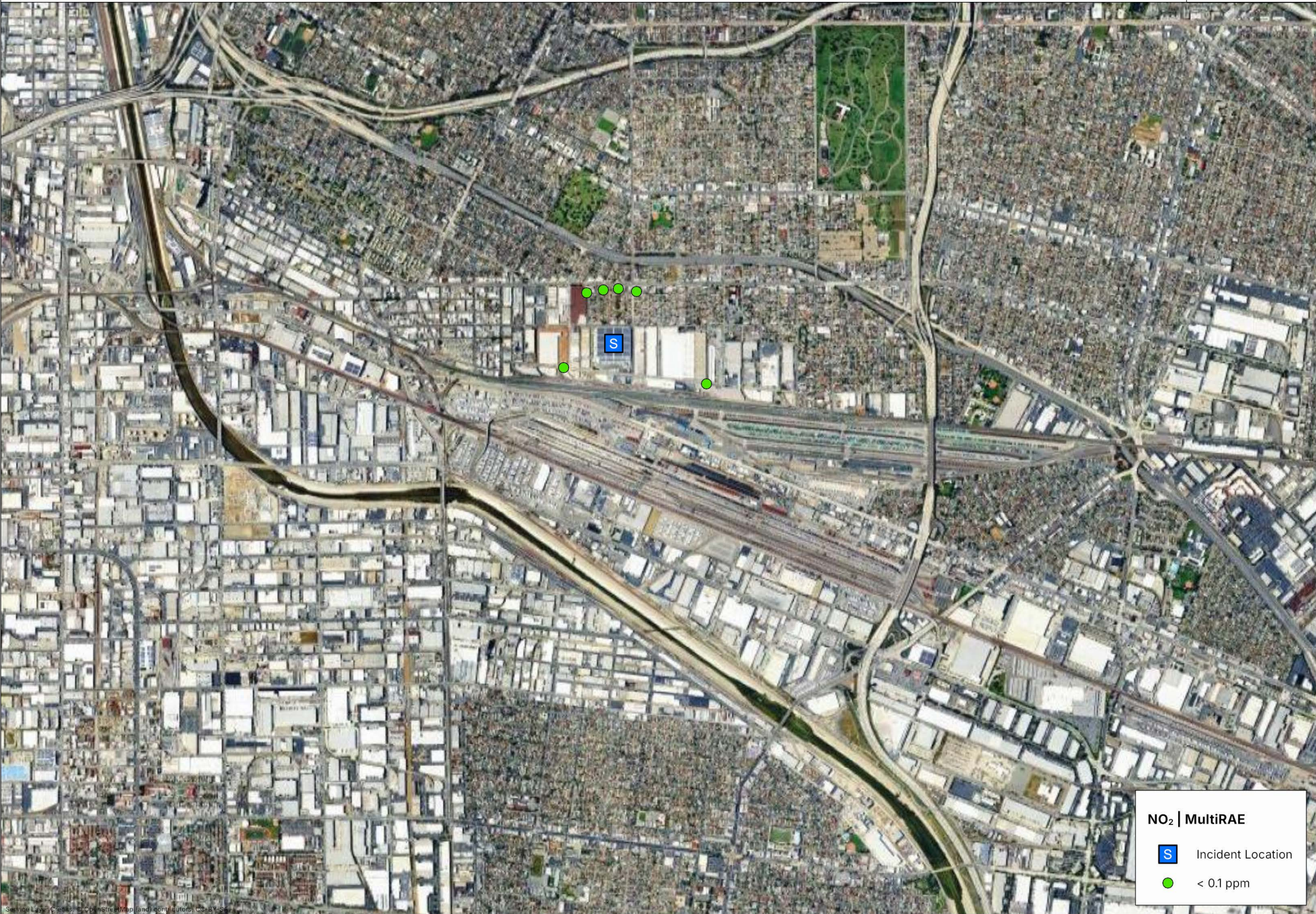


NH₃ | MultiRAE

S Incident Location

● < 1 ppm

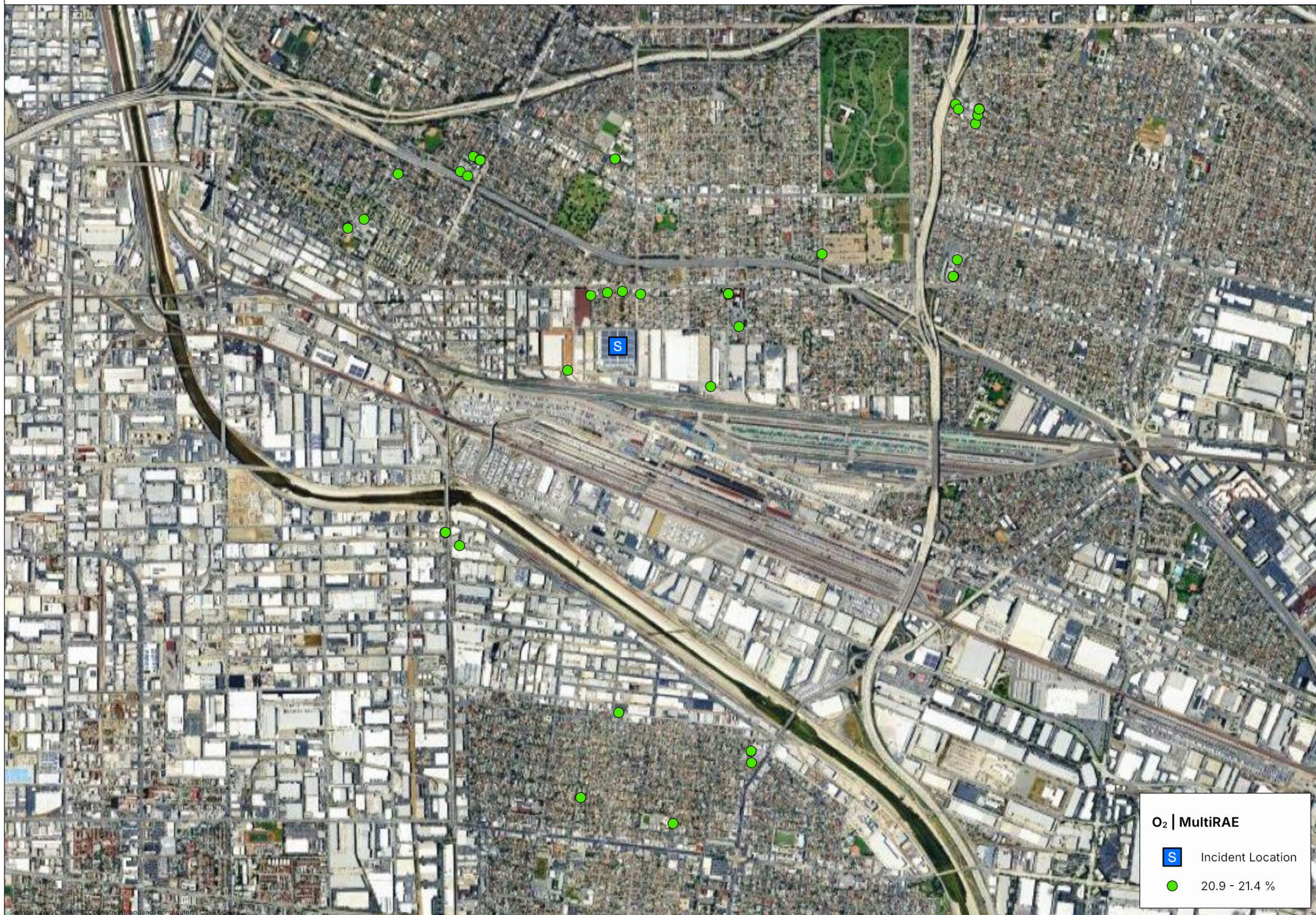




NO₂ | MultiRAE

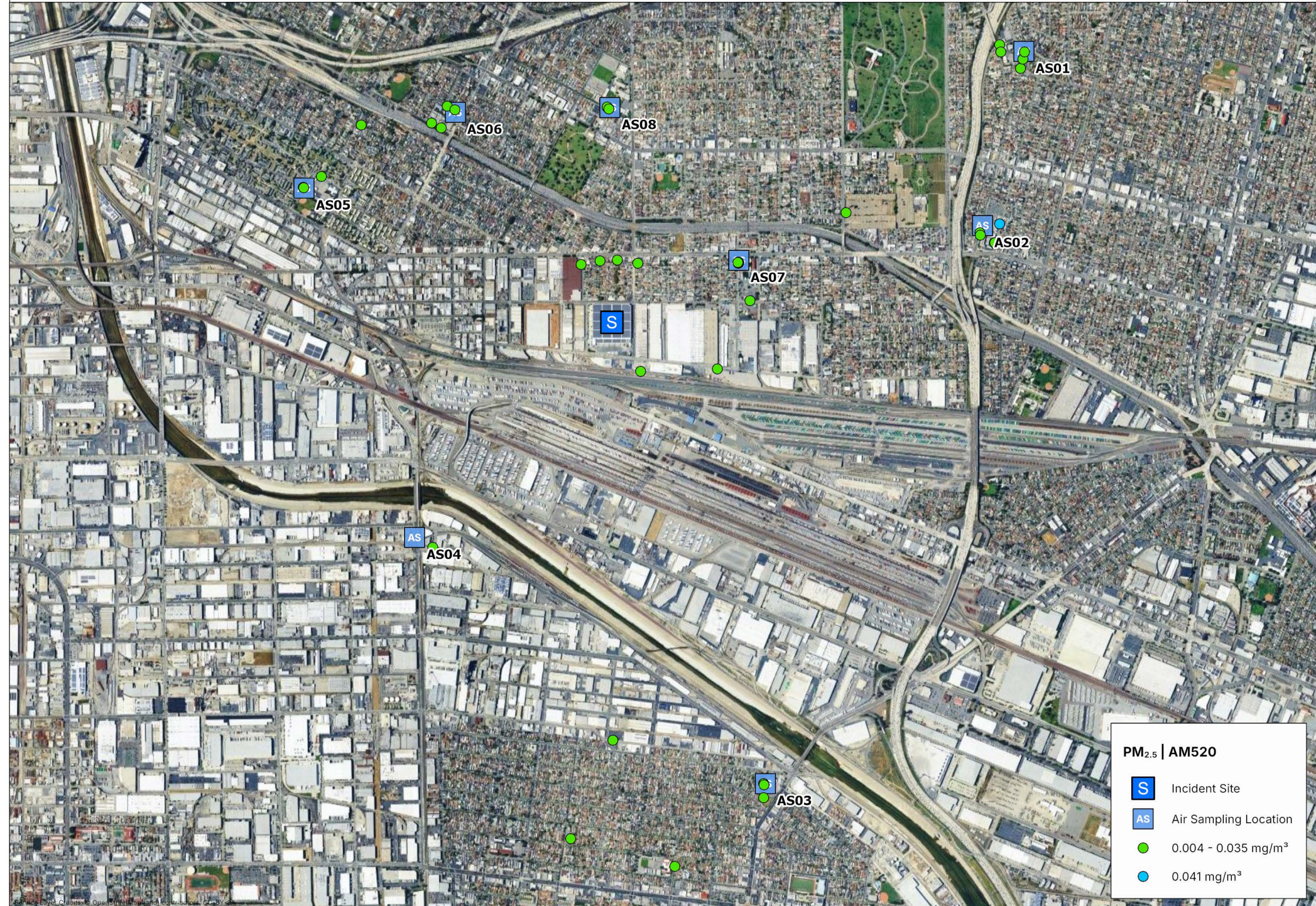
S Incident Location

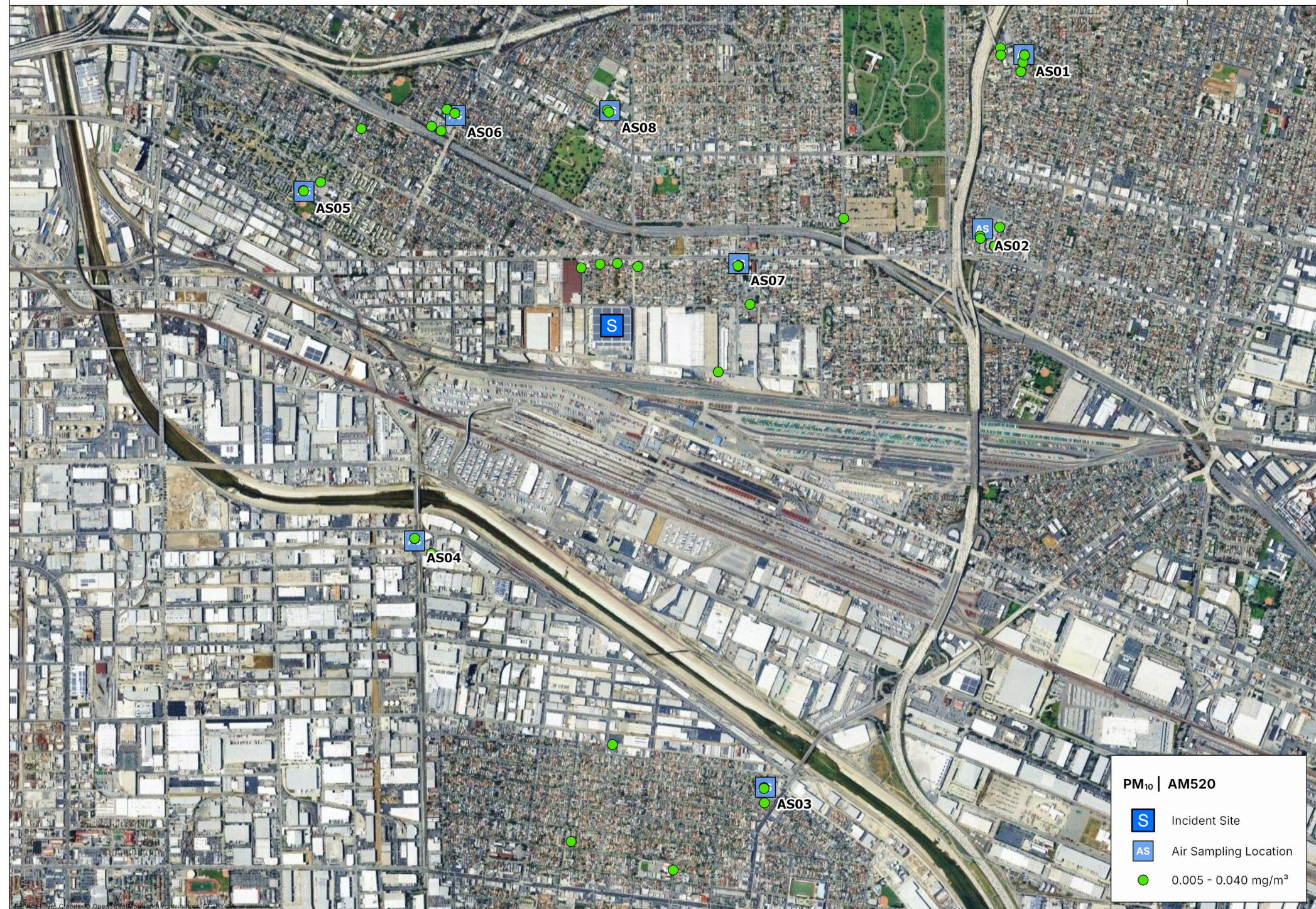
● < 0.1 ppm



O₂ | MultiRAE

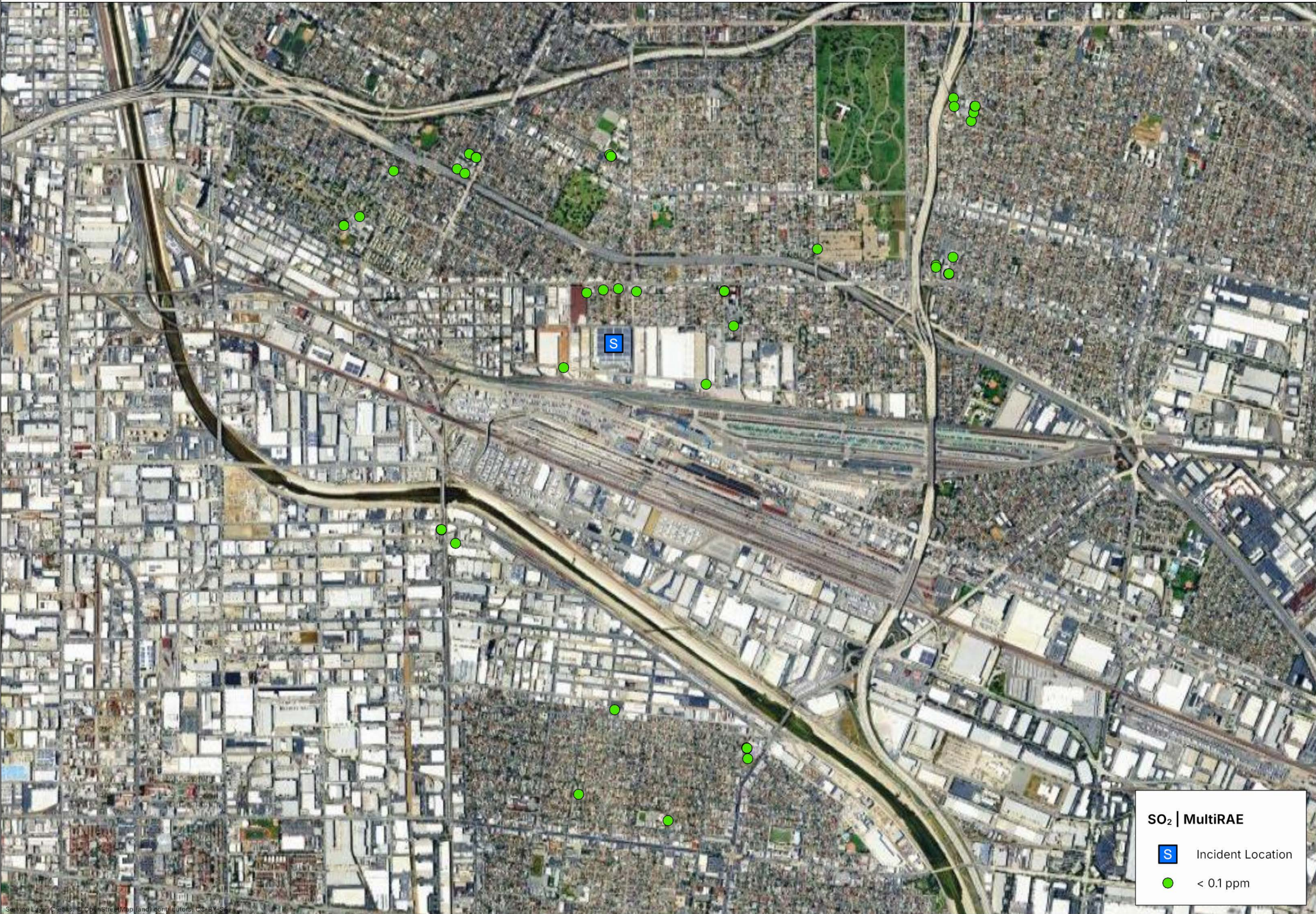
- S Incident Location
- 20.9 - 21.4 %

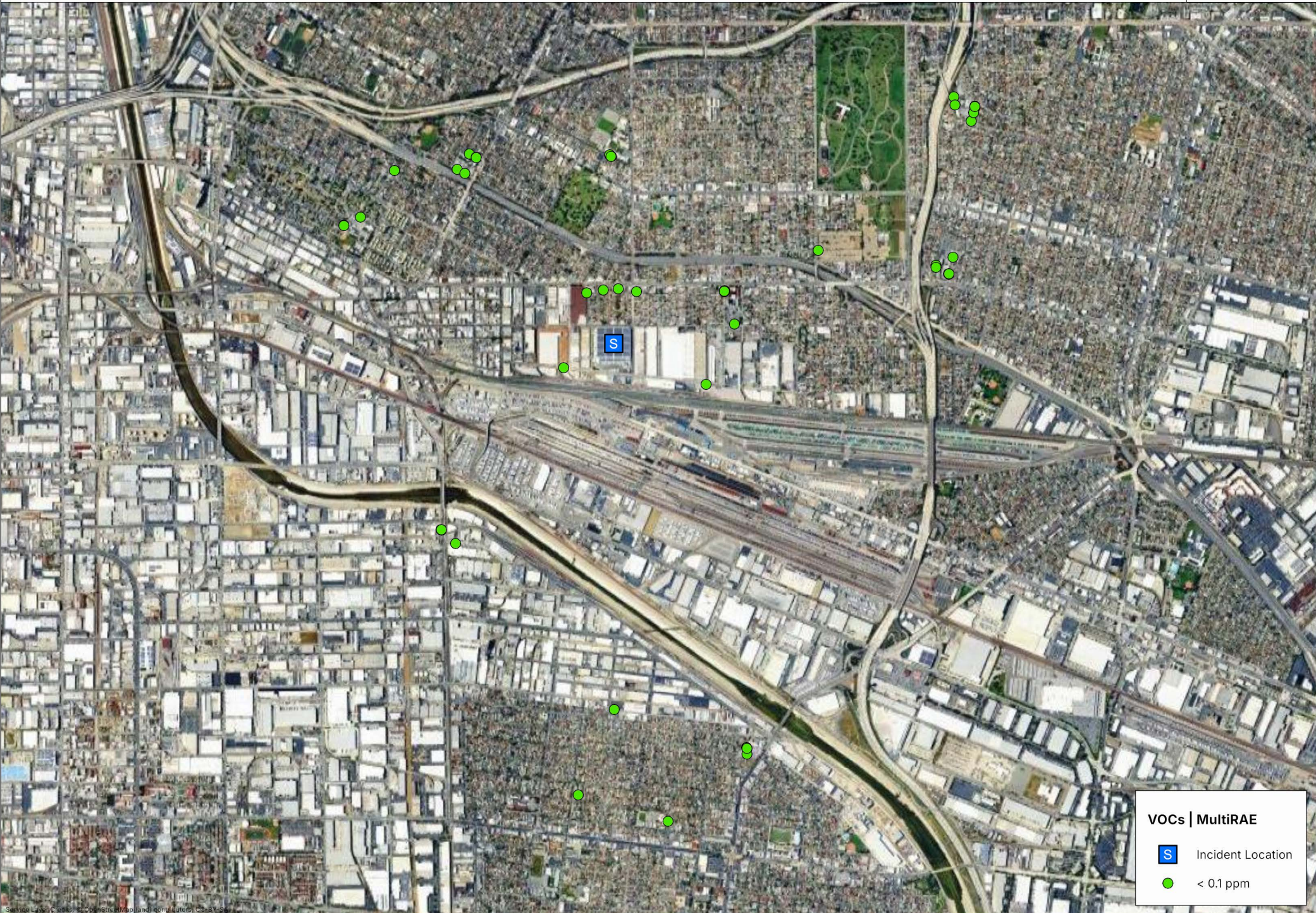




PM₁₀ | AM520

- S Incident Site
- AS Air Sampling Location
- 0.005 - 0.040 mg/m³





VOCs | MultiRAE

S Incident Location

● < 0.1 ppm



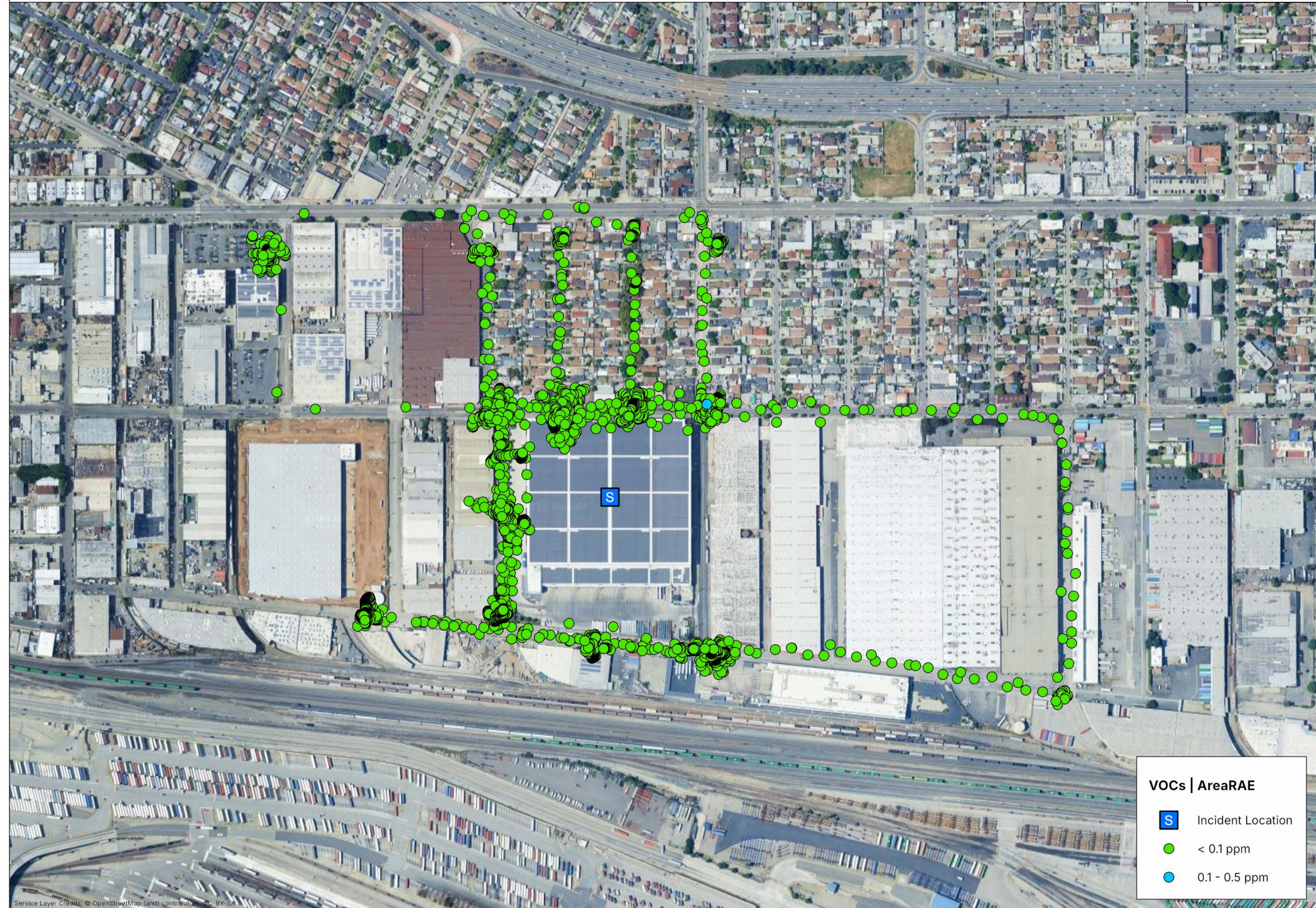




NH₃ | AreaRAE

S Incident Location

● < 1 ppm









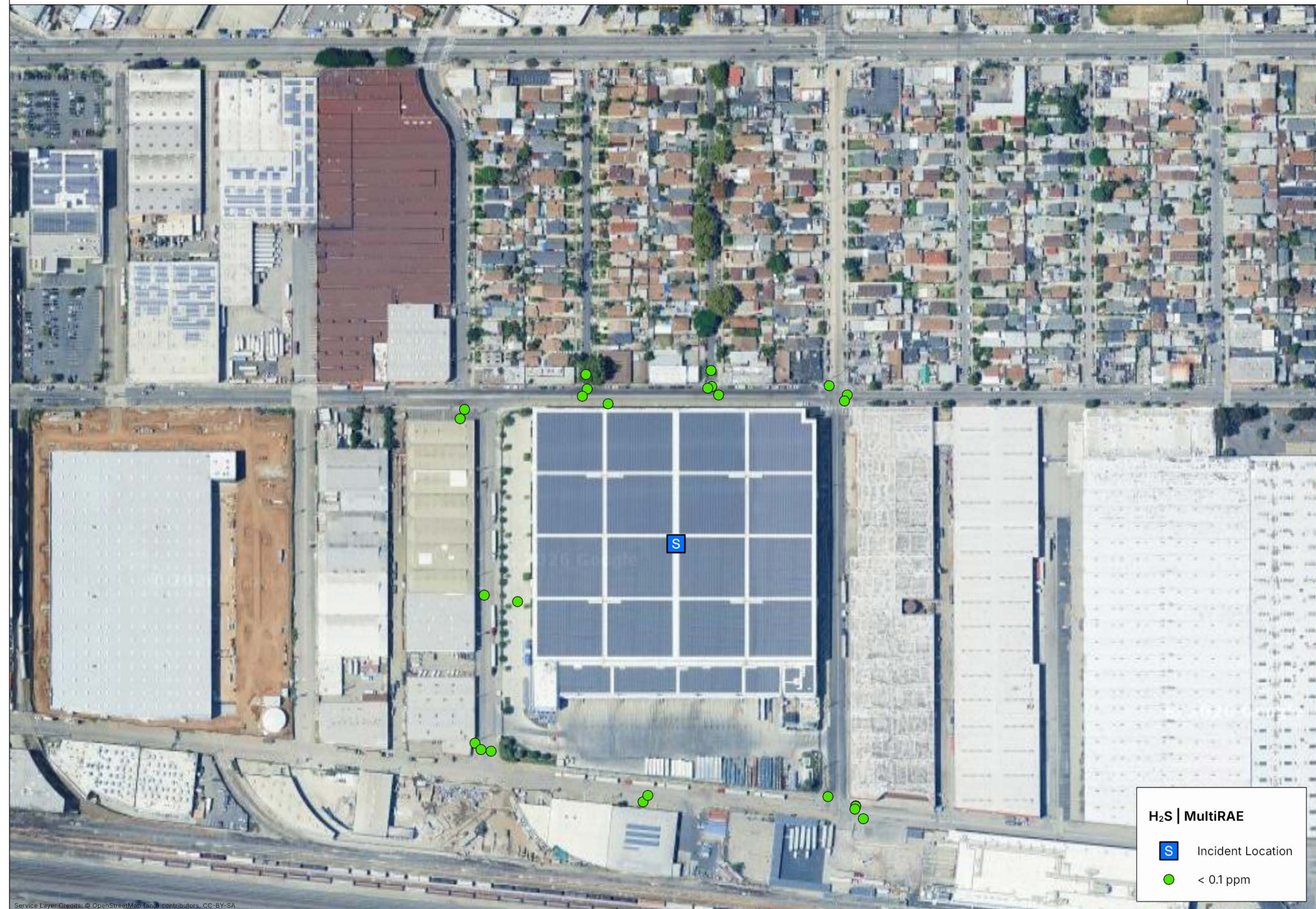
Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

Datum: NAD 1983 2011
Projection: NAD 1983 2011 StatePlane California V FIPS 0405 Ft US

0 100 200 Feet



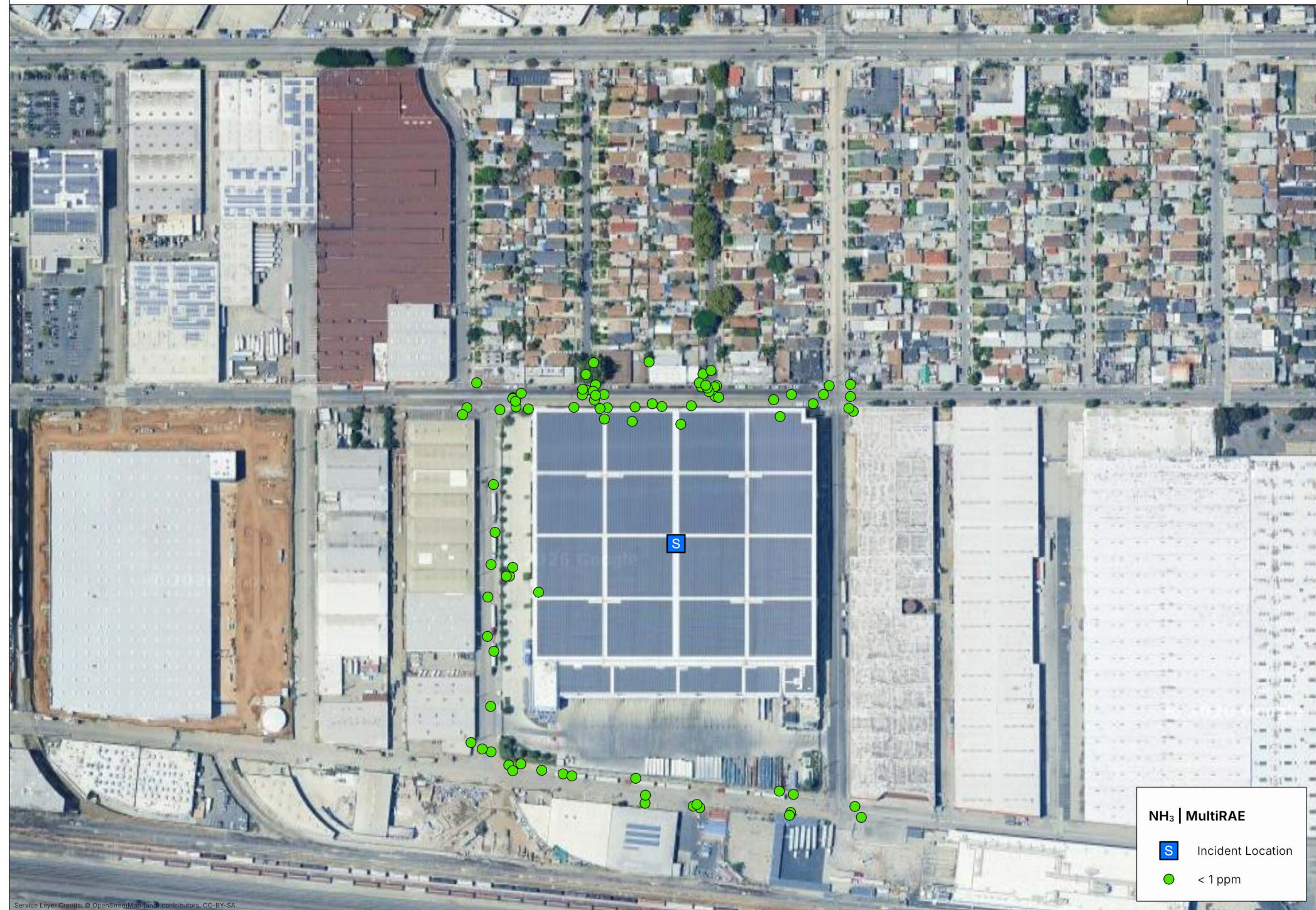
Updated at 2026-07-12 13:40

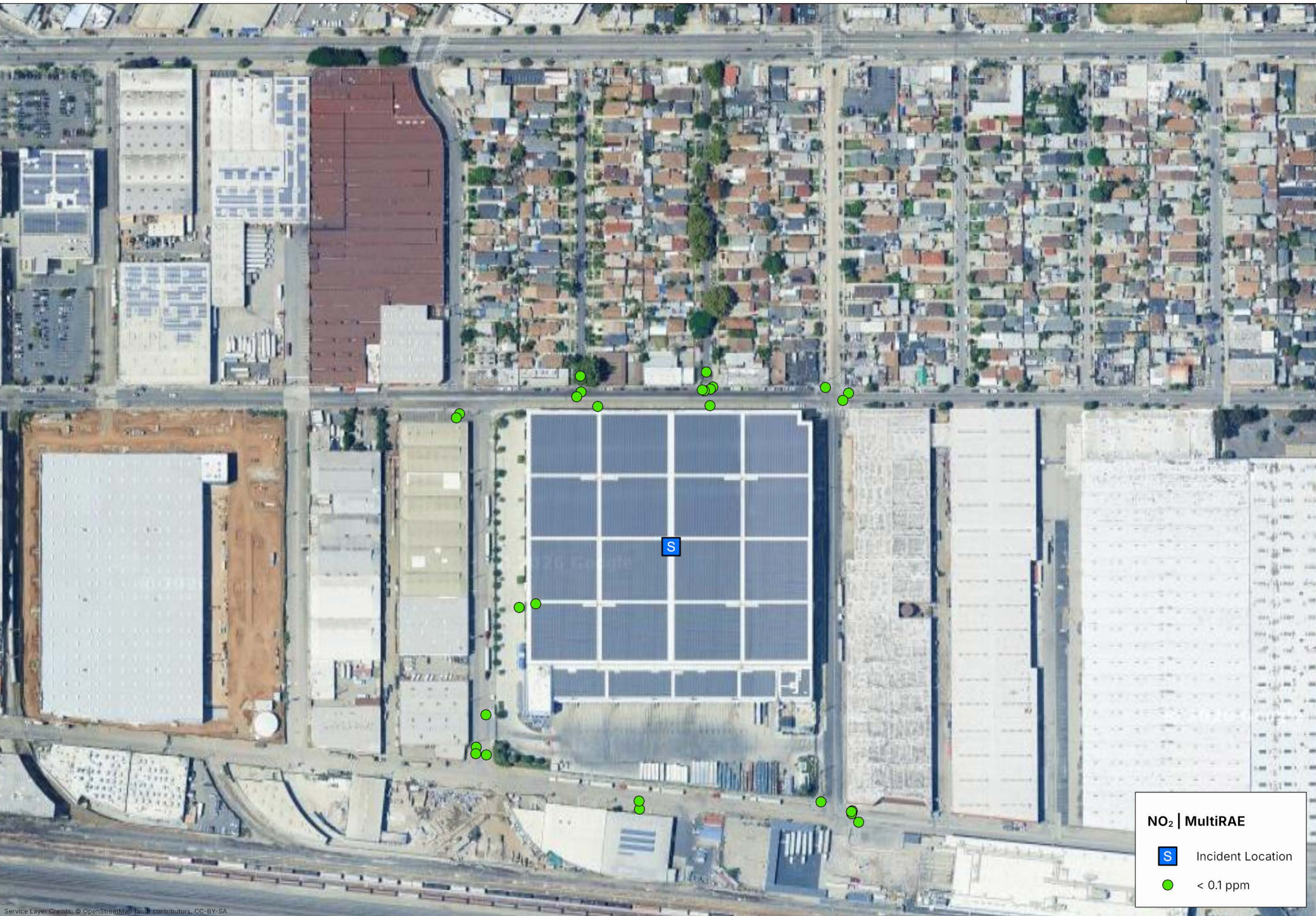


H₂S | MultiRAE

S Incident Location

● < 0.1 ppm





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Datum: NAD 1983 2011
Projection: NAD 1983 2011 StatePlane California V FIPS 0405 Ft US

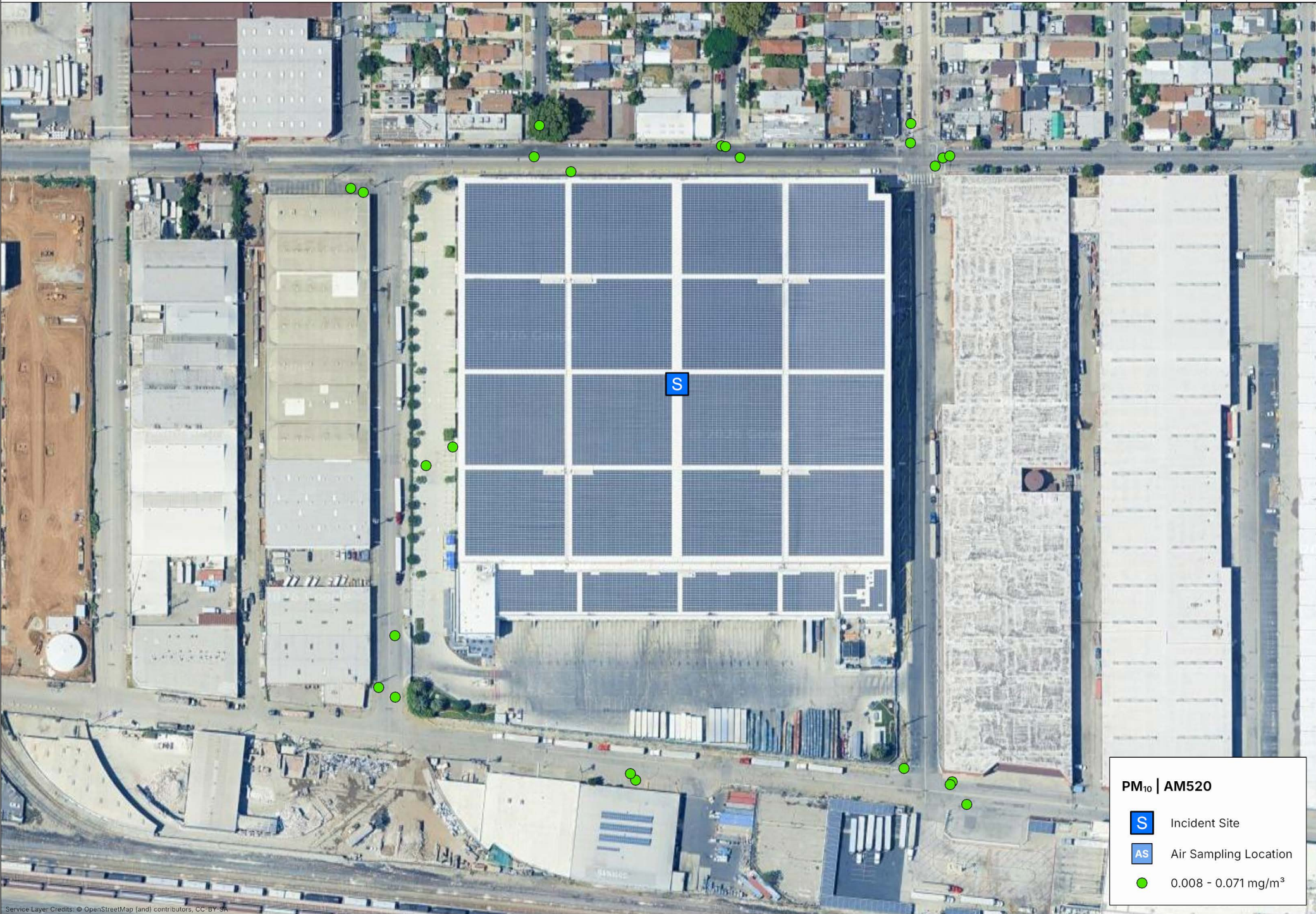
0 100 200 Feet



Updated at 2026-07-12 13:42

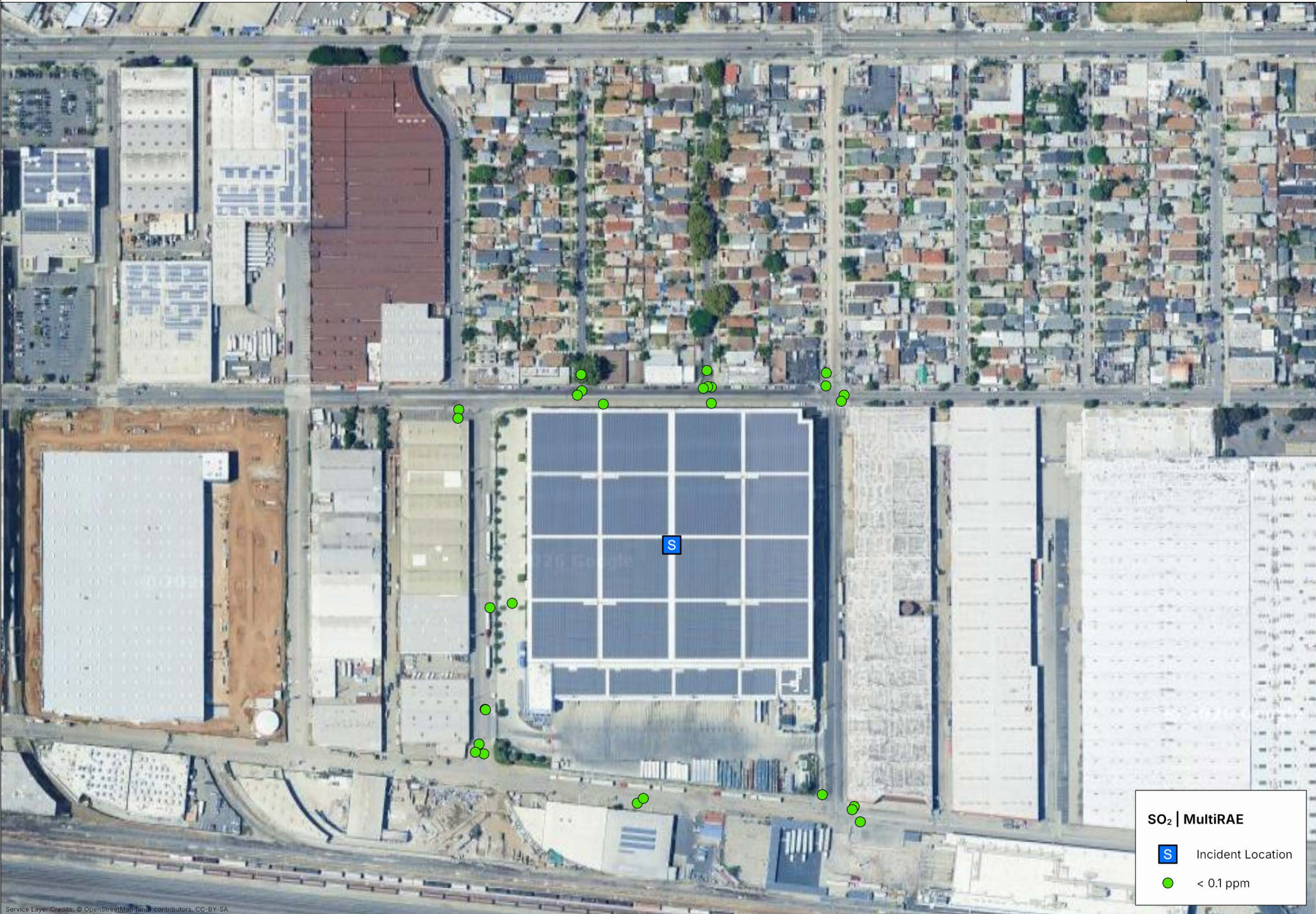






PM₁₀ | AM520

- S Incident Site
- AS Air Sampling Location
- 0.008 - 0.071 mg/m³



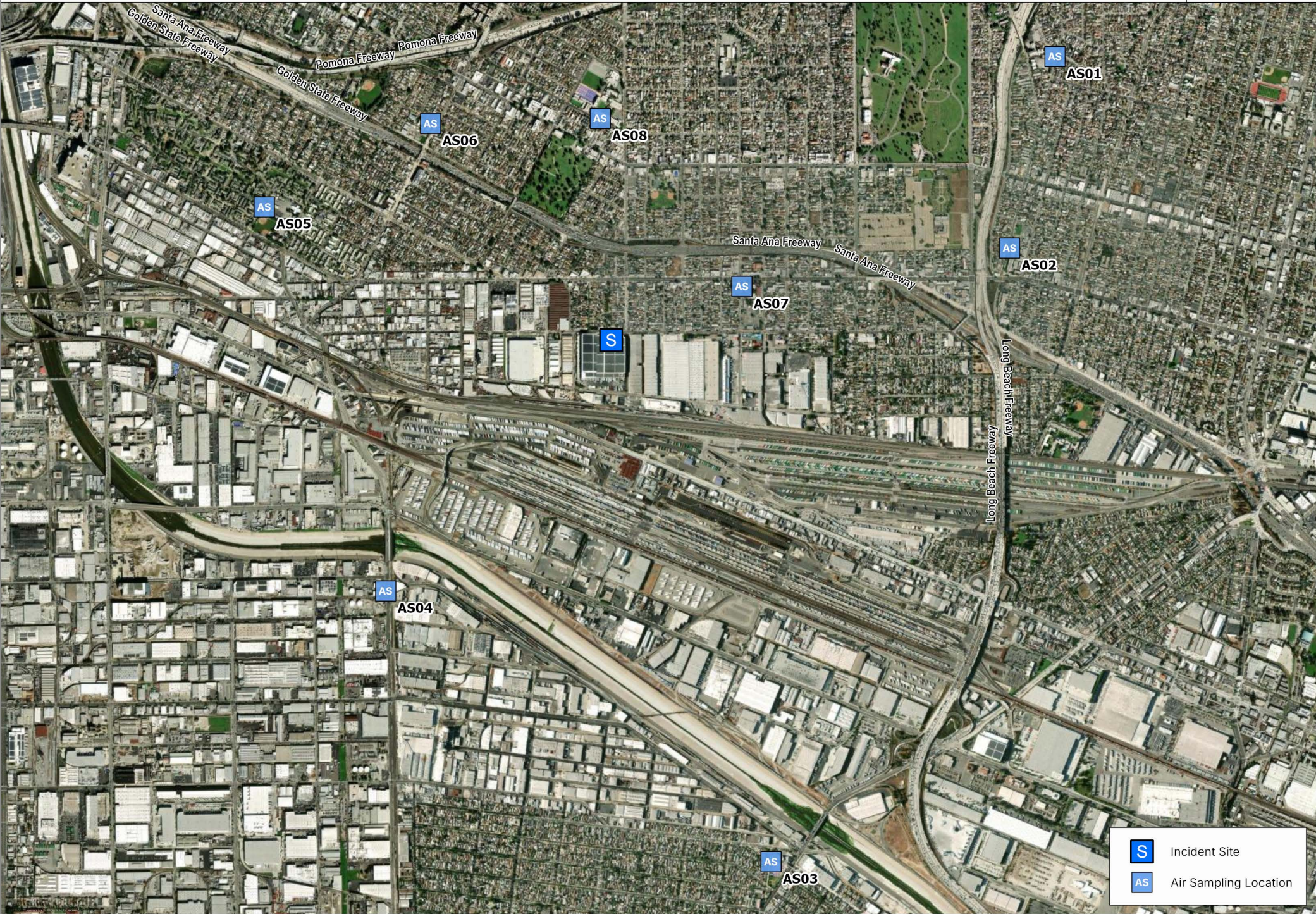
SO₂ | MultiRAE

 Incident Location

 < 0.1 ppm



Appendix C Analytical Sampling Locations



Appendix D Meteorological Data

