NOVEMBER 14, 2025 SENSOR-TRIGGERED AIR SAMPLE REPORT
COMMERCE CITY NORTH DENVER COMMUNITY AIR MONITORING NETWORK
COMMERCE CITY, COLORADO

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Executive Summary

In response to community feedback, Suncor Energy (U.S.A.) Inc. (Suncor) voluntarily developed an air monitoring program to gain insight into air quality for neighborhoods in the vicinity of Suncor's operations in Commerce City, Colorado, in 2021. On December 31, 2024, Suncor became required to conduct community monitoring pursuant to CRS § 25-7-146(3)(a). Suncor, however, voluntarily engaged a third-party consultant to perform health risk assessments and publish reports of its monitoring results online. Onterris - Air Quality Services, LLC operates the air monitoring network in the Commerce City and North Denver (CCND) neighborhoods, and health scientists from Onterris Response and Recovery, LLC perform a screening-level human health risk assessment. A screening-level assessment compares exposure concentrations (ECs) to reference levels (RLs) set by state and/or federal guidance that represent exposure levels that protect public health and the environment.

Air monitoring under the program is continuous and near real-time, and uses three separate technical approaches:

1. Continuous, near real-time air monitoring for the following compounds using sensor technology: carbon monoxide (CO), sulfur dioxide (SO_2), hydrogen sulfide (H_2S), nitrogen dioxide (NO_2), particulate matter ($PM_{2.5}$), total volatile organic compounds (tVOCs), benzene, toluene, ethylbenzene, and xylenes;

2. Periodic (planned and triggered) air sample collection and laboratory analysis for the presence of 59 VOCs from evacuated canisters (colloquially referred to as "Summa" canisters); and

3. Periodic real-time air monitoring throughout six neighborhoods using a mobile monitoring van to detect the presence of 65 chemicals that are evaluated as 18 individual chemicals with the remaining 47 chemicals being combined into 12 chemical groups known as isomer groups.

The second approach consists of two parts: (1) planned air sampling and analysis and (2) unplanned (tVOC sensor-triggered) air sampling and analysis. This report details the triggered sampling and analysis portion of the second approach. Triggered samples are collected automatically for one hour when tVOCs are detected by the tVOC sensor at an airborne concentration of 1 part per million (ppm) or higher for 1 minute or longer. This report analyzes the data from a tVOC sensor-triggered air sample collected at CM5 – Central Elementary School on November 14, 2025. The planned air sample results are available in a separate report.

This risk assessment looks at whether measured concentrations of individual or cumulative (combined) VOCs could potentially be associated with an increased risk of acute (short-term) adverse health effects. The health risk calculations described in this report were performed per federal and state guidance. The risk assessment of the November 14, 2025 1-hour triggered sample at CM5 – Central Elementary School resulted in the following overall findings:

- All measured individual air concentrations of detected VOCs in the November 14, 2025 sensor-triggered sample fell below their respective acute health-based RLs (Table 4, Figure 4).
- The November 14, 2025 sensor-triggered sample's cumulative hazard index (CM5 HI = 0.19) was not above the level of concern (HI = 1) but was higher than the planned air sample's cumulative hazard index (CM5 HI = 0.02) collected at the same location during the same quarter (Figure 5).
- The measured concentrations of VOCs reported for this triggered sample are not expected to be associated with an increased risk of adverse acute health effects, even for sensitive sub-populations.

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1.0 Introduction

In response to community feedback received by Suncor Energy (U.S.A.) Inc. (Suncor) during community engagement that was conducted in the fall of 2020, Suncor voluntarily developed a continuous, near real-time air monitoring program to gain insight into the air quality for neighborhoods in the vicinity of Suncor's operations in Commerce City, Colorado, in 2021. On December 31, 2024, Suncor became required to conduct community monitoring pursuant to CRS § 25-7-146(3)(a). Suncor, however, voluntarily engaged a third-party consultant to perform health risk assessments and publish reports of its air monitoring results online. Onterris - Air Quality Services, LLC was contracted by Suncor to deploy, operate, and maintain the network in the Commerce City and North Denver (CCND) neighborhoods, perform screening-level health risk assessments, and publish reports on the air monitoring results online.

Air monitoring was accomplished through three separate technical approaches:

1. Continuous, near real-time air monitoring for the following compounds using sensor technology: carbon monoxide (CO), sulfur dioxide (SO_2), hydrogen sulfide (H_2S), nitrogen dioxide (NO_2), particulate matter ($PM_{2.5}$), total volatile organic compounds (tVOCs), benzene, toluene, ethylbenzene, and xylenes;

2. Periodic (planned and triggered) air sample collection and laboratory analysis for the presence of 59 VOCs from Summa canisters; and

3. Periodic real-time air monitoring throughout six neighborhoods using a mobile monitoring van to detect the presence of 65 chemicals that are evaluated as 18 individual chemicals with the remaining 47 chemicals being combined into 12 chemical groups known as isomer groups.

The second approach consists of two parts: (1) planned air sampling and analysis and (2) unplanned "tVOC sensor-triggered" air sampling and analysis. This report details the triggered sampling and analysis portion of the second approach. The objective of this report is to provide results from a sensor-triggered canister sample collected on November 14, 2025, at CM5 – Central Elementary School. The measured concentrations for this single sample were compared to established acute (short-term) health-based reference levels (RLs) and compared to planned samples collected at the same location from the same quarter. The planned air sample results are available in a separate report. Air monitoring, sampling, and analysis from all three approaches were conducted in accordance with the Quality Assurance Project Plan (QAPP) and are available online at www.ccnd-air.com/documents.

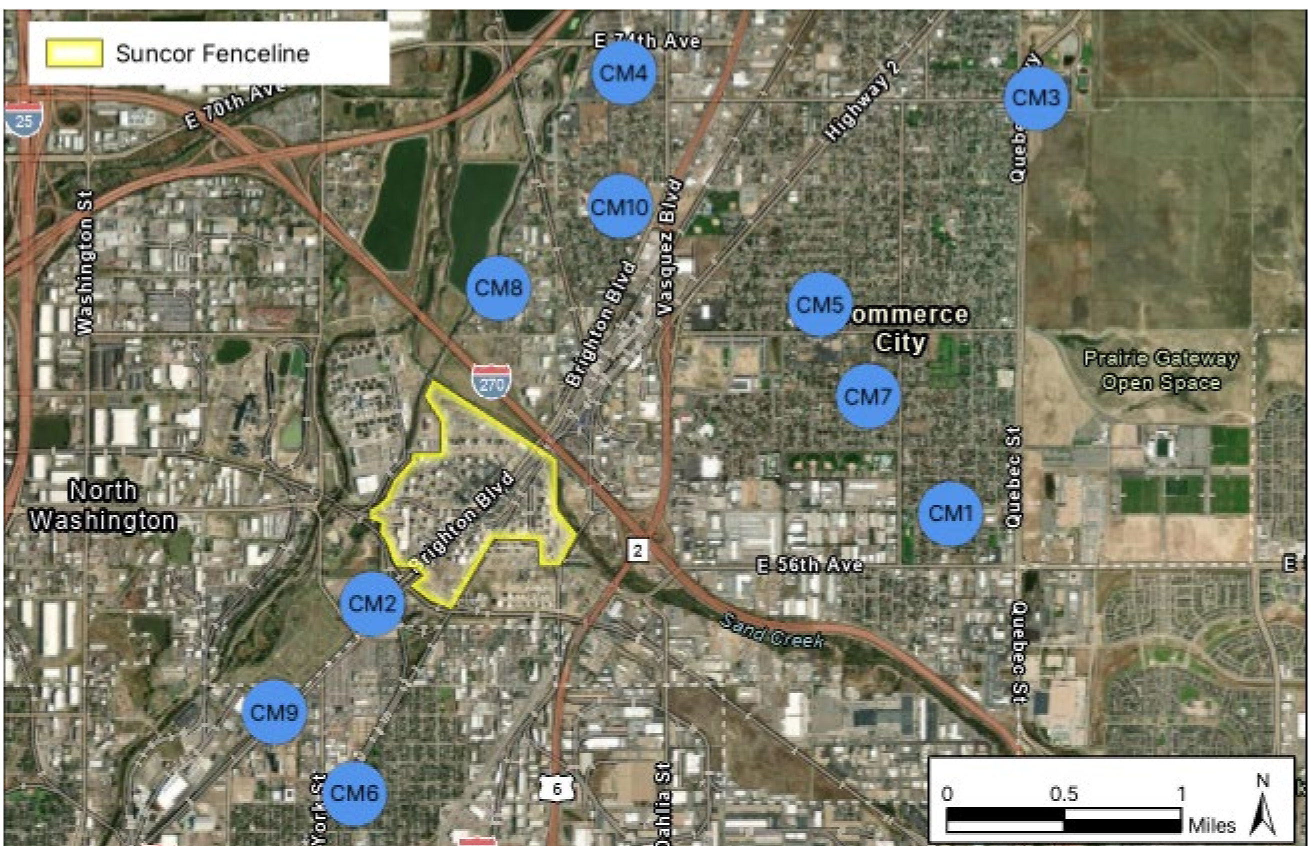
2.0 Methods

2.1 Air Monitoring Site Description

Continuous air monitoring sensors were installed at ten locations across CCND neighborhoods within a three-mile radius of Suncor operations. Eight of the sensors (CM1 - CM8) were installed in July 2021 and two additional sensors were installed in December 2021 (CM9) and March 2022 (CM10), respectively. The monitor locations are shown in Figure 1 and described in Table 1; and were selected based on the following criteria:

- Historical wind pattern data
- Proximity to Suncor operations and other stationary sources not operated by Suncor
- Existing infrastructure, as well as site access and safety
- Community feedback

Figure 1 Map of 10 CCND Monitor Locations



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Vantor

Table 1 CCND Monitors and Summa Canister Sampling Locations Sampling

Location ID	Secondary ID	GPS Coordinates	Distance from the Center of Suncor Operations (miles)	Cross Streets
CM1	Rose Hill Elementary School	39.80164, -104.90882	2.0	E. 58th Ave. & Oneida St., Commerce City
CM2	Suncor Business Center	39.79630, -104.95727	0.70	Brighton Blvd. & York St., Commerce City
CM3	Adams City High School	39.82736, -104.90193	2.9	E. 72nd Ave. & Quebec Pkwy, Commerce City
CM4	Adams City Middle School	39.82893, -104.93499	1.9	Birch St. & E. 72nd Ave., Commerce City
CM5	Central Elementary School	39.81365, -104.92191	1.7	Holly St. & E. 64th Ave., Commerce City
CM6	Focus Points Family Resource Center	39.78436, -104.95663	1.4	Columbine St. & 48th Ave., Denver
CM7	Kearney Middle School	39.80888, -104.91545	1.7	E 62nd Ave. & Kearney St., Commerce City
CM8	Monroe	39.81560, -104.94503	0.85	Monroe St. & E 64th Ave., Denver
CM9	Riverside Cemetery	39.78936, - 104.96308	1.7	N Brighton Blvd. & Brighton Blvd., Commerce City
CM10	Alsup Elementary School	39.820268, -104.936616	1.2	East 68th Ave. & Birch St., Commerce City

2.2 Air Sampling Methods

An unplanned (tVOC sensor-triggered) air sample collection occurred at 7:36 a.m. at the CM5 – Central Elementary School location on November 14, 2025, after the tVOC sensor had a sustained reading of 1 ppm or greater for longer than one minute.

An Entech Instruments Silonite™ CS1200E Passive Canister Sampler connected to 6-liter chemically inert stainless steel evacuated canister (colloquially referred to as “Summa” canister) was used to collect the sensor-triggered sample over a 1-hour period. Prior to deployment, the Summa canister was cleaned and blanked for use according to laboratory standard operating procedures. All sampling and quality assurance procedures were performed by Onterris. The Summa canister sampling and analysis was conducted in accordance with the Quality Assurance Project Plan (QAPP) available online at www.ccnd-air.com/documents.

The sensor-triggered canister sample was shipped to Enthalpy Analytical in Deer Park, Texas. The United States Environmental Protection Agency (USEPA) Compendium Method TO-14A “*Determination of Volatile Organic Compounds (VOCs) in Ambient Air using Specially Prepared Canisters with Subsequent Analysis by Gas Chromatography*” and TO-15 entitled “*Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*” was followed for both sampling and analysis methodology. A total of 59 compounds were selected for analysis in this assessment, based on the typical suite of compounds monitored for in urban and industrial areas, accounting for laboratory analysis capabilities (Table 2).

The planned air sample that was used in this report as a comparison to the sensor-triggered canister data) was collected during Q4 of 2025 from the CCND monitoring location. The planned air sample was collected during a time when near real-time tVOC sensors indicated tVOC concentrations to be less than the 1-ppm trigger level. Planned samples were collected from 10 CCND locations during the quarter and analyzed using the same methods as the triggered sample. Complete planned air sample results are available in a separate report.

Table 2 Compounds Measured in Summa Canisters

	Compound Name	CAS Number	Reference Level Source	Reference Level (ppbv)	Method Detection Limit (ppbv)*
1	1,2,3-trimethylbenzene†	526-73-8	TCEQ Short-Term AMCV	3,000	0.098
2	1,2,4-trimethylbenzene‡	95-63-6	TCEQ Short-Term AMCV	3,000	0.035
3	1,3,5-trimethylbenzene‡	108-67-8	TCEQ Short-Term AMCV	3,000	0.043
4	1,3-butadiene‡	106-99-0	OEHHA Acute REL	298	0.035
5	1,3-diethylbenzene†	141-93-5	TCEQ Short-Term AMCV	450	0.12
6	1,4-diethylbenzene†	105-05-5	TCEQ Short-Term AMCV	450	0.13
7	1-butene†	106-98-9	TCEQ Short-Term AMCV	27,000	0.073
8	1-hexene†	592-41-6	TCEQ Short-Term AMCV	500	0.087
9	1-pentene†	109-67-1	TCEQ Short-Term AMCV	12,000	0.067
10	2,2,4-trimethylpentane‡	540-84-1	TCEQ Short-Term AMCV	4,100	0.035
11	2,2-dimethylbutane†	75-83-2	TCEQ Short-Term AMCV	5,400	0.075
12	2,3,4-trimethylpentane†	565-75-3	TCEQ Short-Term AMCV	4,100	0.072
13	2,3-dimethylbutane†	79-29-8	TCEQ Short-Term AMCV	5,400	0.072
14	2,3-dimethylpentane†	565-59-3	TCEQ Short-Term AMCV	8,300	0.071
15	2,4-dimethylpentane†	108-08-7	TCEQ Short-Term AMCV	8,300	0.07
16	2-ethyltoluene†	611-14-3	TCEQ Short-Term AMCV	250	0.076
17	2-methylheptane†	592-27-8	TCEQ Short-Term AMCV	4,100	0.072
18	2-methylhexane†	591-76-4	TCEQ Short-Term AMCV	8,300	0.071
19	2-methylpentane†	107-83-5	TCEQ Short-Term AMCV	5,400	0.072
20	3-methylheptane†	589-81-1	TCEQ Short-Term AMCV	4,100	0.057
21	3-methylhexane†	589-34-4	TCEQ Short-Term AMCV	8,300	0.06
22	3-methylpentane†	96-14-0	TCEQ Short-Term AMCV	5,400	0.096
23	4-ethyltoluene‡	622-96-8	TCEQ Short-Term AMCV	250	0.035
24	acetylene†	74-86-2	TCEQ Short-Term AMCV	25,000	0.073
25	benzene‡	71-43-2	ATSDR Acute MRL	9	0.035
26	butane†	106-97-8	TCEQ Short-Term AMCV	92,000	200
27	carbon disulfide‡	75-15-0	OEHHA Acute REL	1,991	0.035
28	cis-2-butene†	590-18-1	TCEQ Short-Term AMCV	15,000	0.071
29	cis-2-pentene†	627-20-3	TCEQ Short-Term AMCV	12,000	0.069
30	cyclohexane‡	110-82-7	TCEQ Short-Term AMCV	1,000	0.035
31	cyclopentane†	287-92-3	TCEQ Short-Term AMCV	5,900	0.061
32	ethane†	74-84-0	NA	NA	260
33	ethene†	74-85-1	TCEQ Short-Term AMCV	500,000	0.071
34	ethylbenzene‡	100-41-4	ATSDR Acute MRL	5,000	0.035
35	isobutane†	75-28-5	TCEQ Short-Term AMCV	33,000	0.046
36	isopentane†	78-78-4	TCEQ Short-Term AMCV	68,000	0.046
37	isoprene†	78-79-5	TCEQ Short-Term AMCV	1,400	0.063
38	isopropylbenzene‡	98-82-8	TCEQ Short-Term AMCV	510	0.035
39	m,p-xylenes‡	179601-23-1	ATSDR Acute MRL	2,000	0.04
40	m-ethyltoluene†	620-14-4	TCEQ Short-Term AMCV	250	0.06

	Compound Name	CAS Number	Reference Level Source	Reference Level (ppbv)	Method Detection Limit (ppbv)*
41	methylcyclohexane†	108-87-2	TCEQ Short-Term AMCV	4,000	0.057
42	methylcyclopentane†	96-37-7	TCEQ Short-Term AMCV	750	0.069
43	n-decane†	124-18-5	TCEQ Short-Term AMCV	1,000	0.075
44	n-dodecane†	112-40-3	CDPHE Acute	1,720	0.97
45	n-heptane‡	142-82-5	TCEQ Short-Term AMCV	8,300	0.035
46	n-hexane‡	110-54-3	TCEQ Short-Term AMCV	5,400	0.035
47	n-nonane†	111-84-2	TCEQ Short-Term AMCV	3,000	0.05
48	n-octane†	111-65-9	TCEQ Short-Term AMCV	4,100	0.053
49	n-pentane†	109-66-0	TCEQ Short-Term AMCV	68,000	100
50	n-undecane†	1120-21-4	TCEQ Short-Term AMCV	550	0.13
51	naphthalene‡	91-20-3	TCEQ Short-Term AMCV	95	0.045
52	o-xylene‡	95-47-6	ATSDR Acute MRL	1,700	0.035
53	propane†	74-98-6	NA	NA	250
54	propylbenzene‡	103-65-1	TCEQ Short-Term AMCV	510	0.035
55	propylene†	115-07-1	NA	NA	0.06
56	tetrachloroethene‡	127-18-4	ATSDR Acute MRL	6	0.035
57	toluene‡	108-88-3	ATSDR Acute MRL	2,000	0.035
58	trans-2-butene†	624-64-6	TCEQ Short-Term AMCV	15,000	0.068
59	trans-2-pentene†	646-04-8	TCEQ Short-Term AMCV	12,000	0.073

*MDL values may vary depending on canister pressurization factors and/or any required dilutions; NA - Not Avaliable; ppbv - parts per billion (volume); AMCV – Air Monitoring Comparison Value; MRL - Minimum Risk Level; REL - Reference Exposure Level; TCEQ - Texas Commission on Environmental Quality; ATSDR - Agency for Toxic Substances and Disease Registry; OEHHA - Office of Environmental Health Hazard Assessment; CDPHE - Colorado Department of Public Health and Environment; † Method EPA TO-14A; ‡ Method EPA TO-15.

2.3 Reference Level Selection for Health Screening Risk Assessment

To perform a risk-based assessment, exposure concentrations must be compared to reference levels (RLs). Reference levels are established by state and federal agencies following extensive review and assume that, if the exposure levels fall below the RL, then no acute or chronic adverse effect is expected in human health and/or the environment, even for sensitive populations.

The RLs used in this report are from the Colorado Department of Public Health and Environment's (CDPHE) Fall 2019 Health Guideline Values.[1] The CDPHE's Fall 2019 Health Guideline Values adopted levels from other state and federal programs, including (Table 3):

- Agency for Toxic Substances and Disease Registry (ATSDR) acute minimum risk levels (MRL);
- California EPA Office of Environmental Health Hazard Assessment (OEHHA) Acute Reference Exposure Levels (REL); and
- Texas Commission on Environmental Quality (TCEQ) Air Monitoring Comparison Values (AMCVs).

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[1] Colorado Department of Public Health and Environment, Oil and Gas Health Information Response Program, Toxicology and Risk Assessment Section, "Updated acute and chronic health guidance values for use in preliminary risk assessment" (September 20, 2019).

CDPHE also derives some of its own Health Guideline Values.[2] If the chemical was not listed by CDPHE, Onterris followed a federal and state recommended hierarchy for selection of RLs (Table 2).

By definition, the RLs used in this report are values that "*are set below levels that, based on current information, might cause adverse health effects in the people most sensitive*."[2] This is because RLs are based on observed toxicity in human or animal studies with an added safety factor to account for uncertainties and variabilities in the toxicity data. Therefore, these values are intended to represent the level at which there is no potential increased risk of adverse health effects being observed in a population, accounting for susceptible individuals. As such, if exposure is found to be above the RLs during the screening-level risk assessment, additional steps, including a more nuanced exposure characterization are required before determining if the population will experience changes in risk of adverse health effects.

In addition to RLs, the USEPA also has established values for use in emergency situations, termed Acute Exposure Guideline Levels (AEGLs) that are also presented as another point of comparison. Unlike RLs that can be thousands of times below exposure levels where adverse effects are observed, AEGL values are levels at which different acute adverse health effects may be anticipated to occur. However, a concentration above an AEGL-1 value does not necessarily mean that health effects will occur. According to USEPA, "*AEGL-1 represents exposure levels that could produce mild and progressively increasing but transient and non-disabling odor, taste, and sensory irritation or certain asymptomatic, non-sensory effects. With increasing airborne concentration above each AEGL, there is a progressive increase in the likelihood of occurrence and the severity of effects described for each corresponding AEGL [i.e., AEGL-2 or AEGL-3].*"[3] The AEGL-1 60-minute value, if available for the applicable chemical, was also used for comparison purposes because it is more precautionary (than AEGL-2 or AEGL-3) as the AEGL-1 level reflects protecting against acute health effects that are reversible upon cessation of exposure.

2.4 Screening Health Risk Assessment Methods

To determine whether exposure to the detected concentrations of individual or cumulative (combined) chemicals in the air could potentially alter the risk of acute (short-term) health effects, Onterris conducted a screening-level public health risk assessment, consistent with federal and state risk assessment guidelines. A tiered approach to this risk assessment was used. This approach involves one or more iterative steps (or tiers) being performed in which health risks are calculated and evaluated multiple times. In most cases, risk assessors cannot know exactly the level of chemical exposure experienced by individuals or communities. Therefore, the first tier involves the use of exposure assumptions that are health-conservative.

During this process, data reflecting the maximum exposure potential are assumed during the risk calculations. If this screening level risk assessment indicates the estimated community exposure is above the RL, it does not mean that adverse health effects are occurring or will occur, but rather a

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[2] https://www.atsdr.cdc.gov/minimal-risk-levels/php/about/?CDC_AAref_Val=https://www.atsdr.cdc.gov/mrls/index.html
[3] https://www.epa.gov/aegl/about-acute-exposure-guideline-levels-aegls

more detailed exposure characterization is required to determine whether the exposure is higher than the RL. For this assessment, Onterris performed a screening-level risk assessment that used the 1-hour canister measurement as the exposure concentration (EC) and the RLs provided by the CDPHE or other state/federal agencies to generate a hazard quotient (HQ). The HQ is a measure of risk that is calculated by dividing the EC by the corresponding RL for each compound individually (Eq. 1) In this assessment, HQs were generated for the individual chemicals and chemical groups (Table 2) with the lowest available risk level. Where the EC was determined to be below the detection limit, the method detection limit (MDL) reported by the laboratory was assigned.

Eq. 1 – Hazard Quotient (HQ) Equation

$$Hazard\ Quotient\ (HQ) = \frac{Exposure\ Concentration\ (EC)}{Reference\ Level\ (RL)}$$

The assumptions used in this assessment were chosen to be health protective of human health. First, the EC used was the 1-hour concentration of each measured compound. The EC value was likely higher than the actual average ambient air concentration as dispersion would likely result in decreased air concentrations over periods more than 1-hour. Second, the RLs used during the HQ calculation assume exposure occurs for 1-hour up to multiple days. This is because the RLs chosen are acute health hazard values, which are meant to be protective for up to 14 days of exposure. Overall, this set of assumptions uses a higher than likely exposure concentration and a lower threshold of concern for health outcomes, making it more health protective than other paradigms.

To determine the impact of cumulative chemical exposure a Hazard Index (HI) was generated. This is a process by which HQs are summed across chemicals (Eq. 2). This is a health-protective approach because it assumes that all the measured chemicals exert an adverse effect on the body in a similar manner, which is rarely the case. In this assessment, HIs were calculated by summing HQs across all individual chemicals and chemical groups in Table 2.

Eq. 2 – Hazard Quotient (HI) Equation

$$Hazard\ Index\ (HI) = \sum_i HQ_i$$

An HQ or HI of less than or equal to one is an indication that the estimated exposure is likely to be without an appreciable risk of adverse acute health effects, even for sensitive sub-populations.[4] As such, an exceedance of an acceptable risk level does not indicate that adverse health effects are likely but rather that "*health assessors may want to look more closely at a site where they find exposures higher than the MRLs*".[5] In other words, an HQ or HI greater than one suggests a need to refine the risk assessment process with more realistic details of potential exposure to determine if risk exists.

[4] USEPA. 2004. Air Toxics Risk Assessment Reference Library. Volume 1. U.S. Environmental Protection Agency Office of Air Quality Planning and Standards Research Triangle Park, NC. EPA-453-K-04-001A
[5] https://www.atsdr.cdc.gov/minimal-risk-levels/about/index.html

3.0 Results

3.1 Summary of Air Sampling Results

At approximately 7:36 a.m. on November 14, 2025, the sensor tVOC reading on the CM5 – Central Elementary School sensor was observed above 1 ppm for several minutes, which triggered the collection of a 1-hour triggered canister sample. The maximum sensor tVOC concentration during this time was 1.97 ppm.

Table 3 below shows the triggered canister's compound-specific concentration results. Figure 2 provides the 1-minute sensor tVOC concentrations and the wind direction data. Figure 3 displays wind rose of data collected at the CM5 – Central Elementary School location from 6:36 a.m. to 8:35 a.m. on November 14, 2025. Prior to, during, and after the sensor tVOC readings above 1 ppm, the winds were primarily coming from the south-southeast (SSE) (Figures 2 and 3).

Planned samples at ten CCND sampling locations (including CM5 – Central Elementary School) were collected in Q4 of 2025 to evaluate typical speciated VOC levels in the CCND neighborhoods. For comparison, a summary of the planned air sample taken at the CCND CM5 – Central Elementary School monitoring location is shown in Table 3. The full planned air sample results are available in a separate report.

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Table 3 CM5 – Central Elementary School Planned and Sensor-Triggered Event Sample Concentrations (ppbv)

Compound Name	CAS Number	Air Concentration in Planned Canister Sample (ppbv) December 9, 2025	Air Concentration in Sensor-Triggered Canister Sample (ppbv) November 14, 2025
1,2,3-trimethylbenzene	526-73-8	<0.1	<0.19
1,2,4-trimethylbenzene	95-63-6	0.04 (B,J)	0.23
1,3,5-trimethylbenzene	108-67-8	<0.07	0.11
1,3-butadiene	106-99-0	<0.03	0.14
1,3-diethylbenzene	141-93-5	<0.1	<0.22
1,4-diethylbenzene	105-05-5	<0.1	<0.25
1-butene	106-98-9	<0.1	4.7
1-hexene	592-41-6	<0.08	0.35 (J)
1-pentene	109-67-1	1.3	1.8
2,2,4-trimethylpentane	540-84-1	0.04 (B,J)	0.15
2,2-dimethylbutane	75-83-2	<0.11	4.8
2,3,4-trimethylpentane	565-75-3	<0.07	<0.14
2,3-dimethylbutane	79-29-8	<0.1	2.6
2,3-dimethylpentane	565-59-3	0.1 (J)	1.4
2,4-dimethylpentane	108-08-7	0.11 (J)	0.39 (J)
2-ethyltoluene	611-14-3	<0.1	<0.15
2-methylheptane	592-27-8	<0.08	0.26 (J)
2-methylhexane	591-76-4	0.1 (J)	1.3
2-methylpentane	107-83-5	0.21 (J)	11
3-methylheptane	589-81-1	<0.09	0.2 (J)
3-methylhexane	589-34-4	<0.08	0.5 (J)
3-methylpentane	96-14-0	0.15 (J)	6
4-ethyltoluene	622-96-8	<0.04	0.1
acetylene	74-86-2	0.39 (J)	1.9
benzene	71-43-2	0.15 (B)	1.3
butane	106-97-8	1.3	190
carbon disulfide	75-15-0	<0.02	<0.02
cis-2-butene	590-18-1	<0.05	12
cis-2-pentene	627-20-3	<0.1	1.9
cyclohexane	110-82-7	0.06 (B,J)	2.8
cyclopentane	287-92-3	<0.09	2.4
ethane	74-84-0	4.3	17
ethene	74-85-1	0.93	3.8
ethylbenzene	100-41-4	0.05 (B,J)	0.29
isobutane	75-28-5	0.48 (B)	56
isopentane	78-78-4	0.58	75
isoprene	78-79-5	<0.09	<0.12
isopropylbenzene	98-82-8	<0.03	0.05 (J)
m,p-xylenes	179601-23-1	0.14 (B,J)	0.87
m-ethyltoluene	620-14-4	<0.1	0.11 (J)

Compound Name	CAS Number	Air Concentration in Planned Canister Sample (ppbv) December 9, 2025	Air Concentration in Sensor-Triggered Canister Sample (ppbv) November 14, 2025
methylcyclohexane	108-87-2	<0.08	0.91
methylcyclopentane	96-37-7	<0.08	4.6
n-decane	124-18-5	<0.1	<0.14
n-dodecane	112-40-3	<0.1	<1.9 (b)
n-heptane	142-82-5	0.18 (B)	1.2
n-hexane	110-54-3	0.34	7
n-nonane	111-84-2	0.11 (J)	<0.1
n-octane	111-65-9	0.17 (J)	0.23 (J)
n-pentane	109-66-0	0.52	33
n-undecane	1120-21-4	<0.1	<0.25
naphthalene	91-20-3	<0.08	0.09 (B,J)
o-xylene	95-47-6	0.05 (B,J)	0.28
propane	74-98-6	2.9	13
propylbenzene	103-65-1	<0.04	0.09
propylene	115-07-1	0.26 (J)	1.8
tetrachloroethene	127-18-4	<0.02	0.05 (J)
toluene	108-88-3	0.38	2.7
trans-2-butene	624-64-6	<0.08	16
trans-2-pentene	646-04-8	<0.08	3.5

ppbv = parts per billion by volume
Laboratory non-detections are reported as less than ("<") the method detection limit.
Result qualifiers: (J) flag indicates the reported value is an estimate and was detected below the reporting limit; (B) flag indicates that contamination was found in associated Method Blank; (b) A quadratic curve was used for dodecane instead of the method-specified average response curve.

Figure 2 CM5 – Central Elementary School tVOC and Wind Direction November 14, 2025, 6:36 AM to 8:35 AM

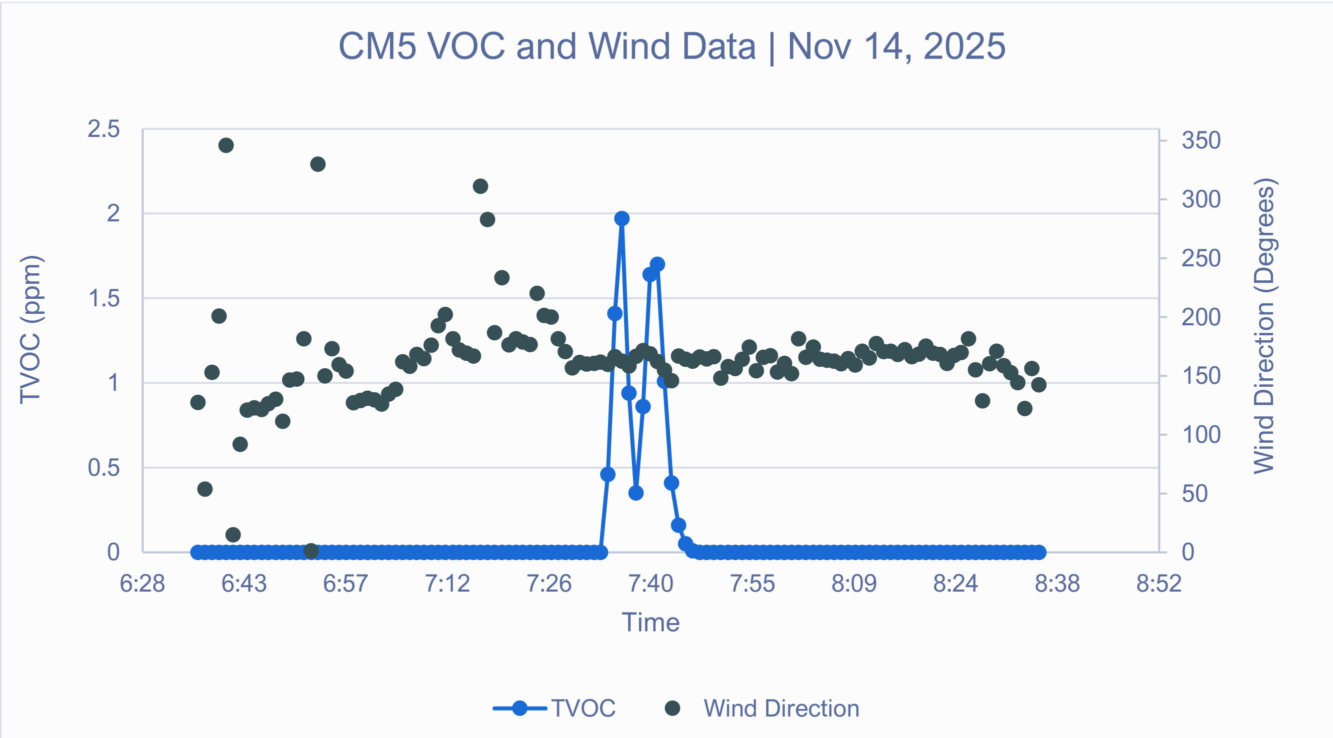
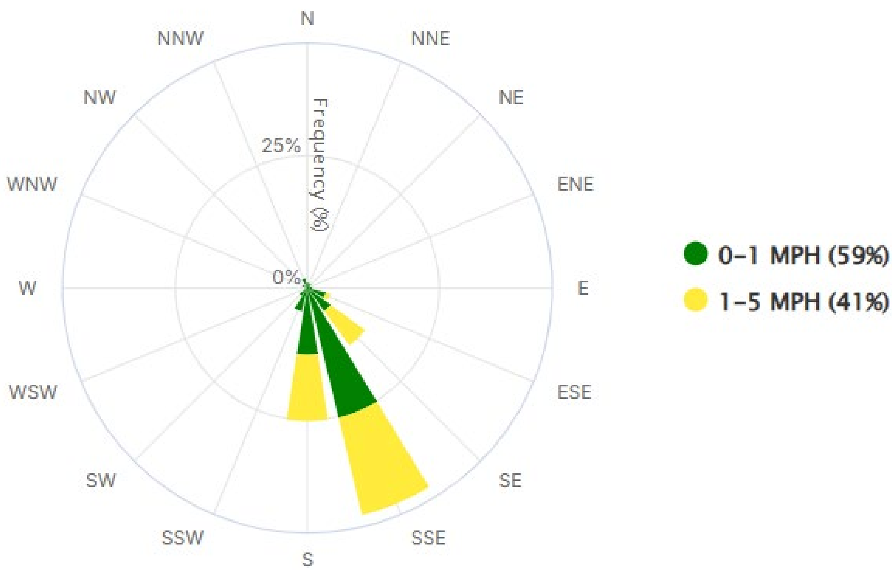


Figure 3 CM5 – Central Elementary School Wind Rose November 14, 2025, 6:36 AM to 8:35 AM



3.2 Screening Health Risk Assessment Results

The purpose of this screening health risk assessment was to determine whether exposure to the concentrations of individual or cumulative VOCs measured in the November 14, 2025 sensor-triggered sample collected at CM5 – Central Elementary School could potentially alter the risk of acute (short-term) health hazards. Acute health risks were estimated for this sample for each substance both individually (HQ) and combined (HI). The calculated acute HQ and HI are summarized in Table 4 and Figures 4-5. In general, the data and health risk assessment indicate:

- All measured individual air concentrations of detected VOCs in the November 14, 2025 sensor-triggered sample fell below their respective acute health-based reference levels (Table 4, Figure 4).
- The November 14, 2025 sensor-triggered sample's cumulative hazard index (CM5 HI = 0.19) was not above the level of concern (HI = 1) but was higher than the planned air sample's cumulative hazard index (CM5 HI = 0.02) collected at the same location during the same quarter (Figure 5).
- The measured concentrations of VOCs reported for this triggered sample are not expected to be associated with an increased risk of adverse acute health effects, even for sensitive sub-populations.

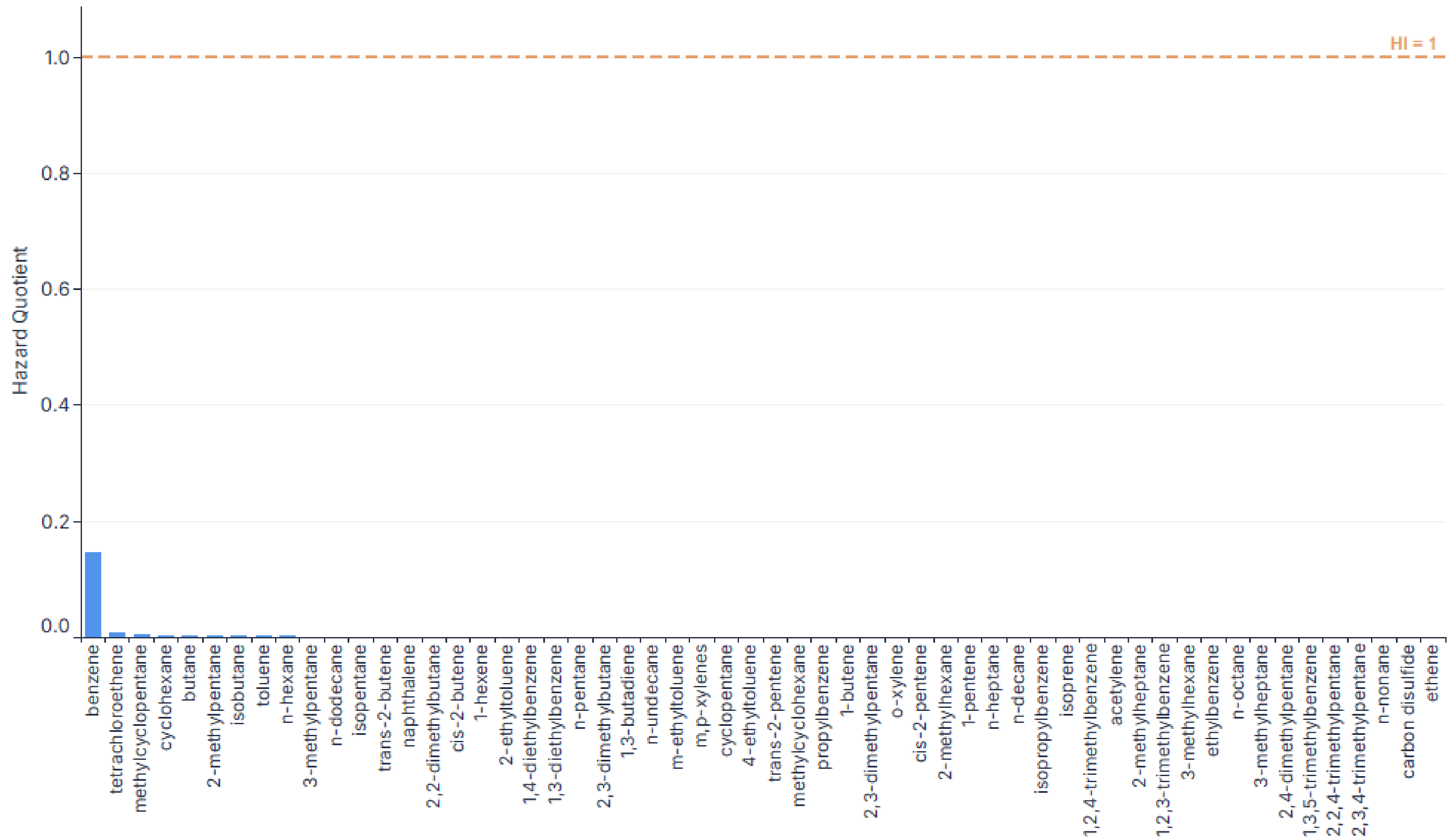
Table 4 Compound-Specific Hazard Quotients and Hazard Indices for November 14, 2025 Sensor-Triggered Sample at CM5 – Central Elementary School

Compound Name	CAS Number	Planned Canister Hazard Quotient December 9, 2025	Sensor-Triggered Canister Hazard Quotient November 14, 2025
1,2,3-trimethylbenzene	526-73-8	0.0000	0.0001
1,2,4-trimethylbenzene	95-63-6	0.0000	0.0001
1,3,5-trimethylbenzene	108-67-8	0.0000	0.0000
1,3-butadiene	106-99-0	0.0001	0.0005
1,3-diethylbenzene	141-93-5	0.0002	0.0005
1,4-diethylbenzene	105-05-5	0.0002	0.0006
1-butene	106-98-9	0.0000	0.0002
1-hexene	592-41-6	0.0002	0.0007
1-pentene	109-67-1	0.0001	0.0002
2,2,4-trimethylpentane	540-84-1	0.0000	0.0000
2,2-dimethylbutane	75-83-2	0.0000	0.0009
2,3,4-trimethylpentane	565-75-3	0.0000	0.0000
2,3-dimethylbutane	79-29-8	0.0000	0.0005
2,3-dimethylpentane	565-59-3	0.0000	0.0002
2,4-dimethylpentane	108-08-7	0.0000	0.0000
2-ethyltoluene	611-14-3	0.0004	0.0006
2-methylheptane	592-27-8	0.0000	0.0001
2-methylhexane	591-76-4	0.0000	0.0002
2-methylpentane	107-83-5	0.0000	0.0020
3-methylheptane	589-81-1	0.0000	0.0000
3-methylhexane	589-34-4	0.0000	0.0001
3-methylpentane	96-14-0	0.0000	0.0011
4-ethyltoluene	622-96-8	0.0002	0.0004
acetylene	74-86-2	0.0000	0.0001
benzene	71-43-2	0.0167	0.1444
butane	106-97-8	0.0000	0.0021
carbon disulfide	75-15-0	0.0000	0.0000
cis-2-butene	590-18-1	0.0000	0.0008
cis-2-pentene	627-20-3	0.0000	0.0002
cyclohexane	110-82-7	0.0001	0.0028
cyclopentane	287-92-3	0.0000	0.0004
ethane	74-84-0	NA	NA
ethene	74-85-1	0.0000	0.0000
ethylbenzene	100-41-4	0.0000	0.0001
isobutane	75-28-5	0.0000	0.0017
isopentane	78-78-4	0.0000	0.0011
isoprene	78-79-5	0.0001	0.0001
isopropylbenzene	98-82-8	0.0001	0.0001
m,p-xylenes	179601-23-1	0.0001	0.0004
m-ethyltoluene	620-14-4	0.0004	0.0004
methylcyclohexane	108-87-2	0.0000	0.0002

Compound Name	CAS Number	Planned Canister Hazard Quotient December 9, 2025	Sensor-Triggered Canister Hazard Quotient November 14, 2025
methylcyclopentane	96-37-7	0.0001	0.0061
n-decane	124-18-5	0.0001	0.0001
n-dodecane	112-40-3	0.0001	0.0011
n-heptane	142-82-5	0.0000	0.0001
n-hexane	110-54-3	0.0001	0.0013
n-nonane	111-84-2	0.0000	0.0000
n-octane	111-65-9	0.0000	0.0001
n-pentane	109-66-0	0.0000	0.0005
n-undecane	1120-21-4	0.0002	0.0005
naphthalene	91-20-3	0.0008	0.0009
o-xylene	95-47-6	0.0000	0.0002
propane	74-98-6	NA	NA
propylbenzene	103-65-1	0.0001	0.0002
propylene	115-07-1	NA	NA
tetrachloroethene	127-18-4	0.0033	0.0083
toluene	108-88-3	0.0002	0.0014
trans-2-butene	624-64-6	0.0000	0.0011
trans-2-pentene	646-04-8	0.0000	0.0003
Hazard Index	**--**	**0.0242**	**0.1859**

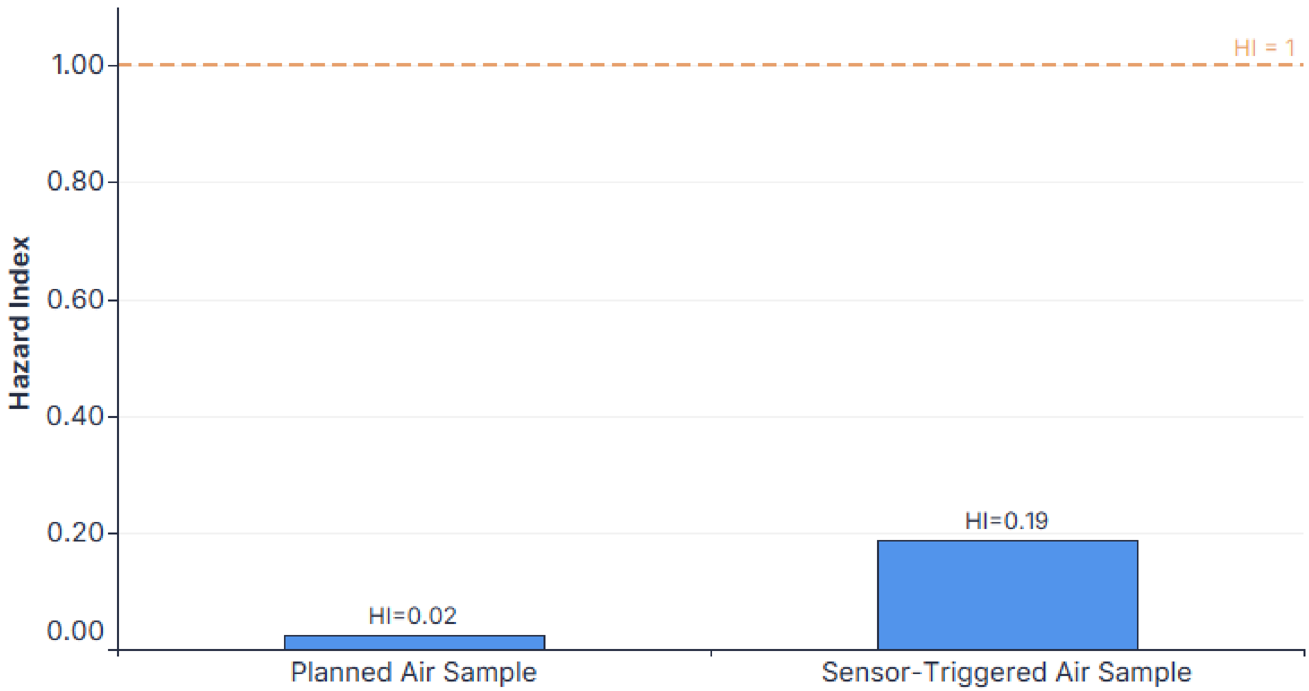
NA indicates not able to calculate due to lack of reference level

Figure 4 Compound-Specific Hazard Quotients for VOCs Detected in the November 14, 2025, Sensor-Triggered Sample at CM5 – Central Elementary School



Hazard quotient (HQ) is the exposure concentration (EC), or air concentration divided by the established health based reference level (RL) for each compound. According to the EPA, a HQ less than 1 (orange line) indicates that exposures are likely to be without appreciable risk of adverse acute health effects, even for sensitive sub-populations. Propylene, propane, and ethane did not have a RL and are not displayed.

Figure 5 Hazard Indices at the CCND CM5 – Central Elementary School for Planned (December 9, 2025) and Sensor-Triggered (November 14, 2025) Air Samples



Hazard Index (HI) is the sum of all combined hazard quotients (HQ). According to EPA, a HI less than or equal to one (orange line) indicates that exposures are likely to be without any appreciable risk of adverse acute health effects, even for sensitive sub-populations.

3.3 Strengths and Limitations

Scientific uncertainty is inherent in each step of the risk assessment process because all risk assessments incorporate a variety of assumptions and professional judgments.[6,7] Therefore, the acute health hazard estimates presented in this assessment are conditional estimates given a considerable number of assumptions about exposure and toxicity.

This screening-level inhalation risk assessment relied on a combination of health-protective exposure scenarios and input values (i.e., high-end exposures and health-protective selection of acute reference levels intended to reflect up to 14 days of exposure). Because of these assumptions, the estimates of acute hazards are likely to be overestimates of actual risk. However, this risk assessment did not address past or present health outcomes associated with current or past exposures. As such, this risk assessment cannot be used to make realistic predictions of biological effects and/or used to determine whether someone is ill (cancer or other adverse health effects) due to past or current exposures. This risk assessment was limited to inhalation exposures

[6] USEPA. 1989. Risk Assessment Guidance for Superfund, Vol. I: Human Health Evaluation Manual (Part A). EPA/540/1-89/002, Interim Final, Office of Emergency and Remedial Response, Washington DC
[7] USEPA. 2004. Air Toxics Risk Assessment Reference Library. Volume 1. U.S. Environmental Protection Agency Office of Air Quality Planning and Standards Research Triangle Park, NC. EPA-453-K-04-001A

from outdoor exposures to all potential sources. It can be used to inform on air quality in the CCND and guide decision-making.

4.0 Program Changes

No program changes are reported for this quarter.

Prepared by:

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Onterris Air Quality Services, LLC

Appendix A Sample Chain of Custodies

1125-1000-105178

ENTHALPY ANALYTICAL

Enthalpy Analytical - Houston

Air Chain of Custody Record				Turn Around Time (rush by advanced notice only)					
Lab No:				7 Day:		5 Day:	X	3 Day:	
Page:	1	of	1	2 Day:		1 Day:		Custom TAT:	

CUSTOMER INFORMATION		PROJECT INFORMATION	
Company:	MAQS	Name:	Suncor
Report To:	Antonios Tasoglou	Number:	PROJ-022555
Email:	antasoglou@montrose-env.com	P.O. #:	PO-082449
Address:	6270 Joyce Dr, Golden 80403	Address:	N/A
Phone:	412-330-7444	Global ID:	N/A
Fax:	N/A	Sampled By:	MAQS

Special Instructions:

**Canister pressure may increase as samples are shipping to a different elevation

	Sample ID (Location ID)	Type: (I) Indoor (A) Ambient (SV) Soil Vapor (S) Source	Equipment Information: Canister ID	Size (1L, 3L, 6L, 15L)	Flow Controller ID	Sampling Information: Sample Start Date	Sample Start Time	Vacuum Start ("Hg)	Sample End Date	Sample End Time	Vacuum End ("Hg)	Analysis Requested: TO-15 (BTEX)	Suncor List							
1	Central Elementary School (CM5)	A	40111	6l	16722	11/14/25	7:35 AM	-25	11/14/25	8:35 AM	-5		x							
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

001

	Signature	Print Name	Company / Title	Date / Time
1 Relinquished By:	CNS	Curtis Neuhring	Montrose / PM	7/11/2025 10:00
1 Received By:	[signature]	Jose Olan	Enthalpy	11-18-25 10:39
2 Relinquished By:				
2 Received By:				
3 Relinquished By:				
3 Received By:				NOV 18 '25 AM10:39