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Appendix B. Supplemental Data Tables and Graphs

Based on recommendations received from the community and other interested parties since the release of the January 2025 SNAPS data analysis update, California Air Resources Board (CARB) and Office of Environmental Health Hazard Assessment (OEHHA) staff have created a new Appendix B, which is supplemental to the January 2025 Update. The new tables and figures in this appendix use the same preliminary, limited dataset analyzed for the January Update and include the following additional information in response to feedback:

- Additional statistics for the Marycrest Manor Site during Summer 2023 (Table B1)
- Acute (short-term) health guidance values and the maximum concentrations used to calculate acute health risk for this preliminary, limited dataset (more acute analysis to come in future updates)
- Comparisons of preliminary SNAPS results to a regional monitoring site not adjacent to the Inglewood Oil Field (IOF) [Figures B4-B6, B11]
- Figures illustrating hourly changes in pollutants concentrations near the IOF (Figures B7-B10).

Note: At the time of this update (January 2025), staff had collected and processed less than 1/4 of the total air monitoring data and did not have a full year's worth of validated data, which is the minimum needed to account for seasonal variation and for longer exposure durations. Future SNAPS updates will include IOF data collected after the June 2023-June 2024 time period, as well as additional pollutant data from June 2023-June 2024 (Figures B1-B3).

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Table B1. Mean (average), median, and maximum hourly concentrations of several measured pollutants from June-August 2023. The stationary monitoring statistics (Table 2) from the Inglewood Oil Field February 2024 data update (https://ww2.arb.ca.gov/sites/default/files/2024-05/SNAPS_IOF_Communities_Update_February_2024.pdf) is updated below for 1,3-butadiene, benzene, carbon tetrachloride, and toluene. Acute (short-term) health guidance values are described in Table B2.

	MCM (west of IOF)	MCM (west of IOF)	MCM (west of IOF)	SPR (eastern edge of IOF)**	SPR (eastern edge of IOF)	SPR (eastern edge of IOF)
	Mean	Median	Maximum	Mean	Median	Maximum
PM_{2.5} (ug/m³)	7.5	7.0	30	7.2	6.0	34
O₃ (ppb)	28	28	63	28	29	67
CH₄ (ppm)	2.0	2.0	2.9	2.0	2.0	4.1
H₂S (ppb)	Data Below MDL	Data Below MDL	Data Below MDL	Data Below MDL	Data Below MDL	Data Below MDL
CO (ppm)	0.13	0.12	0.45	0.15	0.13	0.49
BC (ug/m³)	0.27	0.21	2.7	0.29	0.22	2.3
1,3-Butadiene (ppb)*	0.02	0.01	0.36	0.07	0.07	0.30
Benzene (ppb)	0.08	0.07	0.24	0.07	0.06	0.40
Carbon Tetrachloride (ppb)	0.05	0.05	0.11	0.05	0.06	0.14
Toluene (ppb)	0.11	0.09	0.49	0.12	0.09	1.1

*1,3-butadiene had a 14% detection rate at MCM for the June-August 2023 monitoring period. Non-detections are substituted with MDL/2.

**The analysis of speciated VOC data is currently in progress for SPR and WLAC for samples collected after August 2023.

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Table B2. Acute health guidance values and maximum concentrations used in January 2025 Inglewood Oil Field mid-monitoring update. The maximum concentrations used from the IOF monitoring sites are included.

Compound	Chemical Class	WLAC max, discrete (µg/m³) *	SPR max, discrete (µg/m³) *	SPR max, real-time (µg/m³) *	Acute HGV (µg/m³)	HGV Duration (hrs)	Type of HGV	HGV source	Organ or system HGV effects based on	Other affected systems
2-Methylnaphthalene	PAH	0.011	0.01	-	10000	1	REL	OEHHA	Eyes	Nervous, respiratory
Acetaldehyde	aldehyde	2.0	2.0	-	470	1	REL	OEHHA	Respiratory	Eyes
Acetone	VOC	14	22	-	20000	24	MRL	ATSDR	Nervous	-
Acrolein	VOC	0.83	1.2	-	2.5	1	REL	OEHHA	Respiratory	Eyes
Antimony	metal	-	-	0.72	1	24	MRL	ATSDR	Respiratory	-
Arsenic	metal	0.0008	0.0011	0.0059	0.2	1	REL	OEHHA	Developmental	Cardiovascular, nervous
Benzene	VOC	0.80	0.87	-	27	1	REL	OEHHA	Developmental	Immune, hematologic
Bis(2-ethylhexyl) phthalate	SVOC	0.006	0.002	-	2	24	oral MRL	ATSDR	Endocrine	Developmental
Bromomethane	VOC	0.27	0.26	-	3900	1	REL	OEHHA	CNS	Reproductive, developmental
Cadmium	metal	-	-	0.19	0.03	24	MRL	ATSDR	Respiratory	-
Carbon Disulfide	sulfur	48	146	-	6200	1	REL	OEHHA	Reproduction	Nervous
Carbon tetrachloride	VOC	0.60	0.62	-	1900		REL	OEHHA	Reproductive/developmental	Alimentary, nervous
Chloroform	VOC	0.17	0.16	-	150	1	REL	OEHHA	Reproductive/developmental	Nervous, respiratory
Chromium III**	metal	0.004	0.015	0.032	0.48	1	REL	OEHHA	Respiratory	-
Chromium VI	metal	0.00004	0.00016	0.00032	1.3	24	ReV	TCEQ	Respiratory	-
Copper	metal	0.014	0.082	0.18	100	1	REL	OEHHA	Respiratory	-

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Compound	Chemical Class	WLAC max, discrete (µg/m³) *	SPR max, discrete (µg/m³) *	SPR max, real-time (µg/m³) *	Acute HGV (µg/m³)	HGV Duration (hrs)	Type of HGV	HGV source	Organ or system HGV effects based on	Other affected systems
Formaldehyde	aldehyde	3.5	2.6	-	55	1	REL	OEHHA	Eyes	-
Freon 113	VOC	0.58	0.56	-	7990	1	TLV STEL	ACGIH	Nervous	Cardiovascular
Freon 12	VOC	3.0	3.0	-	20000	24	EEGL	NAS	Cardiovascular	Nervous, respiratory
Manganese	metal	0.017	0.020	-	5	24	ReV	TCEQ	Respiratory	-
Mercury	metal	-	-	0.0027	0.6	1	REL	OEHHA	CNS	-
Methyl ethyl ketone	aldehyde	0.58	0.44	-	13000	1	REL	OEHHA	Eyes	Respiratory
Naphthalene	PAH	0.0134	0.017	-	204	1	HBV	MDH	Respiratory	Hematological
Nickel	metal	0.002	0.004	0.02	0.2	1	REL	OEHHA	Immune	-
Perchloroethylene	VOC	0.21	0.27	-	20000	1	REL	OEHHA	Nervous	Eyes, respiratory
Phenol	SVOC	0.010	0.008	-	5800	1	REL	OEHHA	Respiratory	Eyes
Toluene	VOC	2.5	1.6	-	5000	1	REL	OEHHA	Nervous	Eyes, respiratory
Vanadium	metal	0.003	0.006	0.006	0.8	24	MRL	ATSDR	Respiratory	-
Zinc	metal	0.03	0.06	0.55	20	1	MAK	DFG	Respiratory	Immune

HGV: Health Guidance Value; PAH: polycyclic aromatic hydrocarbon; VOC: volatile organic compound; SVOC: semi-volatile organic compound; REL: Reference Exposure Level; OEHHA: Office of Environmental Health Hazard Assessment; MRL: Minimum Risk Level; ATSDR: Agency for Toxic Substances and Disease Registry; ReV: Reference Value; TCEQ: Texas Commission on Environmental Quality; TLV: Threshold Limit Value-Short-Term Exposure Limit; ACGIH: American Conference of Governmental Industrial Hygienists; EEGL: Emergency Exposure Guidance Level; NAS: National Academy of Sciences; HBV: Health-Based Value; MDH: Minnesota Department of Health; MAK: Maximum Workplace Concentration; DFG: Deutsche Forschungsgemeinschaft

* The max was either the maximum hourly measurement or the maximum 24-hour rolling measurement, depending on the HGV duration and monitoring data.

** New OEHHA REL developed since the Lost Hills draft report was released in 2024; older value was 12 µg/m3.

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Figure B1. Timeline of the discrete air monitoring data collection at IOF by site. The February 2024-June 2024 monitoring time period was included in this update (January 2025). The July 2024-February 2025 monitoring time period, indicated by the color change, will be included in the next data update.

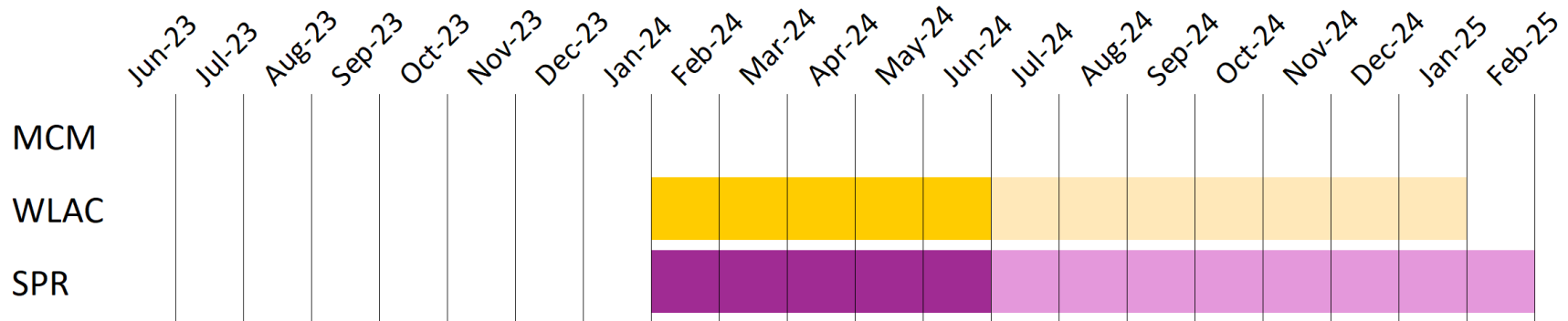
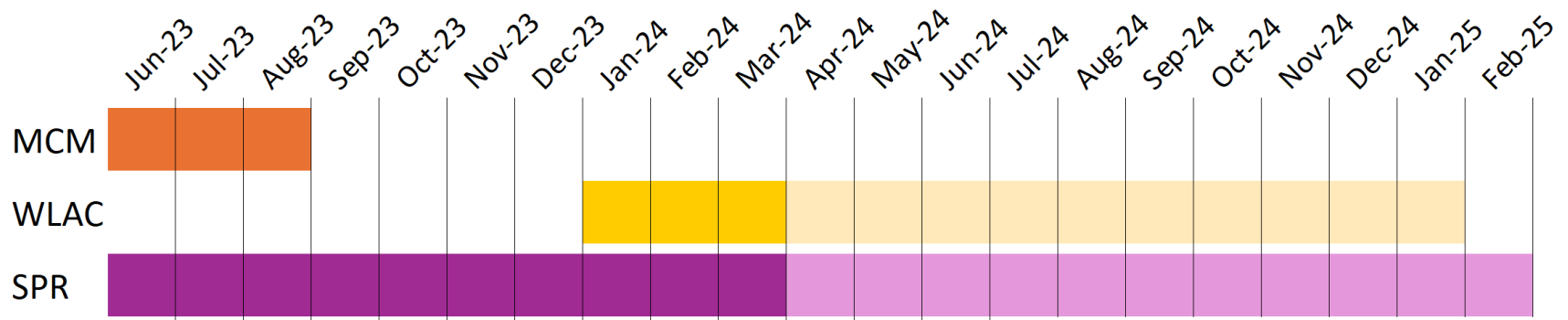
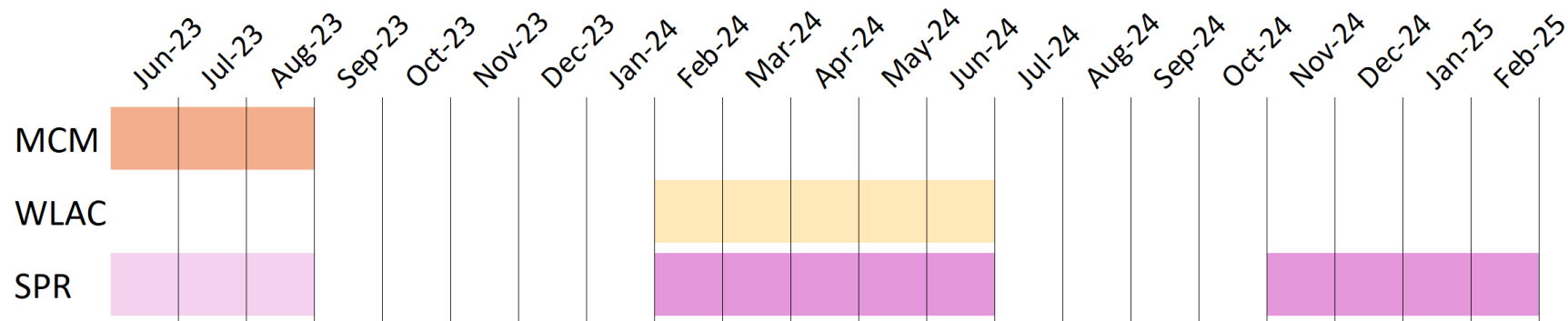


Figure B2. Timeline of the real-time air monitoring data collection at IOF by site. The June 2023-June 2024 monitoring time period was included in this update (January 2025). The April 2024-February 2025 monitoring time period, indicated by the color change, will be included in the next data update.



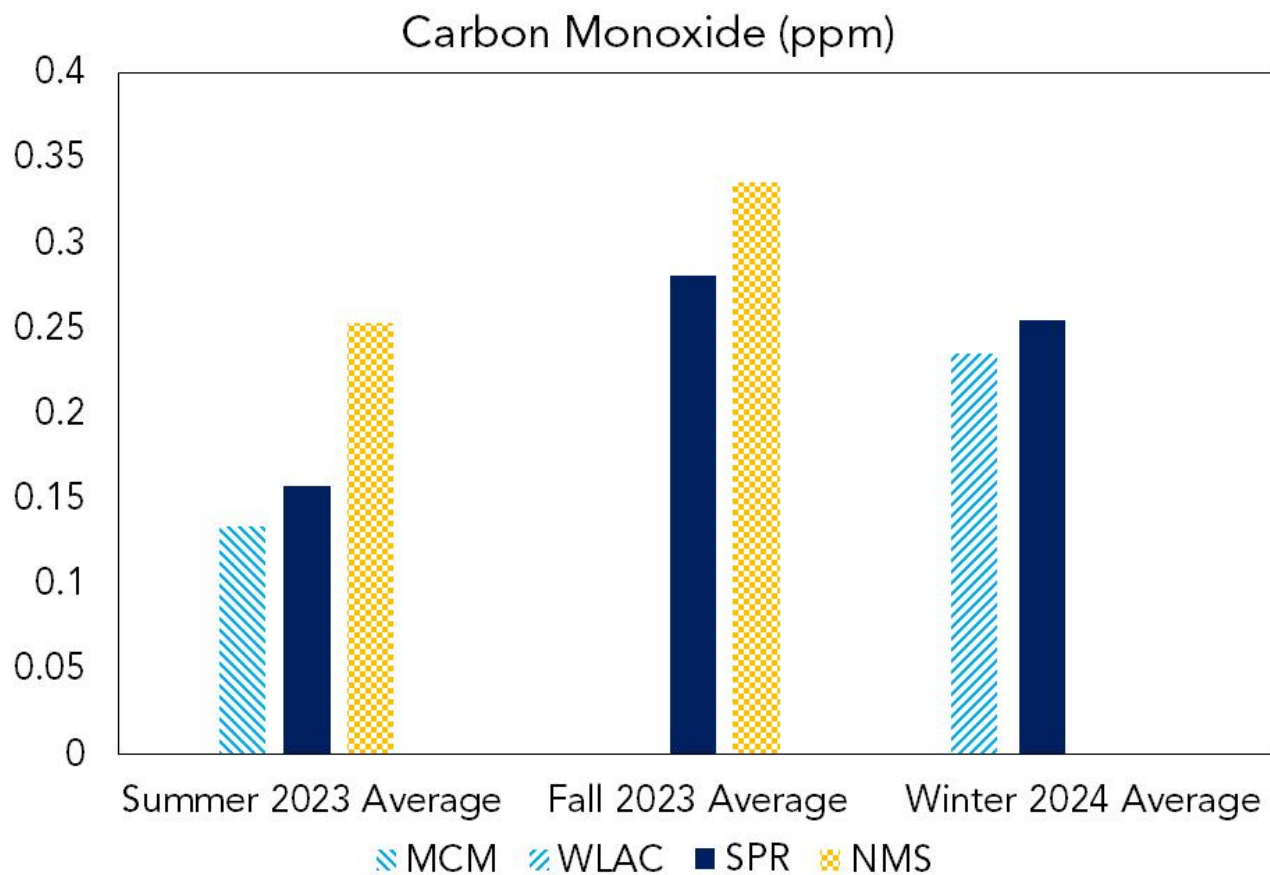
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Figure B3. Timeline of the real-time air monitoring data collection for speciated VOCs at IOF by site. No speciated VOC data was included in the January 2025 Update; all speciated VOC data will be included in the next data update.



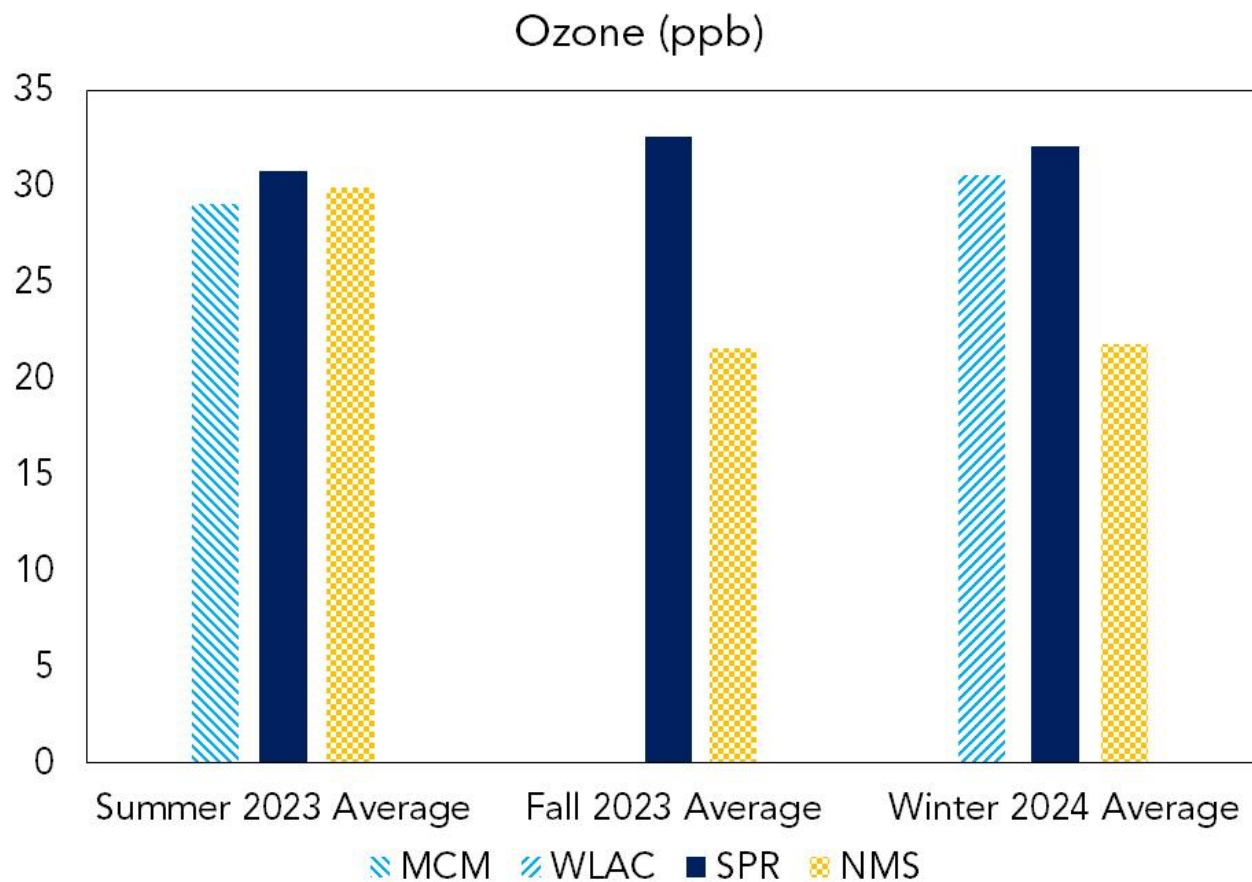
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Figure B4. Seasonal average carbon monoxide concentrations (ppm) at IOF monitoring sites and a non-SNAPS air monitoring site, North Main Street (NMS; see January 2025 Update Figure 2 for location), from June 2023-March 2024. Monitoring data were not available for MCM and WLAC in Fall 2023 or NMS in Winter 2024.



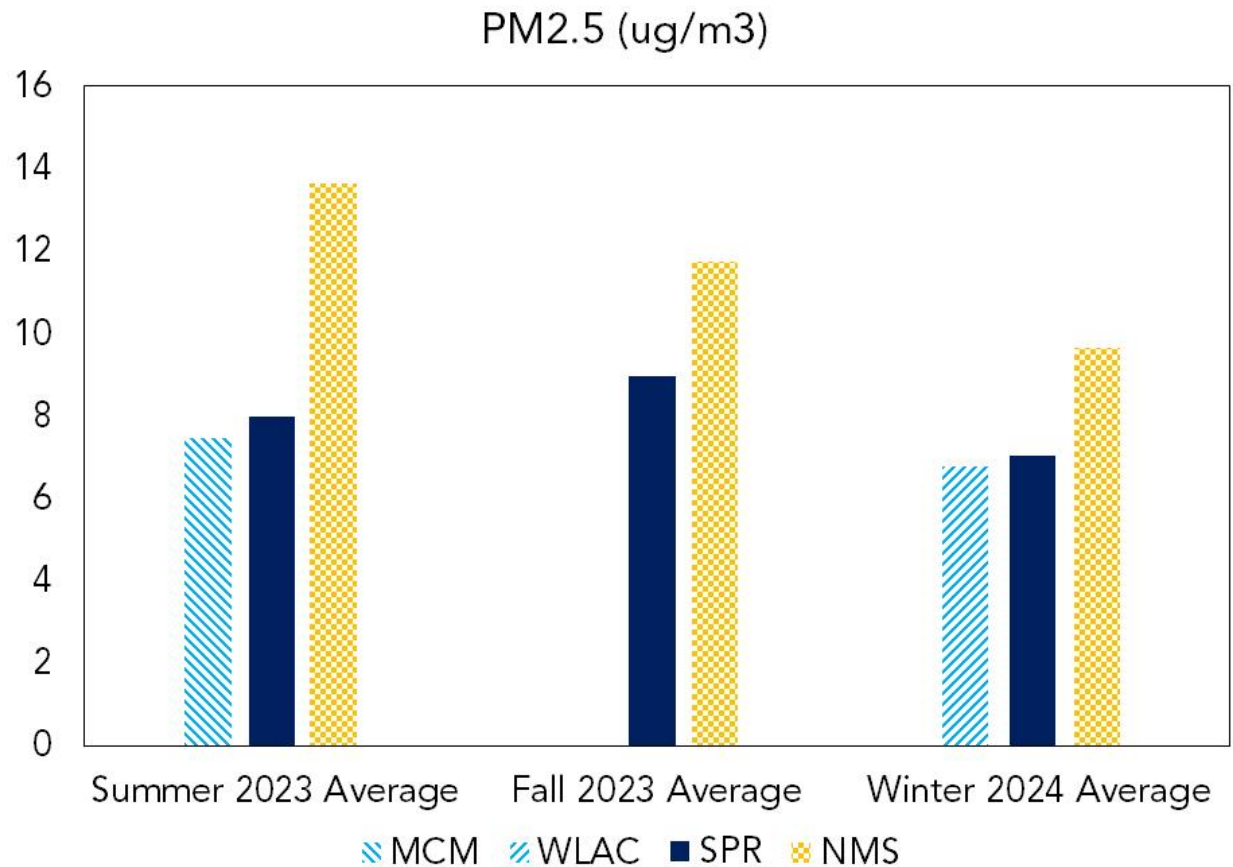
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Figure B5. Seasonal average ozone concentrations (ppb) at IOF monitoring sites and a non-SNAPS air monitoring site, North Main Street (NMS; see January 2025 Update Figure 2 for location), from June 2023-March 2024. Monitoring data was not available from MCM and WLAC in Fall 2023 or NMS in Winter 2024.



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Figure B6. Seasonal average PM_{2.5} concentrations (ug/m³) at IOF monitoring sites and a non-SNAPS air monitoring site, North Main Street (NMS; see January 2025 Update Figure 2 for location), from June 2023-March 2024. Monitoring data was not available from MCM and WLAC in Fall 2023 or NMS in Winter 2024.



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Figure B7. Seasonal diurnal (time of day) trends of carbon monoxide (ppm) at IOF monitoring sites (June 2023-March 2024).

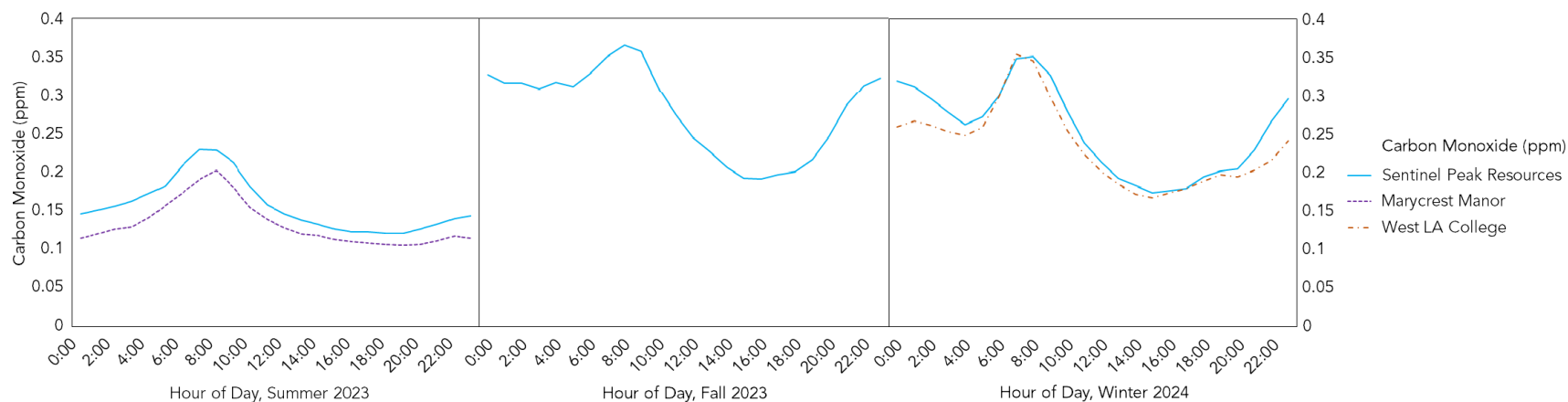
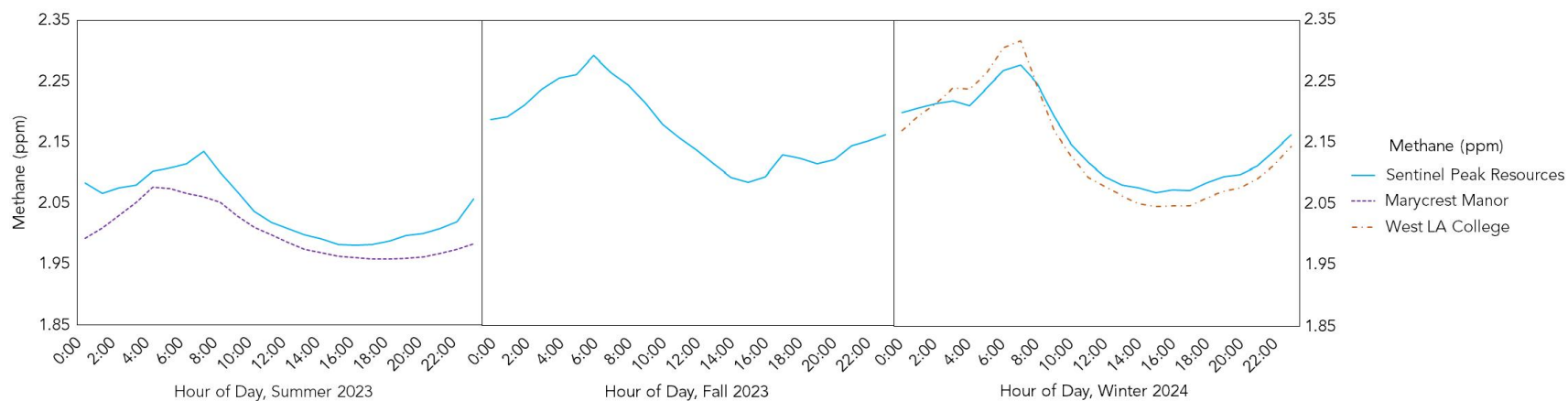


Figure B8. Seasonal diurnal (time of day) trends of methane (ppm) at IOF monitoring sites (June 2023-March 2024).



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Figure B9. Seasonal diurnal (time of day) trends of ozone (ppb) at IOF monitoring sites (June 2023-March 2024).

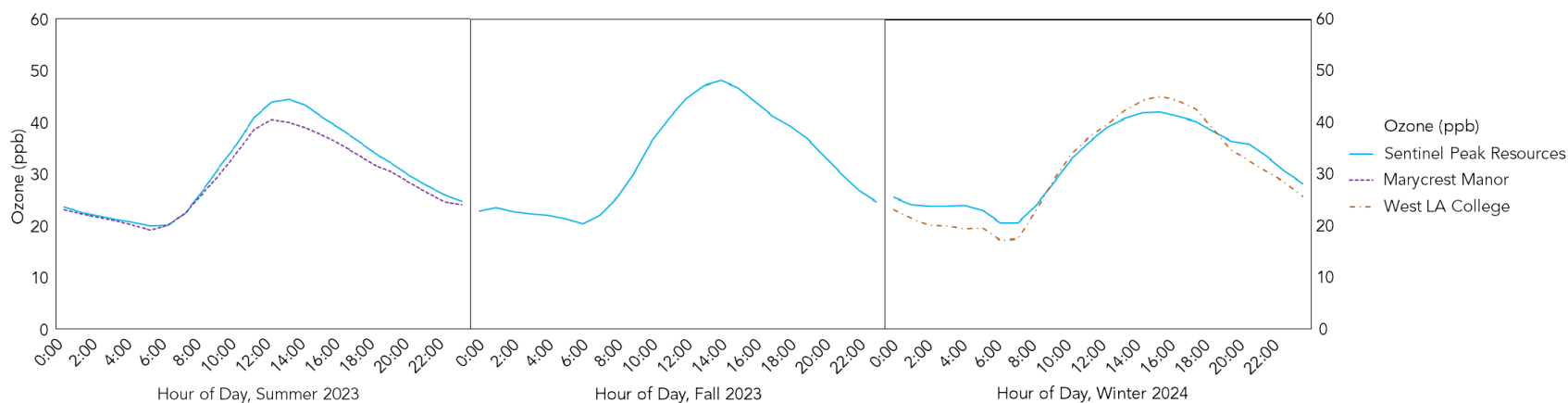
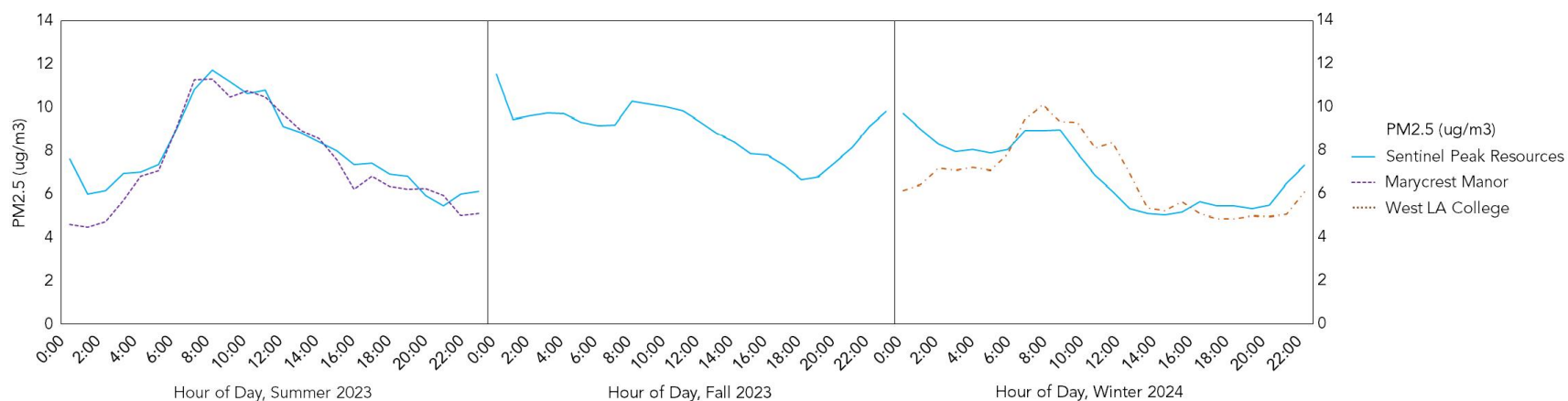


Figure B10. Seasonal diurnal (time of day) trends of PM_{2.5} (ug/m³) at IOF monitoring sites (June 2023-March 2024).



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Figure B11. Comparison between SNAPS IOF monitoring sites and North Main Street (NMS) for several discrete pollutants ($\mu\text{g}/\text{m}^3$) from February-June 2024. Neither acute reference exposure levels (RELs) nor ambient air quality standards were exceeded on any monitoring day during this time period. Only days with measurements at all three sites are used in the average (shown in brackets for each pollutant). Averages use 1/2 Reporting Limit (RL) when the data is below RL. The RL differs between the SNAPS monitoring and the NMS monitoring and introduces uncertainty in the comparison. Because of the limited number of measurements, the averages may not represent a seasonal average and are therefore not necessarily comparable to other datasets (e.g. MATES V).

