



October 15, 2024

To: envcomments@cityofchicago.org

Opposition to Chicago Rail and Port, LLC Variance Request

On September 12, 2024, Chicago Department of Public Health (CDPH) announced a written comment period for a variance request written by Chicago Rail and Port, LLC (CRP). If granted, this variance would allow CRP to remove three out of the five PM₁₀ monitors that the business has been required to maintain on its campus. The Southeast Environmental Taskforce (SETF) and Natural Resources Defense Council (NRDC) submit these joint comments opposing the variance for CDPH's consideration. Because of CRP's history of violating the National Ambient Air Quality Standards (NAAQS), combined with the company's unreliable collection, interpretation, and reporting of PM₁₀ data, we implore CDPH to **deny** this variance.

CRP has long sought to evade monitoring requirements on their campus despite its close proximity to an overburdened residential neighborhood. In December 2014, CRP petitioned CDPH for a variance exempting it from "All requirements" to install, operate, and maintain real-time PM₁₀ monitors at the facility, arguing that compliance would post "an arbitrary or unreasonable hardship" and that the facility's dust control and prevention measures supplanted the need for monitors.¹ At the time, SETF and NRDC submitted comments opposing the variance, arguing that CRP had not demonstrated that it would have no off-site fugitive dust emissions. And indeed, on April 20, 2018, U.S. EPA issued a notice of violation to CRP, finding that: "CRP caused the emission of PM₁₀ into the air, so as, either alone or in combination with contaminants from other sources, to cause or tend to cause, air pollution in Illinois and/or to prevent the maintenance of the revised NAAQS for PM₁₀ in violation of the Illinois SIP at 35 Ill.

¹ December 2014 CRP Variance Request:

https://www.chicago.gov/content/dam/city/depts/cdph/environmental_health_and_food/Dec192014/VarReqChgoPortRRCoMidMarTerInc1170112201STorr.pdf

Admin. Code § 201.141.”² This history of violating the NAAQS while insisting that monitoring was unnecessary is key to understanding why CRP’s variance request should be denied here. In its request for a variance, CRP depicts its monitoring as meticulous and consistent as required in its current facility permit.³ However, we have serious concerns about the credibility of CRP’s data and arguments.

From April 2019 to August 2022, CRP states that it continuously operated four monitors: Southeast, Northeast, Northwest, and Southwest (hereby referred to as SE, NE, NW, and SW, respectively). CRP claims that “119,808 air quality measurements were taken” at 15-minute intervals for each of these monitors during the relevant 1,248-day period. In other words, CRP asserts 100% data completeness for this period.⁴ CRP and CDPH should both be aware that this is not the case; CRP’s February 2022 “Ambient Air Monitoring Action Plan” reported that “completeness in 2021 has been approximately 50% versus the 90% data availability goal listed in the [Quality Assurance Plan].”⁵

On November 10, 2022, CDPH provided NRDC with CRP’s monitoring data for a subset of this period—from November 2021 until August 2022. The following comments are based on analysis of this subset. During this period, data completeness ranged from 99% (NW) and 83% (NE) to as low as 43% (SE) and 1% (SW). Thus the data provided to NRDC in November 2022 conflict with the 100%-complete data reported by CRP in its current variance request. Compounding with the issue of incompleteness, it is clear that non-measurements have consistently been treated as measurements of 0 µg/m³ by CRP. In the spreadsheet provided to NRDC, a note indicated that “If no data was recorded at the station, it was entered zero.” Numeric data entered in the same spreadsheet confirmed this note.

Presenting a lack of data as if it were a pristine record is misleading enough on its own. But it is not the only problem. To understand why, it is important to note the title of the first table in CRP’s variance application, “Number of Measurements >150 µg/m³,” does not carry its most obvious meaning—that is, the number of times a monitor recorded a PM₁₀ concentration above the NAAQS threshold. Instead, CRP was reporting the *net PM₁₀ concentration increase*

² April 2018 US EPA Notice of Violation: https://www.epa.gov/sites/default/files/2018-06/documents/chicago_rail_and_port_llc_nov.pdf

³ September 2022 CRP Permit:

https://www.chicago.gov/content/dam/city/depts/cdph/InspectionsandPermitting/ENVREC1025078_9_26_2022_REN_Permit.pdf

⁴ 1,248 days × 96 measurements / day = 119,808 measurements.

⁵ February 2022 CRP Ambient Air Monitoring Action Plan:

https://www.chicago.gov/content/dam/city/depts/cdph/environmental_health_and_food/Community_Information/180-215-CDP-Class-V-Renewal%20RTC-071422-Final.pdf

between their upwind and downwind monitors. For instance, if an upwind monitor recorded a reading of 140 $\mu\text{g}/\text{m}^3$ and a downwind monitor recorded a reading of 160 $\mu\text{g}/\text{m}^3$, then CRP would report a measurement of 20 $\mu\text{g}/\text{m}^3$. (Under this methodology, a downwind monitor would need to record a value of 290 $\mu\text{g}/\text{m}^3$ before registering as an exceedance in this situation!)

The methodology raises a problem in legal principle and a problem in application. Legally, it ignores the text of Section 9(a) of the Illinois Environmental Protection Act, stating that no person shall:

*“Cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as to cause or tend to cause air pollution in Illinois, **either alone or in combination with contaminants from other sources**, or so as to violate regulations or standards adopted by the Board under this Act.”* 415 ILCS 5/9(a) (emphasis added).

CRP ignores its obligation to prevent discharges that would cause a NAAQS exceedance in combination with contaminants from other sources; instead, its math implies that each permittee could single-handedly pollute up to the NAAQS threshold before being in violation.

When applied, this methodology—along with the data incompleteness described above—introduces even further issues. Take, for instance, June 15, 2022 (Figure 1). At 4:00 p.m., the wind was blowing from 48 degrees (from Northeast to Southwest). Monitor data at the Northeast monitors recorded 117 $\mu\text{g}/\text{m}^3$ of PM₁₀; in the Northwest, a NAAQS exceedance at 152 $\mu\text{g}/\text{m}^3$. No data were recorded at either of the South monitors. Because of how “upwind” is defined by CRP, the Southwest monitor is the only one of the four considered to be “downwind.” With no measurement taken, it is recorded in the spreadsheet as a “zero.” The “starting” (upwind/Northeast) concentration is subtracted from the “final” (downwind/Southwest) concentration and CRP’s contribution is recorded: *negative* 117 $\mu\text{g}/\text{m}^3$. In other words, (1) CRP’s lack of downwind data causes it to report that it has purified the air pollutants reported at the Northeast monitor, and (2) the Northwest monitor, which had measured a NAAQS exceedance, does not end up in the calculus at all. We cannot know now if the Southwest monitor would have had a similar measurement to the Northwest one—but even if it had, CRP would not have reported it as a NAAQS exceedance but as a “measurement” of 35 $\mu\text{g}/\text{m}^3$ (152 – 117 $\mu\text{g}/\text{m}^3$). CRP uses these data as evidence that it needs a *less strict* monitoring regime when, if anything, the data suggest the need for a *stricter* one.

There are further problems that seem to arise purely from poor data handling in the first set of data. At 5:30 a.m. on August 22, 2022, CRP recorded a wind direction of 180 degrees—that is, from South to North (Figure 2). The Northeast monitor recorded a PM₁₀ concentration of 35 µg/m³; the Northwest, 196 µg/m³. Once again, no recordings were taken at either of the South monitors. In this case, the monitor recording a PM₁₀ level well in exceedance of the NAAQS threshold was in fact downwind. And yet, because of sloppy calculation formulae that did not seem to anticipate the possibility of zeroes in the data, this event was not recorded in the “final results” spreadsheet. Instead, the 7 exceedances reported in August 2022 in the variance application correspond to 7 instances on August 19, three days prior. The exceedance on August 22 is completely left out.

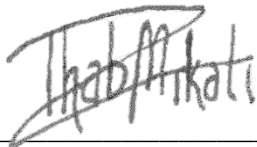
To summarize, whether knowingly or otherwise, CRP has used its failure to monitor consistently as a means of hiding real exceedances of air quality standards and to falsely strengthen its variance request. Exceedances at upwind stations were never recorded as exceedances by themselves in the November 2021 – August 2022 period, and nor were exceedances at downwind stations recorded if the corresponding measurement from the upwind station was missing; add to this the heavy bias to consider any station “upwind” (approximately two-thirds of the time, in the data we viewed) and the result is a to dramatically and artificially narrow the set of circumstances in which an exceedance would ever be recorded or reported. These examples are not exhaustive but illustrative, and there are many others in the data we viewed. That there were *any* exceedances reported under CRP’s methodology—which required a single-handed net increase of over 150 µg/m³ between an upwind station and a downwind station, both of which had non-zero data in an extremely flawed dataset—is staggering. Even after all this, CRP boasted that “only” 1.39% of the measurements through 2022 were in excess of the NAAQS threshold. The NAAQS threshold for PM₁₀ is not to be exceeded more than once per year on average. If it is “only” exceeded 1% of the time, then the standard has been violated several times over.⁶ To treat that number as insignificant is a betrayal to both the intent of the NAAQS and to the communities bordering CRP.

In preparing this comment, SETF and NRDC were only able to review CRP’s data from November 2021 – August 2022. CRP claims that the data collected after this period is “raw” and has not been adjusted to remove exceedances “caused” by an off-site source (in line with the requirement of its current facility permit). NRDC had submitted a FOIA request to CDPH for

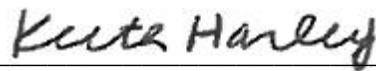
⁶ The PM₁₀ NAAQS is meant to be measured using a 24-hour standard, which is of course not possible to calculate for such incomplete data; again, the absence of quality data is not something CRP should be rewarded for with their requested variance.

the complete 2019 – 2024 monitoring dataset on Thursday, September 26. On Friday, October 4, CDPH sought a five-day extension to respond. On Friday, October 11, CDPH notified NRDC that it would not meet its statutory deadline to respond. As of the submission date of this letter, CDPH still had not fulfilled NRDC’s FOIA request. For this reason, this comment can only speak to approximately one year of data. It is not impossible that the year we reviewed was particularly plagued with flaws. But CRP’s variance application is “based on the past five years” and gives no indication that the facility recognizes the egregious problems in the collection, interpretation, and reporting of its 2021 – 2022 data. Instead, the applicant presents its 2019 – 2022 data as a whole in such a flattering light that it casts a cloud of non-credibility upon the overall claims in its application; further, it illustrates CRP’s apparent belief that they should only be accountable for wholly and singularly causing, rather than contributing to, a NAAQS exceedance at their site.

Rather than grant a variance request on the basis of CRP’s unreliability, CDPH should consider various avenues that will increase confidence at the site—and ultimately, protect the health of nearby communities. Requiring an upgrade from “near-reference” PM10 monitors to regulatory grade Federal Reference Method (FRM) or Federal Equivalent Method (FEM) monitors would help to re-establish public trust in the reported data. Making real-time monitor data readily accessible to the public would contribute to the same goal. For the above-stated reasons, SETF and NRDC respectfully request that CDPH **deny** the application for variance.



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FIGURE 1

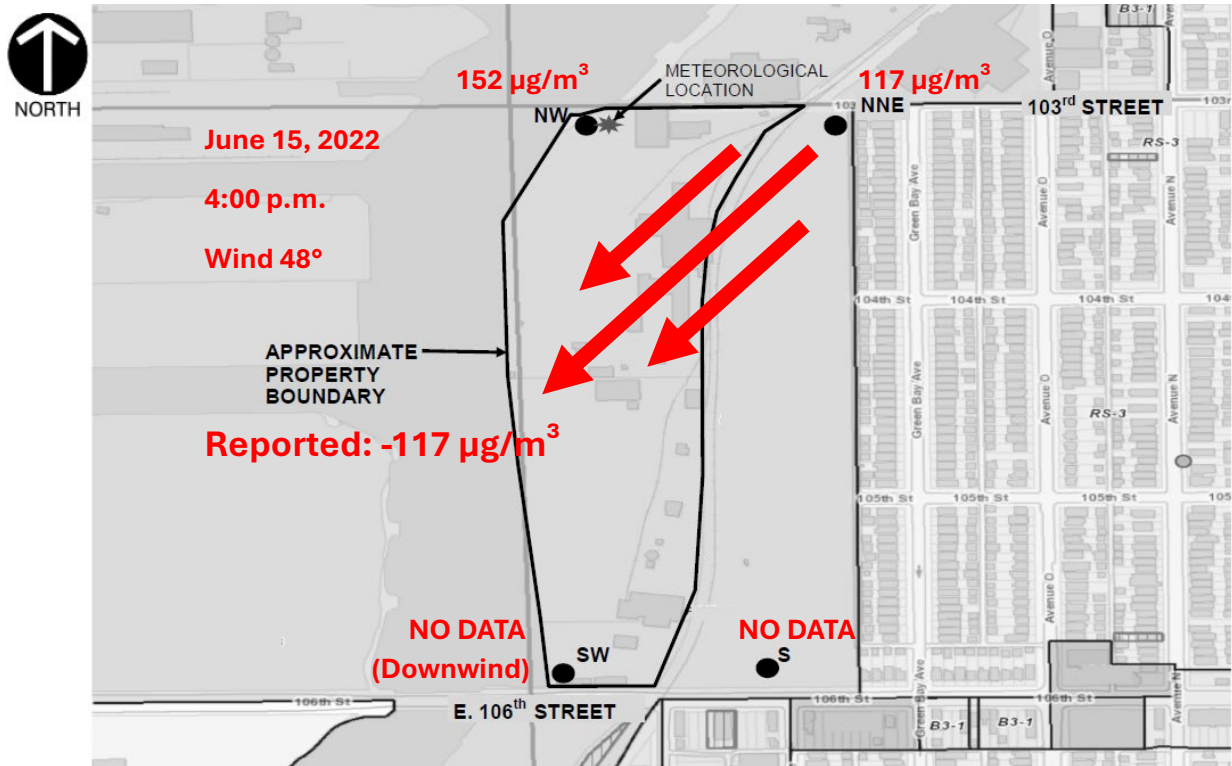
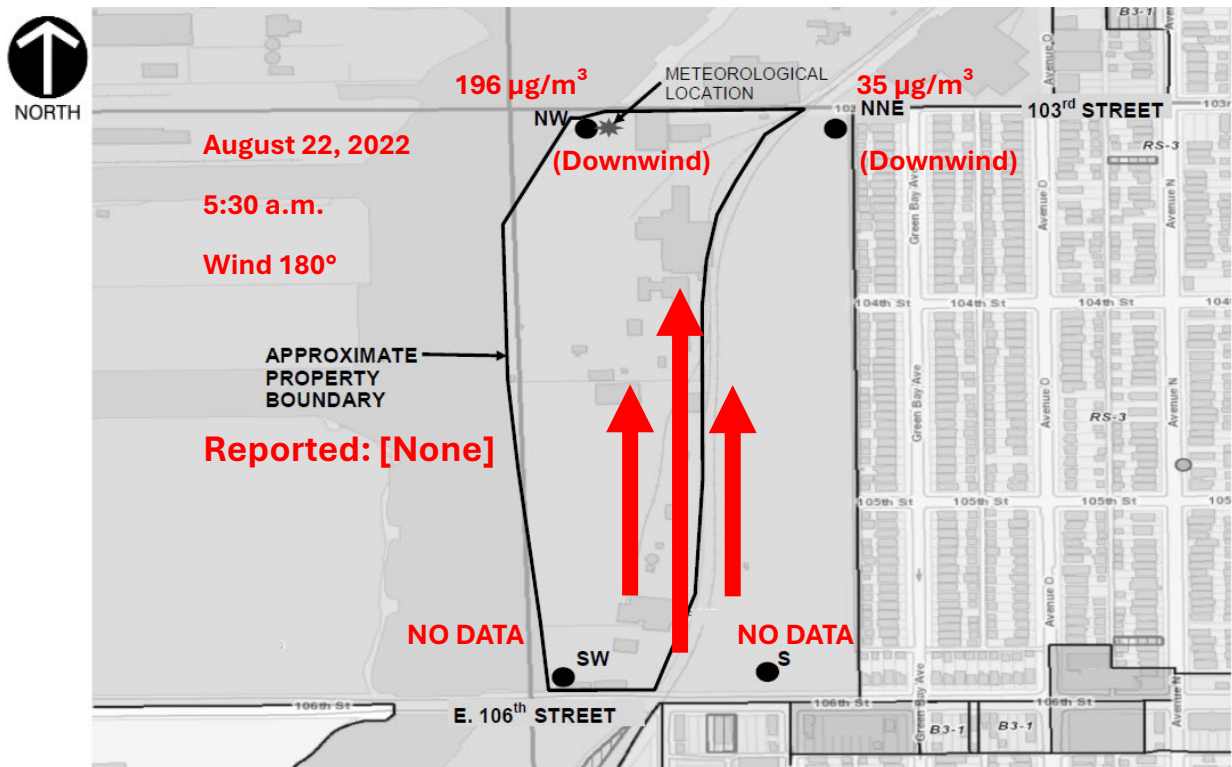


FIGURE 2





November 1, 2024

To: envcomments@cityofchicago.org

Opposition to Chicago Rail and Port, LLC Variance Request (Follow Up)

On October 15, 2024, the Southeast Environmental Taskforce (SETF) and Natural Resources Defense Council (NRDC) timely submitted a written comment in opposition to a variance request made by Chicago Rail and Port, LLC (CRP). CRP seeks to remove three out of the five PM₁₀ monitors that CDPH has required them to maintain at their site. Prior to filing comments, SETF and NRDC had made a public records request for complete monitoring data from CRP; however, even after invoking an extension, CDPH missed their statutory deadline to respond and only provided the data on October 18, 2024. As a consequence of CDPH's delay, our comment was not able to provide analysis of the full CRP PM₁₀ dataset. In light of the newly available data, SETF and NRDC seek to submit this short supplementary follow-up to their original comment and request that it be considered timely submitted.

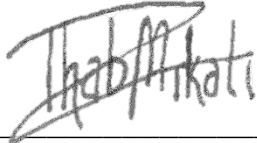
The data we reviewed for this supplement are “raw” and therefore allow us to examine all recorded exceedances. Figures 1 – 5 depict all datapoints from the Northwest (NW), Northeast (NE), Southwest (SW), Southeast (SE), and Central East (CE) monitors, respectively. On the issue of data completeness, we estimate that across the five monitors only 74% of possible datapoints included a numerical measurement. This conservatively assumes that measurements recorded as “0” are “complete” and accurate zero-measurements; if one removes zeroes from the data, we estimate that only 60% of possible datapoints actually convey information.

Within the information that is conveyed, we find over 3,900 instances of exceedances of the 150 µg/m³ NAAQS threshold. In addition, it is possible (and in fact highly likely) that the missing data also included exceedances. Again taking the conservative estimate that measurements of zero were accurate recordings and leaving out all blank entries, these exceedances account for 0.79% of all available data and 0.34% of all data since October 28,

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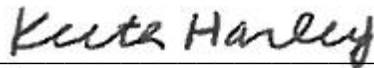
20 N WACKER DRIVE | SUITE 1600 | CHICAGO, IL | 60606 | T 312.663.9900 | F 312.332.1908 | NRDC.ORG

2022. This is in contrast to CRP's assertion that their monitors "only" exceeded 0.25% of measurements since October 2022. We reiterate here the sentiment in our original comment that, while 0.34% may seem like a small proportion of measurements to a layperson, the NAAQS threshold for PM10 is to be exceeded no more than once per year on average. A look at the past year of data at, for instance, the SW monitor (Figure 4) gives an intuitive sense for how frequent exceedances actually are. CDPH should understand that CRP's air quality presents a potential danger to the human health of its neighbors and demands continued thorough monitoring. The request for variance should be **denied**.



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FIGURE 1

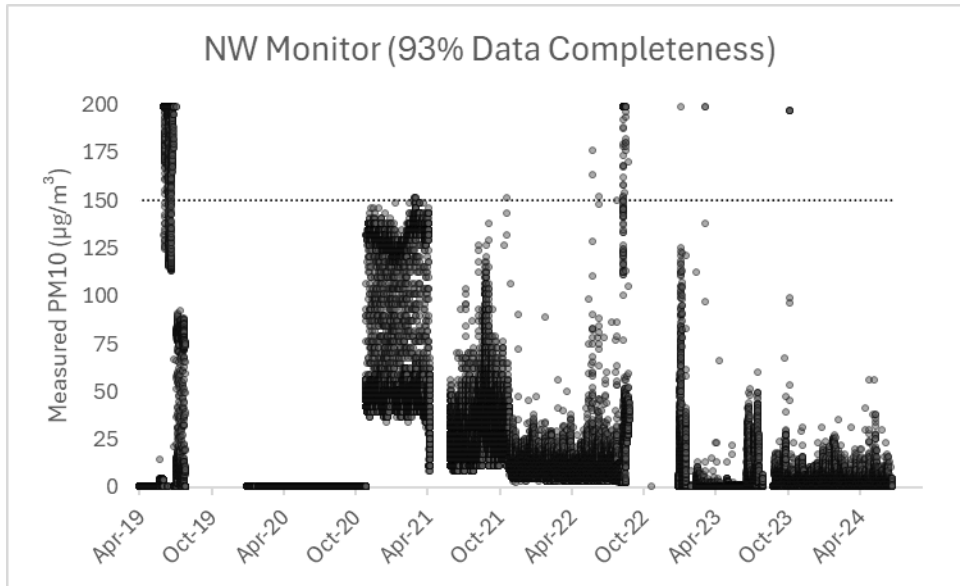


Figure 1: PM₁₀ measurements from the NW monitor. Data completeness refers to the number of 15-minute periods where numerical data, including zeroes, were recorded. If zeroes are not included, data completeness drops to 67%. Calculations are since April 1, 2019. There were 2,497 exceedances at this monitor during the time period. Measurements greater than 200 µg/m³ are depicted as 200 µg/m³.

FIGURE 2

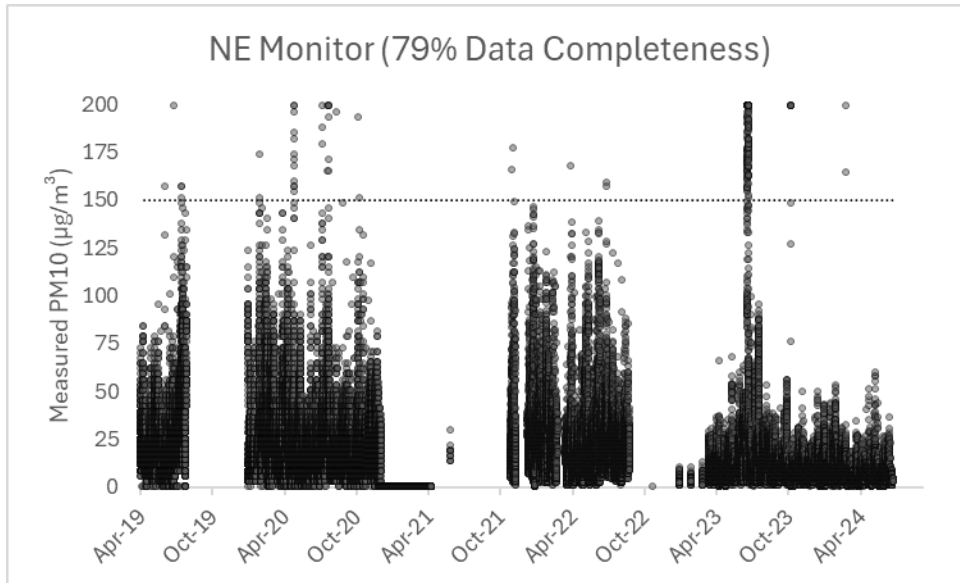


Figure 2: PM₁₀ measurements from the NE monitor. Data completeness refers to the number of 15-minute periods where numerical data, including zeroes, were recorded. If zeroes are not included, data completeness drops to 70%. Calculations are since April 1, 2019. There were 211 exceedances at this monitor during the time period. Measurements greater than 200 µg/m³ are depicted as 200 µg/m³.

FIGURE 3

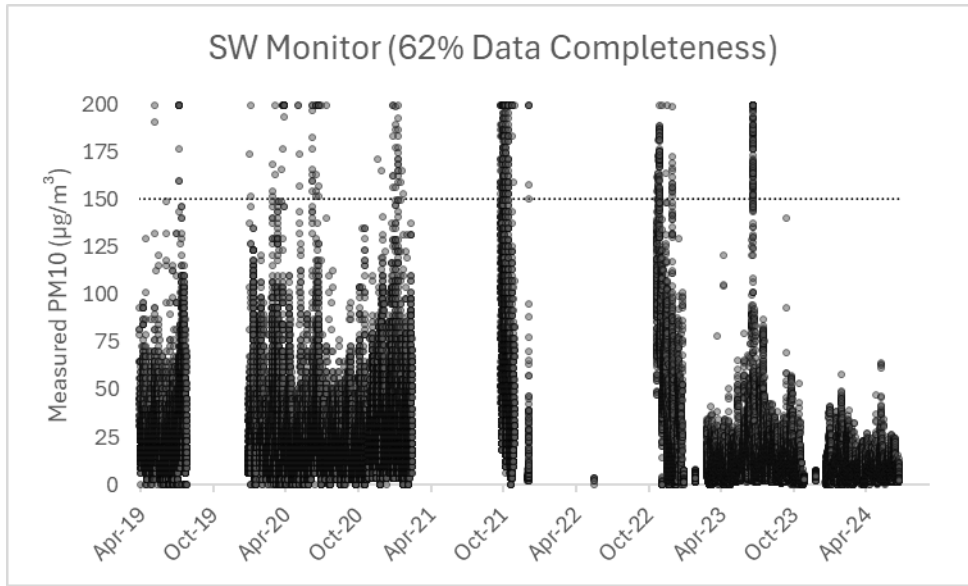


Figure 3: PM₁₀ measurements from the NW monitor. Data completeness refers to the number of 15-minute periods where numerical data, including zeroes, were recorded. If zeroes are not included, data completeness drops to 62%. Calculations are since April 1, 2019. There were 654 exceedances at this monitor during the time period. Measurements greater than 200 µg/m³ are depicted as 200 µg/m³.

FIGURE 4

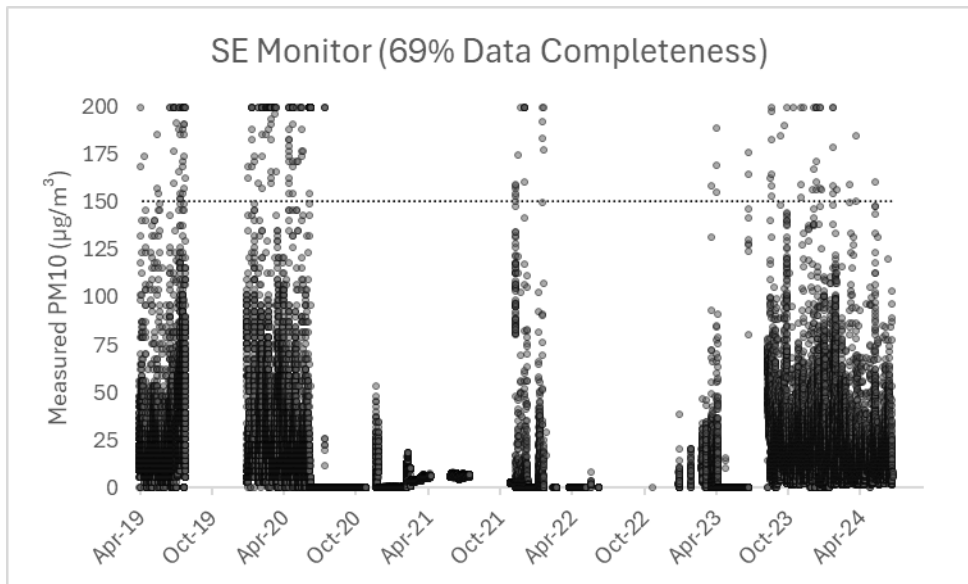


Figure 4: PM₁₀ measurements from the NW monitor. Data completeness refers to the number of 15-minute periods where numerical data, including zeroes, were recorded. If zeroes are not included, data completeness drops to 46%. Calculations are since April 1, 2019. There were 386 exceedances at this monitor during the time period. Measurements greater than 200 µg/m³ are depicted as 200 µg/m³.

FIGURE 5

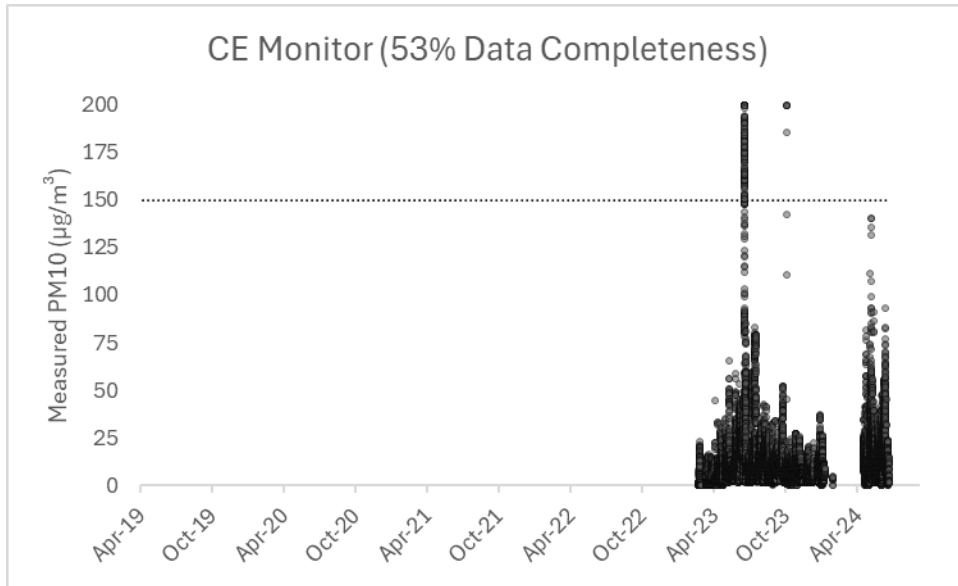


Figure 5: PM10 measurements from the NW monitor. Data completeness refers to the number of 15-minute periods where numerical data, including zeroes, were recorded. If zeroes were not included, data completeness drops to 50%. Calculations are since October 28, 2022. There were 159 exceedances at this monitor during the time period. Measurements greater than 200 µg/m³ are depicted as 200 µg/m³.