State of Mississippi
TATE REEVES
Governor
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHRIS WELLS, EXECUTIVE DIRECTOR

July 3rd, 2024

Jennifer Crosslin
Cherokee Concerned Citizens
citizenbuyout@gmail.com

RE: CCC Comments for AMNP

Dear Jennifer Crosslin,

Thank you for providing comments on MDEQ's 2025 Annual Monitoring Network Plan. Please see MDEQ's response to the comments from the addressed comment letter, CCC Comments for AMNP dated Thursday, June 27, 2024.

Cherokee Concerned Citizens Comment
Triggered canisters
The SPOD-triggered VOC canisters will give invaluable information about short-term pollution episodes in the neighborhood. As mentioned previously, we are particularly concerned about short pollution episodes that usually last less than an hour as well as long-term cumulative exposure to toxins. Our own air monitoring has shown that pollution episodes last on average 35 minutes (data available upon request).

Collecting samples for 1 hour will allow us to compare the measurements to 1-hour health guidelines. The triggered canisters should absolutely not be sampled over 24 hours, as this will not give us any new information as compared to the 24-hour scheduled canisters.

MDEQ Response:
MDEQ must emphasize that each sample collection for an SPod-related canister is to serve two (2) purposes: monitor the ambient volatile organic compound (VOC) concentration within the Cherokee area and determine the specific compounds the comprise ambient VOC concentrations. As such, it is necessary that each sampling event (as currently outlined in the "Enhanced Air Quality Monitoring in the Cherokee Community of Pascagoula, Mississippi" workplan) span a 24-hour period to ensure the collection of an adequate volumetric sample for compound speciation.

As it remains MDEQ's intention to utilize the SPod sensors for the collection of VOC samples once every six (6) days and in response to the exceedance of an established VOC threshold (in accordance with the denoted

workplan), MDEQ will continue to explore potential for the continuous monitoring of ambient VOC concentrations in our discussions with EPA-Region 4.

Cherokee Concerned Citizens Comment

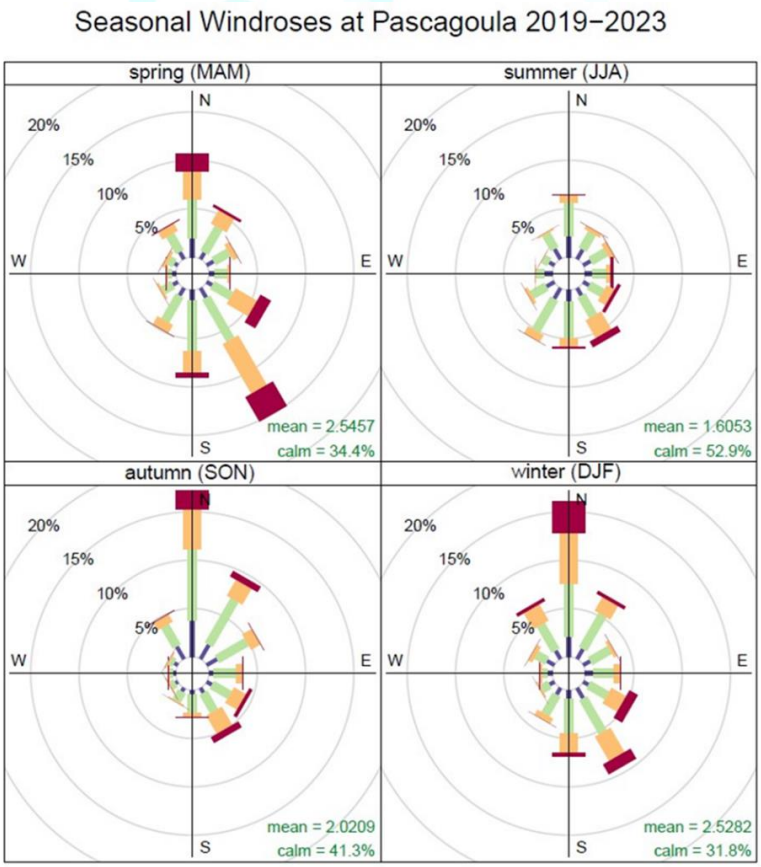
Will the 1 in 6-day schedule be random or predictable? Will there be efforts to avoid periods of active rain when pollutants are washed out of the atmosphere? What will ensure that enough samples are taken when the wind direction is from industry? Is there environmental data at the Cherokee Forest (and other) sites? (winds, temp, RH)? If not, where will this environmental data come from for the analysis?

Both wind direction and weather conditions are criteria that need to be considered when taking these samples in order to gain data that can help us better understand air quality issues for the residents of Cherokee Forest subdivision as this study was designed to do.

MDEQ Response:

In accordance with the methodology outlined in 40 CFR Part 58 (Ambient Air Quality Surveillance) for such periodic sampling, a sample will be collected on every 6th day after monitor start-up at the same time regardless of weather conditions to ensure data consistency. However, equipment has been installed at the Cheroke monitoring station to continuously collect ambient weather data such as temperature, wind direction, and relative humidity.

MDEQ utilized the following historical wind rose data in its evaluation of potential locations for the Cherokee monitoring station [collected from the Trent Lott Airport (KPQL) in Pascagoula, MS].



Based on this information, MDEQ believes that "5303 Ladner Avenue" is the most suitable location to adequately collect data regardless of the seasonal wind direction, given that there is a lack of obstructions (i.e., tree coverage).

Cherokee Concerned Citizens Comment
How will the SPOD trigger the canisters? If you will be using a continuous PID sensor to trigger the canisters, **have you considered how you will deal with the humidity impacts on the PID sensor?** PIDs are very affected by high humidity. Regardless of what continuous VOC sensor is used to trigger the canisters, we suggest that this data also be shared with the community on the website. The continuous VOC data can give helpful insight into the time-resolved nature of VOC exposure in the neighborhood.

MDEQ Response:
Sample collection for a SPod-related canister will be trigger at such point when the associated photoionization detector (PID) sensor detects an ambient VOC concentration (in reference to isobutylene) at or in excess of the VOC concentration that has been established as the "threshold". Accordingly, the "threshold" will be established after an evaluation of VOC data that is continuously collected for a 30-day baseline period.

In regard to your concern regarding the effect that high humidity will have on the SPod's PID sensor, MDEQ intends to utilize an SPod model that contains an internal sensor heater to minimize humidity interference.

Cherokee Concerned Citizens Comment
How will the summa canisters be collected for the reduced sulfur compounds? If these are meant to serve as "triggered" canisters, collection should occur less than one hour after elevated Total Reduced
Sulfur levels are observed. Otherwise, the response canisters will likely miss the pollution episode. 24-hour samples are also too long of a sample period to accurately capture a short-term episode.

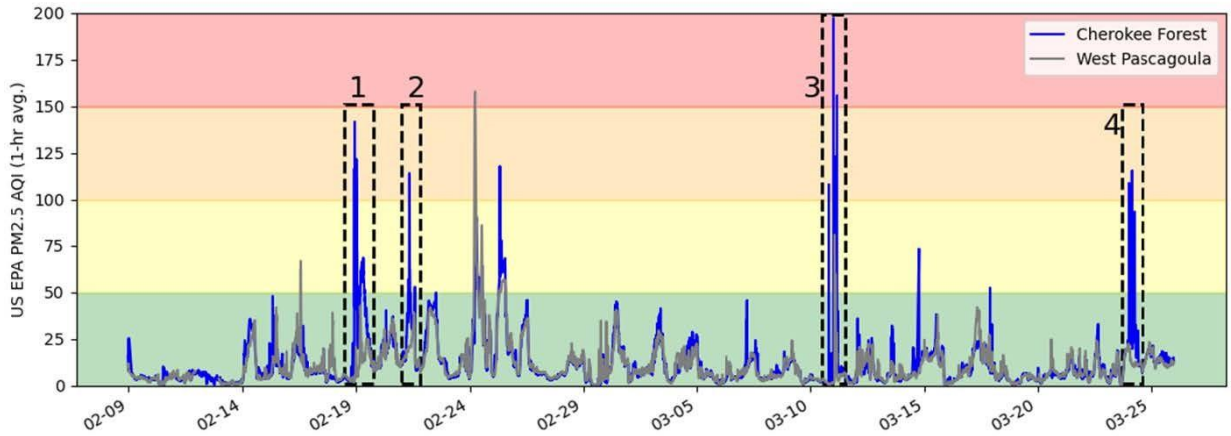
MDEQ Response:
It is MDEQ's intent to utilize the summa canisters related to reduced sulfur compound analysis as a response to "elevated" ambient total reduced sulfur (TRS) concentrations. However, it must be emphasized that separate equipment will continuously monitor the ambient TRS concentration and will capture any "short-term episode" within its data. Sample collection via the summa canisters is to determine the specific reduced sulfur compounds present in the ambient air. Therefore, we believe that a 24-hour period is necessary for adequate collection of a sample for such an analysis.

At this time, MDEQ has not selected a "trigger-time" (i.e., the duration between the initial detection of an "elevated" ambient TRS concentration and the commencement for canister sample collection). However, MDEQ will take your suggestion of "less than one hour" under serious advisement as we work to finalize this specific aspect.

Cherokee Concerned Citizens Comment
Error in the latitude and longitude coordinates
The Latitude and longitude of Cherokee Forest in Table 7 of the Appendix is not correct. It should be 30.3524, 88.5090 instead of 30º35'24'', 88º50'90''.

MDEQ Response:
It appears that this comment stems from a misinterpretation of our formatting. The latitude and longitude of Cherokee monitoring station (as well as the other stations) in Table 7 of the Appendix is to be read as "30.3524, -88.5090" [which equates to 30° 21' 8.6394", -88° 30' 32.4"] instead of "*30º35'24'', 88º50'90*'' and has been corrected in the network plan.

Cherokee Concerned Citizens Comment
PM Monitoring
Why is $PM_{2.5}$ not being measured at the Cherokee Forest site as well? Based on publicly available PurpleAir $PM_{2.5}$ data, we see variation in Cherokee Forest (CF) $PM_{2.5}$ levels that is not present across all of Pascagoula. The figure below from PurpleAir shows variability in current PM2.5 levels. Because this variation is specific to CF and will not be captured at the Pascagoula monitoring site, we ask that $PM_{2.5}$ monitoring be added to the Pascagoula Cherokee site.



https://map.purpleair.com/1/mAQI/a10/p604800/cC0?key=WQ4KIEVKE00H8T61&select=177657#13.56/30.35922/-88.5389

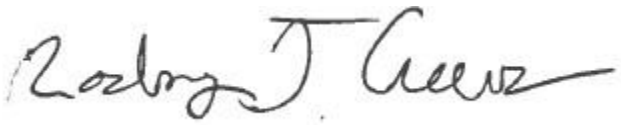
MDEQ Response:
Current MDEQ air staff were not involved during the initial phases of the development of the Cherokee monitoring project and, therefore, cannot provide a specific reason why the evaluation of $PM_{2.5}$ was not included in the original scope. However, please know that the equipment MDEQ will utilize to continuously monitor ambient PM_{10} concentrations will also monitor ambient $PM_{2.5}$ concentrations (API Teledyne T640x). As MDEQ intends to utilize this dual functionality at the Cherokee monitoring station, the corresponding data will be uploaded and archived within EPA's Air Quality System (AQS).

Cherokee Concerned Citizens Comment
Site Location
The Pascagoula and Cherokee Forest sites are both on or next to asphalt, unlike the other sites that appear to be surrounded by grass. Do MDEQ/EPA have studies that confirm that the 4.25 m sampling height is minimally affected by the turbulent heat flux from the asphalt?

MDEQ Response:
At this time, EPA has not published any guidance that provides details on this matter. However, please know that the sampling height for each noted monitoring station was selected in accordance with the methodology and requirements promulgated by 40 CFR Part 58 (Ambient Air Quality Surveillance).

Thank you again to Jennifer Crosslin with Cherokee Concerned Citizens for providing valuable comments on MDEQ's 2025 Annual Monitoring Network Plan. If you have any further questions or concerns, please do not hesitate to reach out to Jaricus Whitlock, Laura James, Michael Jordan, or Rodney Cuevas.

Sincerely,



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