

MDEQ Response to Questions after the 9 Mar 2024 Meeting

1. Workers from a different contracted remediation crew (not TRG) were on the site 3/26/24. What was their tasking and effort?

MDEQ contacted TRC (Leica's consultant) and TRC confirmed that they were on site the week of March 25th to inspect the site and gauge wells. They also communicated that they would return the week of April 1st to collect groundwater samples with the purpose of having updated sampling results for the work plan that MDEQ required Leica to submit (due in May).

2. Why will MDEQ require the hotel rooms to be placed on the second floor to keep guests safer from potential risks, but the daycare is okay on the first floor despite that plume increasing in toxins?

The plume on the west side of Pine Drive is beneath that 10-12 foot deep clay layer and is also not directly under the YMCA. Having assessed the soil gas around the YMCA, there is no pathway from that deeper contamination to the YMCA indoor air. By contrast, if a new building was constructed directly on the Leica property where the plume is shallow (above that clay layer and groundwater a few feet deep), it would necessitate precautions such as vapor barriers and no first-floor residence/hotel rooms (or daycares).

3. MDEQ stated that there were pipes under the optics property that could be contributing to plume movement. Will those be identified by Leica as part of their new voluntary agreement?

Historically, that's a possibility on how the deeper contamination across Pine Drive got there. It's also possible it dropped through the clay layer in an area of fractures or lesser resistance. As I said in the meeting, I'm not sure how it got there. We have asked Leica in the past to evaluate potential pathways including old piping/utility lines, and we'll certainly continue to ask Leica to monitor any potential pathways (such as the Government Street drainage pipe). For clarification, Leica underground piping itself is not likely a contributor to potential plume movement at this point.

4. Will the 6 ft drainage pipe that cuts through the plume on the south side of Government St be relocated as part of the remediation plan?

Not at this time. If it is determined at some point that the shallow, vinyl chloride plume is infiltrating the drainage pipe along Government Street, it would probably be more effective to simply "cut the plume off" before it reaches that drainage pipe than to relocate the drainage pipe.

5. Has the water sample MDEQ took been processed? Will there be additional testing of the creek bed sediments?

Yes. One of the two samples collected had detections of Dichloroethylene and Vinyl Chloride. The Vinyl Chloride result was 2.4 ug/L which is just over the 2 ug/L Target Remedial Goal (TRG)

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and Maximum Contaminant Level (MCL). As such, we've requested that Leica/TRC add a surface water sample at the culvert to their next field activities.

6. What is the effect on wildlife? Could it be connected to the dead otters and pelicans found at the harbor?

No, no connection to harbor wildlife. 2 ug/L of Vinyl Chloride would dilute out long before it ever reached the harbor which is about ½ mile away. Keep in mind that it is also a very conservative value and based on chronic (long term) exposure, not acute (short term). Surface Water Screening values for vinyl chloride are much higher, especially for ecological at 900 ppb or more (EPA Eco-risk. https://www.epa.gov/sites/default/files/2018-03/documents/era_regional_supplemental_guidance_report-march-2018_update.pdf)

7. After the meeting, MDEQ said neighboring property owners should not consume food grown in their home gardens. Will those people be informed of this concern, if so by whom? And when?

That's a misunderstanding. MDEQ is not aware of any neighboring residential yards that are impacted from the site. Gardening at residential homes in the area is not at risk from Leica contamination. A person inquired with the assumption he may have received runoff from the site historically, but I was also informed by another neighbor that his property isn't down-gradient from site runoff. What I did try to communicate is: **IF** your house is directly above shallow groundwater contamination (like the Leica property), and wanted a garden, we'd certainly recommend not doing so due to the risk. However, Groundwater flow is to the west/northwest away from Clark Avenue, and MDEQ does not believe homes to the east along Clark Avenue have been impacted by Leica contamination above or below ground.

8. Is the water in the creek leading to our estuary safe for children to play in? If not, will a sign be posted so the community is aware of potential dangers. Many kids have been seen playing in the creek.

I'm assuming from the culvert on Pine Drive to a creek/estuary that leads to the harbor? MDEQ does not monitor the creek/estuary in that area for public use or recreation. You would need to contact the city for any use, prohibitions, or signage for local creeks. In general, as mentioned in question 6, risk-based values are different depending on the scenario. The 2 ug/L TRG or MCL is a residential, drinking water value. Children playing in a creek would be a "recreational" scenario, which has higher screening level values like ecological in comparison to residential scenarios. There may be plenty of other practical reasons not to have kids playing in creeks/estuaries, but contamination from Leica isn't one of those as 2.4 ug/L Vinyl Chloride is well below any potential risk to recreational activities and will likely dilute/volatize out prior to the creek/estuary.

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9. The plumes are already moving, and property owners were not informed their land had become polluted. Will these plumes be tracked, and will owners be notified going forward? How long will they be tracked?

Plumes are not migrating from their current locations at this time. We'll continue to require groundwater monitoring so long as concentrations are above Target Remediation Goals (TRGs) or MCLs. Once concentrations meet TRGs/MCLs, Leica will still need to confirm that over multiple sampling events (usually 3 sampling events of below TRGs or non-detect results at all locations before a no further action letter could be considered).

10. If a brownfield remediation grant is utilized, will future monitoring continue until target remediation goals are achieved? If so, who pays for it?

MDEQ is not providing a "grant" to Leica or other. SMPDD's brownfield grant was used on behalf of a potential purchaser for additional assessment. If a new owner enters into any agreement with MDEQ, MDEQ would include any transfer of responsibilities (such as monitoring or cleanup) accordingly. This would not be a "grant", but an Agreed Order or Brownfield Agreement. Leica will continue to fund monitoring and any other remedial activities related to the site, unless that is transferred and accepted by a new entity in the future.

11. Has a phase 1 ESA been done to learn what could be built where on the public works site? There was an EPA violation in the 1970's and FOIA requests to the city, MDEQ and EPA remain unanswered.

Not to GARD's knowledge on the Phase 1, and GARD does not have a copy of the 1970s EPA violation that I'm aware of.

12. The air quality test that Leica completed identified levels of petroleum that exceed EPA standard. At the meeting MDEQ inferred the Armory's underground storage tanks could be to blame. Why hasn't the source been identified so it can be correct? Have there been subsequent air quality tests performed? If so, how many and at what time(s) of year?

Leica conducted two soil gas/ambient air tests in 2021 (May/October). It can be very difficult to ascertain a petroleum source just due to all the background possibilities (e.g., cars, traffic, petroleum facilities (UST, Public Works), which is why soil gas and ambient air were collected together. In addition, naphthalene (which exceeded for soil gas screening level in one location) is not a site constituent, and we would not require Leica to further investigate that. The old Armory USTs were closed out in 1992, did not have any release events, and was in compliance with UST standards. They likely aren't the cause of the naphthalene either though I mentioned it as an example of other background possibilities. It's likely a random background source.

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13. MDEQ can enforce the minimum requirement, but a city can require more from a property owner/developer on sites like this, correct? What ways can the city ask the owner to do more?

Cities can entirely deny a building permit and thus a development for a long list of reasons mostly related to zoning/code/planning/design or because a city council just doesn't like the idea. As an example, the City of Clinton (and the City Council) initially approved a mixed-use development plan for a new development in March, but the council initially denied the inclusion of a gas station/convenient store as a part of the development plan (several members thought they had enough gas stations in the area already). It was later approved on a subsequent vote. Point here is Cities have a lot of control on what can and can't be done in their city, or what they'll require to approve it. This is why it's important to be involved upfront on city council agendas where developments are proposed in your city/community (as you have been in this case). MDEQ and its environmental jurisdiction where applicable are not usually involved until after a city has given a go ahead on a commercial development.

14. In 2021 the city drinking water failed EPA levels for DCE. The health dept cited a backup pump for the spike and said no one was exposed to the DCE in the water. Can you tell us which back up pump that was? Was it the one on the public works property? I have contacted the health department but never received a response.

MDEQ doesn't have a record of that to my knowledge.

15. The next year the city stopped testing for DCE in our water, how can we get that tested again?

DCE is a federally regulated chemical. It has a MCL of 70 ppb (ug/L) and should be sampled for and reported consistent with all other federal drinking water standards. Not sure how they "stopped" testing for it, but that would need be resolved with the city and the Health Department, if so.

16. The daycare was a former funeral home, is there a concern about exposure to formaldehyde? How many rounds of soil vapor testing were completed?

This is a good question but would be something that the YMCA should have considered and evaluated prior to opening the day care as any formaldehyde would be from the past use of that property/facility (not Leica). They may have, I don't know. I'm not aware if there are any indoor air sampling requirements prior to opening a daycare by the health department or a city (see link below for EPA guidance on indoor air quality). Morgues would likely have health & safety procedures in place for handling their embalming fluids (such as formaldehyde) as there are acute/chronic safety concerns with its use, but I don't have any immediate knowledge to know if

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that would be of concern after it closes. (As in, any residual formaldehyde that could be left behind to cause a chronic, indoor air quality issue).

17. The MDEQ speaker talked about how New Jersey routinely builds on old brownfields, but New Jersey law doesn't allow daycares to be located near such sites. Why does New Jersey have a higher standard than Mississippi, how can Mississippi say it's 100% safe when even New Jersey says it's not allowed?

MDEQ would not allow a daycare on top of the Leica property, just the same as New Jersey or any other sites undergoing remediation. For **off-site** properties like the YMCA, we could not seek to prevent such a land use (current or new) if it is not at risk from the chlorinated solvent plume. Again, the YMCA daycare is not above the plume, and soil gas results were below screening levels for Leica, chlorinated solvents.

18. Will daycare parents be informed of the plume movement and kept up to date with remediation efforts?

If anything ever changes, yes. We are working on providing a community page as well, so current and future reports can be easily accessed.

19. Can MDEQ work with the department of health to study if this is connected to all the different types of cancer in the area?

The type of study you are suggesting is not within the expertise of MDEQ. However, we are happy to provide the Health Department with any of our information that may be useful in such a study.

20. We are seeing pipes being replaced all over Ocean Springs which requires them being dug out of the ground and replaced. How old are the pipes on the Leica property? What is their condition? What measures will have to be taken when the time comes that they have to be replaced?

Original piping would likely have been from the 1950s with newer piping installed during any expansions. Some of the piping, especially associated with the Underground Storage Tank (UST) system and dispensers on site were removed when they ceased use in the early 90s and by 2009 with the initial remedial activities that included excavation. We typically don't require them to be removed/replaced outside of a UST system, but that could always happen during any site redevelopment. With the primary source area removed in 2009 via excavation, any shallow pipes ran their course long ago if they assisted in any migration of solvents.

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21. Under what circumstances is MDEQ required by law to notify surrounding property owners of contamination and risk of contamination?

There's not a specific requirement or set of regulations with such notifications for sites like Leica under GARD, but with groundwater contamination we typically notify any immediate property owner that has been or may be impacted by contamination (flows underneath their property). This is necessary anyway to delineate a groundwater plume. A responsible party has to gain access from a property owner in such cases to do any work on their property. So they are always notified in that sense. If we delineated the extent of contamination to TRGs/MCLs before reaching an adjacent property, we would not need to contact them as they would not be impacted.

Of course, MDEQ requires/gives notification to the public during other events and actions that can occur such as emergency response actions, certain permits up for review, and even remedial actions where additional neighbors/residents may be impacted (such as excavations that create dust/air emissions, odors, or even just noise).

Under an optional program, MDEQ does require public notification if a remediation site seeks a Brownfield Agreement through our state Brownfield Program. Any contiguous property owner has to be notified and any off-site property that is impacted. This specific program and the Brownfield Agreement are not required but is sometimes participated in by a new developer/site owner. Again, it is an option, not a requirement to be in that program, but if participating in it, there is a 45-day public notice period prior to issuing a Brownfield Agreement. That agreement would go through the Commission for approval of any additional cleanup planning/actions that may be undertaken by the Brownfield Party.