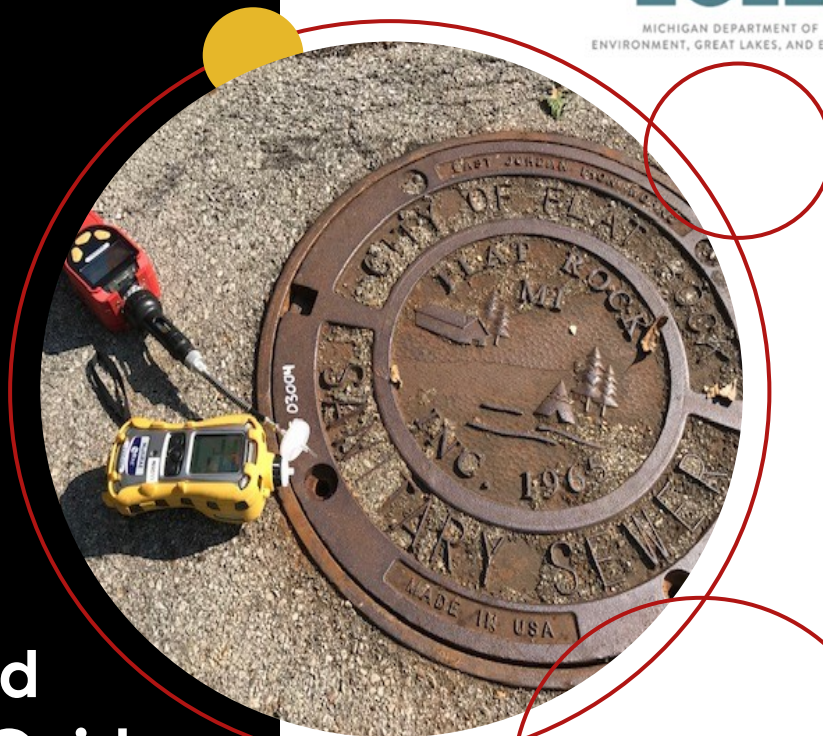
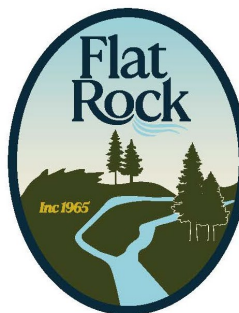


Flat Rock Michigan Gasoline Response



Community Resource and Information Guide

9/24/2021

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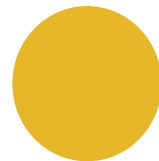
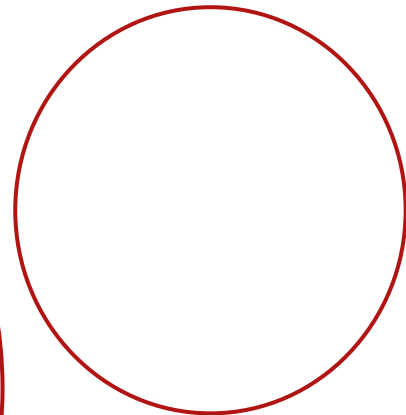


GUIDE OVERVIEW

What is contained in this guide

This document contains information and answers to questions about the Flat Rock gasoline leak. This guide will be updated as the response evolves and additional questions are raised.

In addition to this guide, daily updates will be posted on the City of Flat Rock's website (www.flatrockmi.org) and Facebook page (www.facebook.com/flatrockmi/). Updates will also be posted on the EPA website at response.epa.gov/FlatRockER



RESIDENT RESOURCES



Evacuation Information



If I chose to evacuate, is it recommended that I return home?

The Wayne County Health Department and the Michigan Department of Health and Human Services (MDHHS) have determined that both Zones 1 and 2 (see map, page 4) are clear of any impact from the Ford plant gasoline leak, with the exception of residents of fewer than 15 homes that previously tested with concerning levels of benzene or had reportable odors. Residents who chose to evacuate can return home.

MDHHS and the Centers for Disease Control and Prevention used data from 12 houses across Flat Rock that initially had elevated benzene levels or gasoline odors inside their homes to confirm that sewer testing can be used to validate that air levels in homes are below health levels.

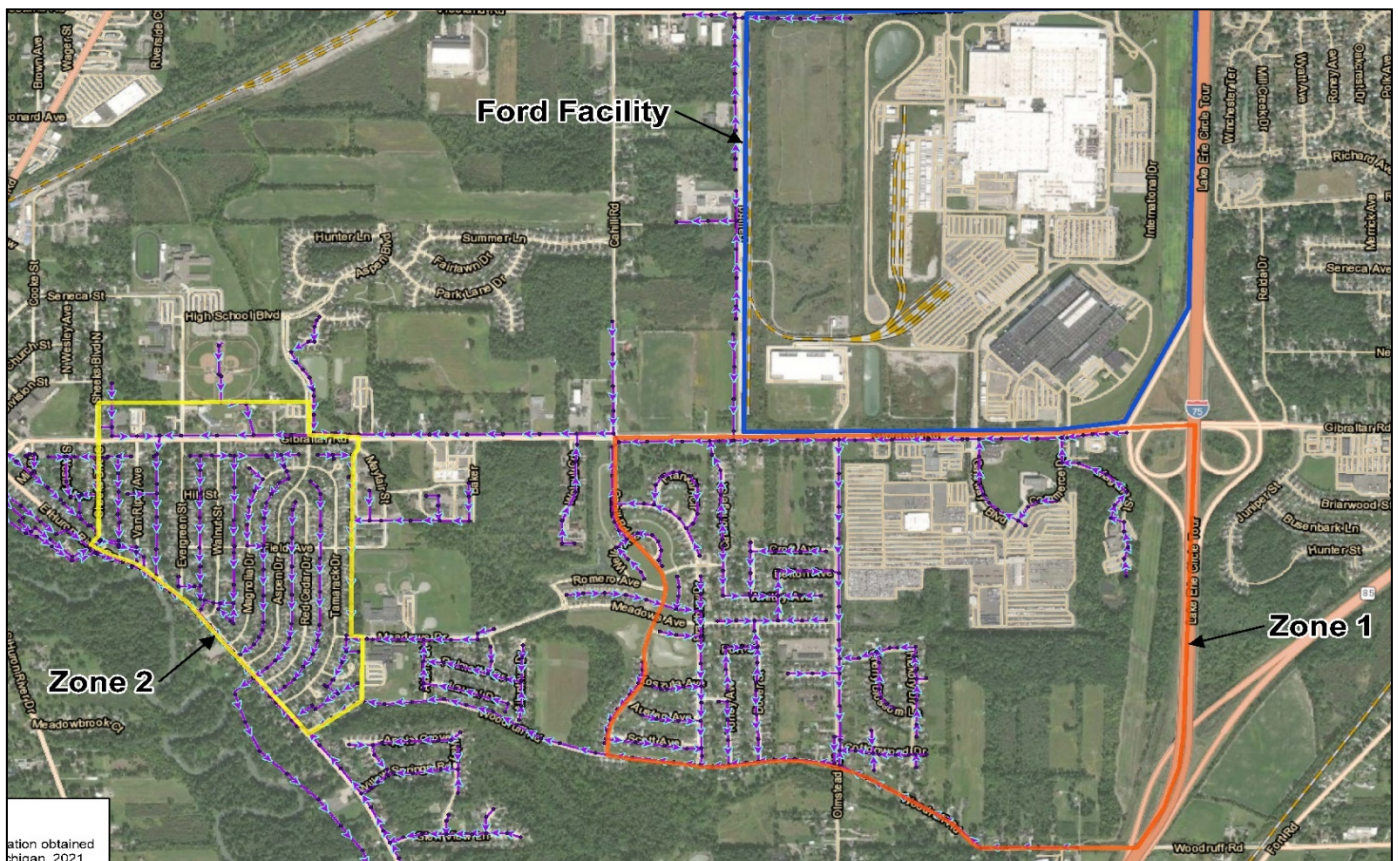
Not all homes require indoor air testing because MDHHS and the Centers for Disease Control and Prevention paired data from sewer testing with some houses across Flat Rock that initially had elevated benzene levels or gasoline odors inside their homes to validate that air levels in homes are below health levels. MDHHS compared the indoor air quality data in those homes with test results for sewer lines and confirmed that gasoline-related sewer vapors were substantially prevented from entering the indoor air of those homes.

This health-protective approach has been successfully used under similar conditions during previous incidents. Based on extensive sewer gas testing and the paired-home confirmatory data, MDHHS concluded that the indoor air of other homes in Zones 1 and 2 will not be at risk of being impacted from benzene or other gasoline-related chemicals now that the gasoline release has been stopped.



Now that Zones 1 and 2 are cleared do I have to immediately check out of my hotel?

The Wayne County Health Department and Michigan Department of Health and Human Services have determined there is no longer a risk to the indoor air of homes and businesses in Flat Rock's designated Zone 1 and Zone 2 (with the exception of residents of fewer than 15 homes in Zone 1) and most residents who evacuated the zones can return home. Residents can call the Incident Response Line, 734-782-2455, ext. 1105, when they are ready to arrange for hotel checkout or if they have hotel-related needs. Ford will continue to provide hotel accommodations for residents who requested testing at their home and are still awaiting written results.



Map of affected areas, Zone 1 and Zone 2.

RESIDENT RESOURCES

Is financial assistance available for evacuation?

Residents can call the Incident Response Line, 734-782-2455, ext.1105, to arrange assistance and support for evacuation including hotel vouchers.

Can I get a hotel voucher if I do not feel safe but live outside the affected areas?

No. The evacuation program is only for residents in affected areas.

Who do I call if I have questions about evacuation and/or hotel and food accommodations?

Please call the Incident Response Line, 734-782-2455, ext.1105, to learn about resources available to you.



What was EPA's role in the Re-Occupancy Plan?

For EPA, the Re-Occupancy Plan work included monitoring and collecting samples in the sanitary sewer and residences. EPA then worked within the Unified Command to screen, monitor, and collect samples from sewers and houses and shared the data with the health agencies on a rolling basis.

RESIDENT RESOURCES



Odor Reporting and Testing Requests

I think I smell gas in my home, what do I do?

Residents should immediately call 9-1-1 or contact their local fire department if they smell gas.

If we are evacuated from our homes, how can we let the EPA in for testing?

Individuals in Zone 1 that have requested testing for their home will be contacted to schedule an appointment to get their home tested. If you have any questions or haven't heard from someone about scheduling, please call the Incident Response Line, 734-782-2455, ext. 1105, for assistance.



Why would I smell odors from my basement sump? Isn't that supposed to be sealed?

Plumbing fixtures and their connecting systems that are correctly designed and installed normally do not allow odors/vapors into the house through the sump. However, even the best plumbing may sometimes allow sewer gas (or vapors associated with this spill) into your home due to a simple problem that can be easily checked and simply solved. The following issues could be present that would allow the vapors into your sump:

- sewer back-up
- leaks from rotted or cracked drainpipes
- a clogged drain
- loose-fitting pipe connections
- a stopped-up or too-short vent pipe
- toilet's wax ring is old
- a dry trap

If the problem persists, contact a professional plumber to troubleshoot.

RESIDENT RESOURCES

How can I get my home tested?

Testing of your home may not be required, because screening of the area's sewers that have been flushed to remove the gasoline appears to be making substantial progress. However, if you live in Zone 1 and have concerns about the air in your home, please call the Incident Response Line, 734-782-2455, ext. 1105, to be placed on a list that will be evaluated for the need for screening. We will contact you to schedule an appointment if needed.

Will there be a link with testing data for residents to access?

MDHHS will have summative testing results. A link will be shared at www.flatrockmi.org. EPA has an online viewer of data that can be publicly shared at response.epa.gov/FlatRockER (See page 17).

Are other areas of the city being proactively tested?

The entire sanitary sewer system that either had gasoline components or is connected to a sewer that had gasoline components in it has been screened by EPA and the local fire department, with assistance from hazmat teams.



Do you tell residents what they need to remove from inside their homes before their indoor air is tested?

Before we can sample air inside homes, we work with the residents to remove materials from their homes that could cause the measuring instruments to detect chemicals found in gasoline. When we contact residents to schedule their testing appointments, we talk to them about what they should remove from their homes. Common household items that we ask them to remove include gasoline cans, paints, glues, and furniture wax.

RESIDENT RESOURCES



Health

How can benzene affect my health?

The main health impact of long-term exposure to benzene is on the blood. It can cause low blood cell counts, a weakened immune system, and blood cancer.

Short term health effects include headaches, rapid heart rate, or dizziness. Having these symptoms does not necessarily mean you have been exposed to benzene, but if you are having these symptoms and have concerns then you should seek evaluation from a medical provider.

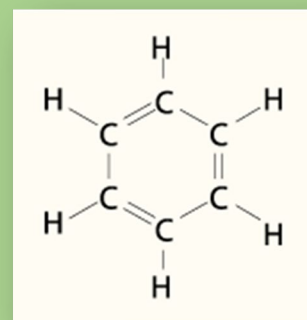
It is important to note that benzene leaves the blood stream very quickly after someone has been exposed, so tests for benzene cannot tell you if you have been exposed, for how long, or what the potential health impacts of that exposure may be.

Will there be payment assistance for any medical bills caused from exposure?

Please be sure to consult your physician about any possible medical issues you may be experiencing. All residents in Zone 1 and 2 will receive compensation of \$1,000 in the combination of gift cards to cover expenses and certified checks. Residents who believe they have additional claims may send related information to flatrockinfo@ford.com.

WHAT IS BENZENE?

Benzene is a flammable and colorless liquid with a sweet odor. It is used to make other chemicals. It is one of the most commonly made chemicals in the United States. It is found in crude oil, gasoline, tobacco smoke, and a variety of other products. It floats on water and evaporates into the air very easily; however, it is heavier than air, so it could potentially stay in low-lying parts of homes and basements.



RESIDENT RESOURCES

Should I be tested for benzene or other VOCs?

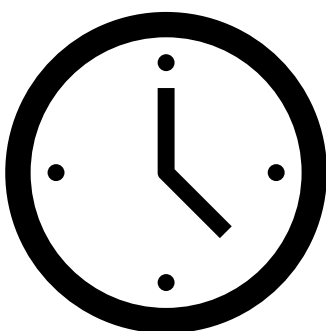
Benzene quickly leaves your body once exposure is stopped. Although the levels were high in some locations, the time of exposure was relatively short. A test of your blood, breath, or urine will not be able to tell you how much benzene you were exposed to. Please talk to your health care provider to discuss any health concerns.

What are the other risks of having benzene or other VOCs in the air?

Benzene and other chemicals found in gasoline are highly flammable and can explode if levels are high enough. Porous materials in the home could retain and off-gas chemicals for some time after the event if levels are high enough in the home. Foods in sealed containers or stored in the refrigerator are unlikely to be impacted by these vapors.

How long have I been exposed to benzene?

Ford first became aware of the leak on Wednesday, September 1; however, odor complaints began on August 31. It is unknown how long the tank was leaking prior to the odor complaints beginning. That is part of the ongoing investigation.



How quickly does benzene leave the body?

When benzene is inhaled and enters the body, about half of the benzene leaves the body in 1-2 days by being exhaled by the lungs. The other half is changed into different molecules, called metabolites, that leave the body in the urine within 1-2 days." (Adapted from Institute of Medicine. 1995. Environmental Medicine: Integrating a Missing Element into Medical Education. Washington, DC: The National Academies Press. <https://doi.org/10.17226/4795>.)

Can benzene negatively impact my health if I cannot smell it?

Benzene can harm health at levels below what can be smelled. This is why the EPA is screening homes with special equipment to ensure that your health is protected.

RESIDENT RESOURCES

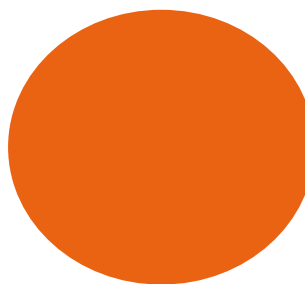
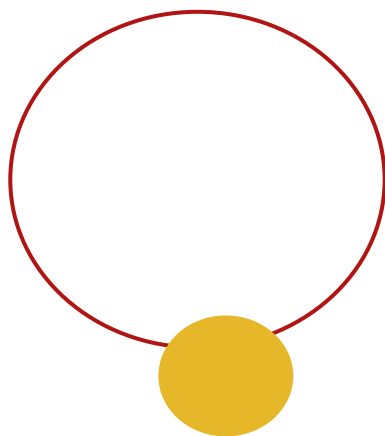
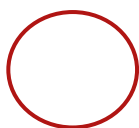
Will blood testing be available to residents?

Benzene quickly leaves your body once exposure is stopped. Although the levels were high in some locations, the time of exposure was relatively short. A test of your blood, breath, or urine will not be able to tell you how much benzene you were exposed to. Please talk to your health care provider to discuss any health concerns.

Should I continue to breastfeed my child?

If you are breastfeeding, please contact your health care provider right away to discuss your exposure risks and next steps. If you have been exposed to benzene and other VOCs in gasoline, they may be in your breast milk.

If you have any additional questions, please email cityofflatrock@gmail.com



RESPONSE INFORMATION



What Happened?

When did the gasoline leak start?

The first report of contaminants in the sewer came in on Tuesday, Aug. 31. The leak was discovered by Ford on Wednesday, Sept. 1. How long it may have been leaking is unknown, and part of the ongoing investigation.

How did gasoline end up in the sanitary sewers?

Ford Motor Company has stated that the Flat Rock Assembly Plant identified a gasoline leak on Wednesday, September 1, 2021, that is the source of contamination in Flat Rock. From the release site, it entered into the sanitary sewer and migrated into the city sewer system. We are still investigating to understand the exact path into the plant's sanitary sewers.

Who's Impacted?


How do we know that the areas outside of Zone 1 and 2 are not impacted?

EPA and the local fire department, with assistance from hazmat teams, screened sewers following the path the contamination would follow to get to the wastewater treatment plant. They also took into consideration the way the vapors were moving – which was sometimes against the current of the sewage flow. The EPA has continued to screen locations throughout Flat Rock to ensure the contamination has not spread beyond what was known and the health departments will identify any changing public health risks.



How do we know the area between Zone 1 and 2, known as “the donut” is safe and not affected by the spill?

EPA has dozens of air monitoring/sampling points in “the donut” area including: multiple rounds of monitoring in the schools, including using the TAGA; ambient air monitoring circuits around the schools, and sanitary sewer monitoring and TAGA screening of sewers. Screening in that area has not detected the chemicals of concern above the established health action levels. Sewers have been cleared of all vapors associated with the gasoline release. There is no indication of an outdoor air concern or that toxins from Zones 1 and 2 could carry over into other areas.



In addition, as of September 23, the Wayne County Health Department and MDHHS have determined that Flat Rock's Zones 1 and 2 are clear of any impact from the Ford plant gasoline leak and that residents who chose to evacuate can return home.



What impact will this leak have on local schools?

As of September 15, all five of the local K-12 schools were open to students. River Heights Academy was informed that they were approved to reopen on September 14 after extensive monitoring and sampling confirmed that readings were below established action levels developed by the health agencies.

If all the manholes are open for venting, will areas outside of the identified zones become impacted?

EPA is measuring outside air in between screenings of the sewer system, and all outdoor air readings have come back clear and are expected to remain so. Air quality screenings will continue until all venting is complete.

Is this spill isolated to the city of Flat Rock?

There are no indications that areas outside of the City of Flat Rock have been impacted.

My house is on the border of a zone, is my water, soil, and air safe?

Out of an abundance of caution, environmental testing will continue to ensure air, water, and soil remain safe in Flat Rock. Water: The drinking water pipes are a closed system and there is no reason to believe it has been affected. Drinking water plant operators have reported nothing unusual. Precautionary test results are pending. City water is routinely tested by the municipality, and they will notify residents if there are concerns. Surface Water: City drinking water tests show no detection of any VOCs and EPA has sampled two surface water streams and there was no detection of gasoline components. Soil: Although the investigation is ongoing, the spill occurred on the property of the Ford Assembly Plant. While it's likely the soil at the plant may be affected by the spill, currently there are no reports of the contamination moving off site via any pathway except the sanitary sewer lines. Air: Vapors are not being found in the outside air during routine screening.

RESPONSE INFORMATION



Why are the two identified zones being treated differently?

The contaminated sanitary sewer line runs through Zone 1 and there was data showing hazardous benzene levels in the sewer lines and some homes. The location of Zone 2 in relation to the contaminate flow indicated reduced risk, but data was collected to confirm it was not impacted. As of September 23, the Wayne County Health Department and MDHHS have determined that both zones are now clear of any impact from the Ford plant gasoline leak. Residents (with the exception of residents of fewer than 15 homes in Zone 1) who chose to evacuate can return home.

Do you expect new zones to be identified or for current zones to grow larger?

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) investigation has shown the source of the gasoline has been stopped. In addition, the levels overall in the sanitary sewer system are decreasing, so we do not expect new zones to be identified nor do we expect the current zones to grow larger. However, the health agencies will continue to screen the area and the data will be reviewed regularly to make sure others aren't at risk.

What's Being Done to Fix It?




What is the status of the community's air, water and soil?

Air: EPA and Unified Command have been conducting ambient air monitoring and sampling since arrival on August 31. As of September 21, EPA has taken 7,000 measurements of air quality. EPA continues to share results of this sampling on the interactive map on the EPA website:

response.epa.gov/FlatRockER.





Water: City drinking water tests show no detection of any VOCs. EPA and EGLE have collected multiple surface water samples (two creeks and Lake Erie) and have found no contaminants related to this gasoline release. In addition, the City has collected drinking water samples from several residential properties and have found no contaminants related to this gasoline response.

Soil: Although the investigation is ongoing, the spill occurred on the property of the Ford Assembly Plant. While it's likely the soil at the plant may be affected by the spill, currently there are no reports of the contamination moving off site via any pathway except the sanitary sewer lines.

What is Ford doing to prevent a leak from occurring again?

First, Ford repaired the leaking pipe and removed the gasoline from the tank so no more gasoline can escape. In addition, Ford is:

- Decommissioning all underground gasoline piping and replacing with aboveground piping. This work is being reviewed and approved with Michigan's Licensing and Regulatory Affairs – Underground Storage Tank Division (LARA), and will be completed before restarting any fuel-filling operations at the Plant.
- Evaluating whether any additional changes in its system and operations are needed to remove the potential for this leak path from occurring, again.

Additionally, EGLE is overseeing and advising Ford on the investigation and cleanup activities.

Have you found the source of the spill and has the leak been stopped?

Yes. The source of the spill was traced back to the Ford Flat Rock Assembly Plant. The leak has been resolved and the sewer line has been jetted and flushed. Unified Command agencies are confirming that there are no identified safety risks so that people can return to their homes.

RESPONSE INFORMATION



What actions has Ford taken to address the leak?

Ford began implementing the initial response actions immediately upon discovery of the release from a gasoline fuel pipe connected to Tank 1. Initial actions included:

- Shut down gasoline Underground Storage Tank (UST) system and emptied Tank 1
- Inspected subsurface structures, utilities and indoor air of the plant for presence of gasoline or gasoline vapors
- Removed gasoline that had collected in the gasoline piping vault/transition sump where the release was discovered
- Performed camera/video inspections of select sections of the sanitary sewers on-site
- Completed soil borings in and immediately adjacent to the fill material in the immediate vicinity of where the release was discovered and along the fuel piping trench
- Installed a temporary well in the fill material where gasoline-free product was encountered

Additionally, the sanitary sewer in the area adjacent to the gasoline release remains plugged to prevent any potential off-site migration of gasoline or gasoline vapors via the sanitary sewer until necessary onsite responses are complete. Regular VOC monitoring is being performed throughout the plant. Ford continues to meet daily with the United Incident Command and is providing progress reports every day. Ford will continue to work together with the respective agencies to identify additional corrective actions.


Will soil sampling occur?

Per the above, this work is already underway at the Flat Rock Assembly Plant. Ford is taking soil samples and provides daily updates on the results. If the results show the gasoline leak has moved into the soil beyond Ford's plant, we will sample soil where there is an indication of contamination.



How did the gasoline get into a closed sewer line?

Dye testing in Ford's sewer conducted by Ford and overseen by EGLE and EPA has pinpointed a compromised manhole structure on Ford's property where it is believed gasoline from a leak was able to enter the city's sewer system. Further investigation is ongoing to determine the exact problem with the manhole and



pinpoint the precise route of the leaked gasoline into the city sewer. That will allow Ford to conduct the work necessary to ensure the pathway to the sewer is sealed and the manhole fixed.

Is there a risk of gasoline related vapor levels increasing while the sewer system is flushed?

A flushing process has been instituted to flush vapors from the sanitary sewer system. The sewer system that had product in it has been cleaned. After the cleaning and flushing, any vapors that remain in the sanitary sewer system were already present. The sanitary sewers will continue to be monitored throughout the flushing process.

Will the flushing of the sanitary systems cause any new hazards that residents need to be concerned about?

The flushing is not expected to cause any additional problems in the sanitary sewer system. However, the use of water from fire hydrants with high volumes of water moving through the pipes when flushing occurs may result in pieces of metal or other pipes coatings to break off within the drinking water pipes. To minimize any debris or small particles that may enter the water system, we recommend that you clean your aerators (the screens located at the end of some faucet fixtures) to and run your water for a few minutes before replacing your aerator when you return to your home. This will help to clear out any debris that may be flowing through the pipes. It should be noted that the spill into the sanitary sewer is not impacting the drinking water system.



If benzene is heavier than air and may accumulate in low-lying areas, shouldn't the tests be taken at the bottom of the sewer?

The sanitary sewer system is a closed system and the vapors associated with the gasoline spill migrated into the neighborhood due to a “back drafting” situation. The “back drafting” occurs when the vapors move in the opposite direction to the flow of product in the sanitary sewer system. After multiple rounds of air monitoring, the current process was established based on system specific conditions. In addition, the sanitary sewer sampling is conducted in addition to the residential house sampling. This data allows the health agencies to make decisions regarding re-occupancy.

RESPONSE INFORMATION

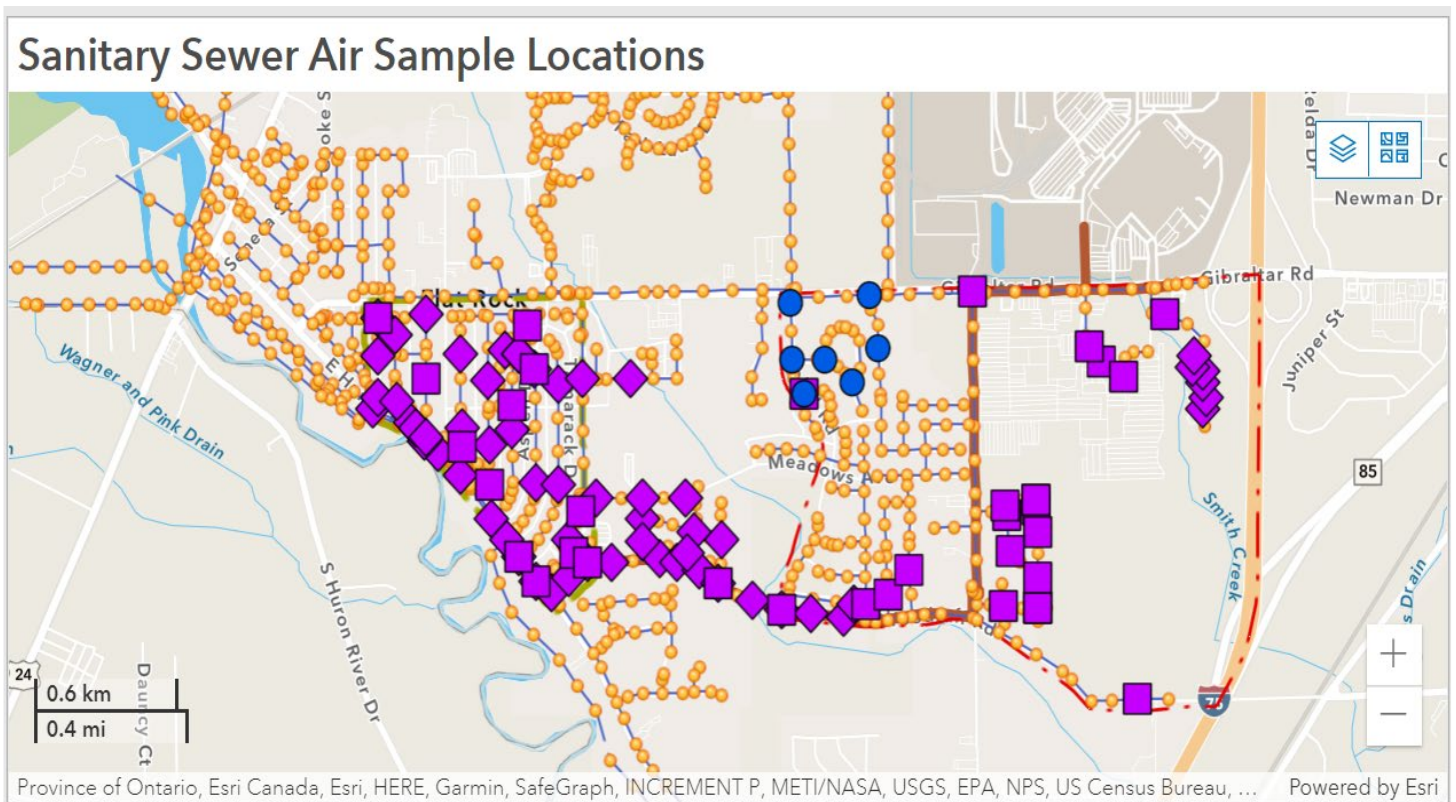


What was done to remediate high levels in the sewers near the recreation center??

The recreation center is at a higher elevation compared to the rest of the sanitary sewer district and that is where the vapors traveled to during the flushing operation. The sewers at the recreation center were cleaned and levels reduced after flushing with water.

Where can I find a map of affected areas and sewer systems?

The map shown below can be found at response.epa.gov/FlatRockER.



CONTAMINATION AND FUTURE RISK



Will Contamination Spread?

Is the drinking water contaminated with gasoline?

No. The drinking water pipes are a closed system and there is no reason to believe it has been affected. Drinking water plant operators have reported nothing unusual. Precautionary test results are pending, and the results will be announced as soon as they are available.

Can rain cause the contamination to spread?

The sanitary sewer is a closed system and should not be affected by rainwater. Ford has isolated and continues to actively monitor the sanitary sewer line that was impacted by the gasoline release to prevent any potential for additional migration, including any impact from a rain event.

Is there a risk of soil contamination?

Although the investigation is ongoing, there are no reports of the contamination moving from the Flat Rock Assembly Plant via any pathway except the sewer lines. Ford has developed an initial investigation plan, which has been provided to both EPA and EGLE, as well as an initial Evacuation Plan to expeditiously identify and remove any impacted soil/fill from the release area. This work is actively underway and daily progress reports are being provided.

Questions About Benzene

How does benzene get into my home?

Benzene vapors from this release can get into your home through your sump pump if it wasn't hooked up to the sewer correctly. They can also enter through dry drain traps. Ensure your traps have water in them. See "Why would I smell odors from my basement sump? Isn't that supposed to be sealed?" question on page 7 for more information.

CONTAMINATION AND FUTURE RISK

Will the benzene levels fluctuate over time in our homes?

Now that the release has been stopped and work has been done to flush the sewer system, data has shown that levels of the total VOCs are decreasing in the sewer systems. On September 8, EPA mobilized in special equipment to increase their capacity to screen the sewer lines and homes. Once the gasoline is cleared out of the sewer system there should be no further exposure risk to benzene from that source. There are many everyday home hazards that can contribute benzene to your home's air, though.

Besides being found in gasoline, benzene is used as a solvent for fats, waxes, resins, oils, inks, paints, plastics, and rubber and can be found in tobacco smoke.

How do I know if my home is being affected by benzene?

While benzene can be smelled at very high levels, it can harm health at levels below what can be smelled. With limited resources not all homes can be tested immediately. If you live in Zone 1, It is recommended you evacuate until further information is available. If you have concerns about your health, MDHHS recommends that you evacuate until further information is available. If you have questions about this recommendation, please contact MDHHS at 800-648-6942.

Can benzene attach to sanitary sewer pipes?

We are not aware of any concern (or evidence) that benzene or other components of gasoline will bind with piping or that it is a known route of exposure to humans. The pipes in Flat Rocks sanitary sewer system have been thoroughly and continually flushed with fresh water over the course of many days to remove any residual chemicals.

CHEMICAL FACT SHEETS

Benzene

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities.



What happens to benzene when it enters the environment?

- Benzene tends to evaporate quickly into the air when it is spilled.
- It reacts with other chemicals in the air and breaks down within a few days.
- If it is spilled onto the ground or into water, it will break down more slowly. It may also move through the soil into underground water.



How might I be exposed to benzene?

- Indoor air can contain benzene due to vapors from products that contain benzene, such as glues, paints, furniture wax, and detergents.
- Outdoor air can contain low levels of benzene from tobacco smoke, automobile service stations, exhaust from motor vehicles, and industrial emissions.
- Air around hazardous waste sites or gas stations will contain higher levels of benzene.



How can benzene affect my health?

- Breathing high levels can cause short-term effects such as drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness.
- Longer-term exposure to benzene causes harmful effects on the bone marrow resulting in a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection.



How likely is benzene to cause cancer?

- Long-term exposure to high levels of benzene in the air can cause leukemia, particularly acute myelogenous leukemia (AML).



How can benzene affect children?

- Children can be affected by benzene exposure in the same ways as adults.
- Benzene can pass from the mother's blood to a fetus. Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.



How can families reduce the risks of exposure to benzene?

- Benzene exposure can be reduced by limiting contact with gasoline and cigarette smoke. Families are encouraged not to smoke in their house or other indoor spaces, or near their children.

Ethylbenzene

Ethylbenzene is a colorless, flammable liquid that smells like gasoline. It is naturally found in coal tar and petroleum. Other uses include as a solvent, in fuels, and to make other chemicals.



What happens to ethylbenzene when it enters the environment?

- Ethylbenzene moves easily into the air from water and soil.
- It takes about 3 days for ethylbenzene to be broken down in air into other chemicals.
- Ethylbenzene may also move through the soil into underground water.



How might I be exposed to ethylbenzene?

- You might be exposed if you use products containing this chemical, such as gasoline, carpet glues, varnishes, and paints.
- Releases of ethylbenzene into the air usually occur from burning oil, gas, and coal and from industries using ethylbenzene.



How can ethylbenzene affect my health?

- Exposure to high levels of ethylbenzene in air for short periods can cause dizziness, eye and throat irritation.
- Irreversible damage to the inner ear and hearing has been observed in animals exposed to relatively low concentrations of ethylbenzene for several days to weeks. Exposure to relatively low concentrations of ethylbenzene in air for several months to years causes kidney damage in animals.



How likely is ethylbenzene to cause cancer?

- The International Agency for Research on Cancer (IARC) has determined that ethylbenzene is a possible human carcinogen.



How does ethylbenzene affect children?

- It is likely that children would have the same health effects as adults.
- Minor birth defects and low birth weight have occurred in newborn animals whose mothers were exposed to ethylbenzene in air during pregnancy.



How can families reduce the risk of exposure to ethylbenzene?

- If you are using products that contain ethylbenzene, make sure you do so in an area that has plenty of fresh air to reduce exposure to the harmful vapors.



Adapted from ATSDR ToxFAQs, 9/15/2021

Toluene

Toluene is a clear, colorless liquid with a distinctive smell. Toluene occurs naturally in crude oil. It is produced in the process of making gasoline and other fuels from crude oil.



What happens to toluene when it enters the environment?

- Toluene can enter surface water and ground water from spills of solvents and petroleum products, as well as from leaking underground storage tanks at gasoline stations and other facilities.
- Toluene in surface water or soil will readily evaporate to the air or be broken down by bacteria.



How might I be exposed to toluene?

- Using products at home containing toluene, such as paints, glues, inks, and stain removers without ensuring you have plenty of fresh air.
- Breathing contaminated air in workplaces, near petroleum sources, or automobile exhaust.



How can toluene affect my health?

- Toluene may affect the nervous system. Low to moderate levels can cause tiredness, confusion, weakness, memory loss, nausea, and loss of appetite. These symptoms usually disappear when exposure stops.



How likely is toluene to cause cancer?

- Studies in workers and animals exposed to toluene generally indicate that toluene is **not** carcinogenic.



How can toluene affect children?

- Toluene seems to produce the same types of effects in children as it does in adults.
- Some older children and adolescents who have repeatedly breathed large amounts of toluene to get high have developed loss of muscle control, loss of memory, poor balance, and decreased mental abilities. Some of these changes may last for a long time after toluene has left the body.
- Some mothers who breathed large amounts of toluene during pregnancy to get high have had children with birth defects, including retardation of mental abilities and growth.



How can families reduce the risk of exposure to toluene?

- If you are using products that contain toluene, make sure you do so in an area that has plenty of fresh air to reduce exposure to the harmful vapors.



Adapted from ATSDR ToxFAQs, 9/15/2021

Xylene

Xylene is a colorless, sweet-smelling liquid that catches on fire easily. Chemical industries produce xylene from petroleum.



What happens to xylene when it enters the environment?

- Xylene evaporates quickly from the soil and surface water into the air.
- In the air, it is broken down by sunlight into other less harmful chemicals in a couple of days.
- It is broken down by microorganisms in soil and water.



How might I be exposed to xylene?

- You can be exposed to xylene from a variety of products including gasoline, paint varnish, shellac, rust preventatives, and cigarette smoke.
- Xylene can be absorbed through the respiratory tract and through the skin.



How can xylene affect my health?

- High levels of exposure for short or long periods can cause headaches, lack of muscle coordination, dizziness, confusion, and changes in one's sense of balance.
- Exposure of people to high levels of xylene for short periods can also cause irritation of the skin, eyes, nose, and throat; difficulty in breathing; problems with the lungs; delayed reaction time; memory difficulties; stomach discomfort; and possibly changes in the liver and kidneys.



How likely is xylene to cause cancer?

- Both the International Agency for Research on Cancer (IARC) and the EPA have found that there is not information to determine whether or not xylene can cause cancer.



How can xylene affect children?

- The effects in children are likely that they would be similar to those seen in exposed adults.
- We do not know if xylene can harm a fetus if the mother is exposed to low levels of xylene during pregnancy.



How can families reduce the risks of exposure to xylene?

- If you are using products that contain xylene, make sure you do so in an area that has plenty of fresh air to reduce exposure to the harmful vapors.

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KEY CONTACTS

For concerns about your home or information
about accommodations:

Incident Response Line
734-782-2455 ext. 1105

Important Contacts and Websites

City of Flat Rock



www.flatrockmi.org



www.facebook.com/flatrockmi/



cityofflatrock@gmail.com

Ford Motor Company



www.fordflatrockinfo.com



flatrockinfo@ford.com

Michigan Department of Health and Human Services



800-648-6942

Michigan Department of Environment, Great Lakes, and Energy



https://www.michigan.gov/egle/0,9429,7-135-3311_4109_9846_30022-568254--,00.html

U.S. Environmental Protection Agency



response.epa.gov/FlatRockER