



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

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Division of Public Health

January 8, 2021

Vance Jackson
Environmental Program Supervisor III
Underground Storage Tanks Section
North Carolina Department of Environmental Quality

SUBJECT: Review of available environmental data to determine potential exposures and public health risk from the Colonial Pipeline Spill in Huntersville, NC

Dear Mr. Jackson,

In August 2020, a gasoline leak was identified in an underground pipeline operated by Colonial Pipeline. The leak occurred where the pipeline crosses the Oehler Nature Preserve near Huntersville in Mecklenburg County, North Carolina. Colonial Pipeline repaired the pipe to stop the leak, and over 350,000 gallons of gasoline had been recovered as of November 22, 2020 [APEX 2020]. In November 2020, the NC Department of Environmental Quality (DEQ) reached out to the NC Division of Public Health (DPH) to help answer residents' questions about health impacts and risk from exposure.

DPH staff reviewed the available information to determine potential health risk to residents near the site. DPH concluded the following:

1. **Drinking water in the area is currently unaffected.** Weekly sampling since the incident has not shown petroleum-related contaminants in drinking water wells within 1,500 feet of the site [APEX 2020]. Some wells had elevated levels of lead, although most wells with lead are not currently in use. Those well owners have been provided recommendations to not use their water for drinking, and to re-test the water in the future if use of the wells change. The source of the lead is unknown. Since the lead was found in wells that do not show contamination with petroleum-related compounds, the lead is unlikely to be from the pipeline spill.
2. **Surface water in the area is currently unaffected.** Daily (in August) and weekly (September through November) surface water sampling along nearby creeks has not detected any petroleum-related contaminants [APEX 2020].
3. **There is insufficient data to rule out the vapor intrusion pathway for residential properties in the immediate vicinity of the site.** The US Environmental Protection Agency (EPA) and the Agency for Toxic Substances and Disease Registry (ATSDR) vapor intrusion guidance suggests a 100-foot buffer zone (vertically or laterally) to identify structures for vapor intrusion investigation [EPA 2015, ATSDR 2016]. As of November 22, 2020, 68 monitoring wells have been installed and sampled. A few monitoring wells are located within

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100 feet of residential buildings. Of these, one well, MW-11, has levels of benzene, 1,2,4-trimethylbenzene, and xylenes above their respective ATSDR vapor intrusion comparison values¹ for groundwater (Table 1) [APEX 2020].

Table 1. Contaminant levels in MW-11 that exceed ATSDR vapor intrusion comparison values for groundwater during October 2020 sampling.

Contaminant	Concentration in MW-11 (µg/L)	Comparison Value (µg/L)	Comparison Value Type
Benzene	1,740	130	Acute EMEG
		0.57	Chronic CREG
1,2,4 – Trimethylbenzene	265	240	Chronic RMEG
m&p-Xylenes	1,110	370 (total Xylenes)	Chronic RMEG
o-Xylene	645		

µg/L = micrograms per liter; EMEG = Environmental Media Evaluation Guide; CREG = Cancer Risk Evaluation Guide; RMEG = Reference dose Media Evaluation Guide

To continue to ensure that public health is protected, DPH recommends that:

1. Drinking water wells in the vicinity of the incident continue to be monitored on a regular basis. This will ensure that impacts from the site will not result in drinking water exposure to site-related contaminants.
2. DEQ or the responsible party investigate potential vapor intrusion at occupied structures near the contaminant plume. This may include soil gas sampling near the structures' foundation to assess if volatile chemicals are migrating from the groundwater. Sampling at multiple timepoints may be needed if the contaminant plume shifts closer to the structures over time.

If you have any questions or concerns about this evaluation, please reach out by calling 919-707-5900 or emailing nchace@dhhs.nc.gov. DPH staff are available to discuss these results and any associated health concerns that residents may have about this site.

Thank you,

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Cc:

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¹ Comparison values are concentrations set below levels that are known or anticipated to result in adverse health effects. If a chemical is found at a level above the comparison value, that does not mean that there is a health risk, only that further evaluation is needed.

References

[APEX 2020] Monthly Monitoring Report SR 2448/Pipeline right of Way Incident Number 95827. Prepared by Apex Companies, LLC. November 30, 2020.

<https://files.nc.gov/ncdeq/Nov30MonthlyMonitoringReport.pdf>

[ATSDR 2016] Evaluating Vapor Intrusion Pathways – Guidance for ATSDR’s Division of Community Health Investigations. Agency for Toxic Substances and Disease Registry. October 31, 2016.

[EPA 2015] OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. U.S. Environmental Protection Agency. June 2105.

<https://www.epa.gov/sites/production/files/2015-09/documents/oswer-vapor-intrusion-technical-guide-final.pdf>

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