Investigation of Mercury in Residential Potable Wells Located in Upper Township

Bayaire Road & Homestead Court Groundwater Contamination (PI: 1072516)

August 2025

Contaminated Site Remediation & Redevelopment
New Jersey Department of Environmental Protection

Initial Bayaire Road Sampling Results

In June and July 2024, the New Jersey Department of Environmental Protection (DEP) received hotline reports from a homeowner alerting DEP of laboratory sampling results from a residential potable well in Upper Township with mercury concentrations above the applicable ground water quality standards. The residential potable well is located on Bayaire Road, Upper Township, Cape May County and had been sampled and analyzed by Cape Environmental Labs (Cape Environmental). Results indicated mercury at 8.82 and 12.6 micrograms per liter (ug/L or parts per billion, ppb) which exceed the Ground Water Quality Standard (GWQS) for mercury of 2 ppb.

DEP Action on Initial Sampling Exceedances

Beginning in August 2024, DEP coordinated with Cape May County Department of Health (CMDOH) to conduct step out sampling in and near Bayaire Road at increasing distances away from the original mercury exceedance. The goal of the step out sampling was to determine whether additional wells in the area were contaminated. Between June and October 2024, on behalf of CMDOH, Cape Environmental collected and analyzed samples from 30 residential potable wells. Samples collected from 16 potable wells exceeded the GWQS for mercury. Sampling results ranged from non-detect (ND) to 14,000 ppb of mercury.

DEP reviewed historical sampling data from approximately 100 residential potable wells within a 1-mile radius of the area of the initial investigation. Prior to the two initial homeowner reports that led to the initiation of this investigation, there had been no historic exceedances of the GWQS for mercury in the area. The levels detected in the 2024 samples collected and analyzed by Cape Environmental were orders of magnitude greater than historical results of all other potable wells sampled in this area.

On October 9, 2024, the federal Agency for Toxic Substances and Disease Control informed the New Jersey Department of Health (NJDOH) that water with mercury at concentrations over 1,000 ppb should not be used for any purpose. All homeowners with results exceeding that standard were instructed to not use water for drinking or cooking and were provided with information about filing a Spill Compensation Fund Damage Claim (Spill Fund claim). DEP offered residents the option to temporarily relocate.

On October 9, 2024, in accordance with the Processing of Damage Claims Pursuant to the Spill Compensation and Control Act rules at N.J.A.C. 7:1J-4.7, the Spill Fund Administrator authorized emergency voluntary temporary relocation for residents based on sampling results indicating mercury levels exceeding 1,000 ppb. Fourteen households with elevated levels of mercury were offered relocation assistance. Two households were below 1,000 ppb and were not

offered relocation. Six households relocated while eight other households elected to not relocate. DEP reimbursed homeowners who opted not to relocate and had exceedances over 1,000 ppb for costs associated with bottled water.

Initial Confirmatory Sampling & Laboratory Investigation

On October 17, 2024, DEP began independently collecting confirmatory residential potable well samples from properties on Bayaire Road that had previously been sampled and analyzed by Cape Environmental. These samples were analyzed at the NJDOH Environmental Laboratory. On October 22, 2024, DEP received the first set of sampling results. NJDOH notified DEP that mercury concentrations in samples collected from the properties on Bayaire Road that were previously sampled and analyzed by Cape Environmental were all below 0.1 ppb, which is well below the standard.

Based on these sampling results, on October 24, 2024, DEP conducted an in-person inspection of Cape Environmental Laboratory to evaluate whether there had been any potential issue with the laboratory analyses performed on the Bayaire Road samples. DEP also conducted a review of the laboratory's raw data.

DEP reviewed data records, reports, and standard and reagent information, and also conducted interviews with laboratory management and analysts. The laboratory analyses performed appeared to meet the applicable requirements.

During the inspection, DEP received information suggesting that a single employee of Cape Environmental may have intentionally spiked, or otherwise tampered with, the Bayaire Road samples that had mercury exceedances. Based on this information, this matter was immediately referred to the Division of Criminal Justice within the New Jersey Office of the Attorney General for investigation. The employee has been terminated from employment at the laboratory.

Additional Confirmatory Sampling

To determine whether mercury is actually present in residential wells at levels above the GWQS, DEP staff and its contractor (Handex) collected samples at all homes that were initially sampled by Cape Environmental, as well as additional homes in the area. Samples were collected from over 50 homes between October 2024 and April 2025. All results indicated mercury below the GWQS, indicating that the original results produced by Cape Environmental were not representative of the samples collected.

DEP's sampling efforts are summarized below.

- On October 14 and 22, 2024, DEP's contractor collected samples from 17 residential potable wells and one irrigation well along Bayaire Road. The samples were analyzed for mercury at SGS laboratory, a private independent lab utilized by Handex.
- On October 17, 2024, DEP staff collected samples at 12 homes along Bayaire Road, all of which had been previously sampled by Cape Environmental. The samples were analyzed for mercury at the NJDOH Environmental Laboratory.
- On October 23, 2024, DEP staff collected samples at 14 homes. Samples were analyzed for mercury by the NJDOH Environmental Laboratory.

- On October 30, 2024, DEP staff collected confirmatory residential potable well samples at nine properties. Samples were analyzed for mercury by the NJDOH Environmental Laboratory.
- On April 22, 2025, DEP staff collected confirmatory residential potable well samples at 11 properties. Samples were analyzed for mercury by the NJDOH Environmental Laboratory.

NJDEP CONFIRMATORY MERCURY SAMPLING RESULTS

Cape Environmental Concentration(s) for Mercury (ug/L)	NJDEP concentration(s) for Mercury (ug/L) NJDOH Lab	NJDEP concentration(s) for Mercury (ug/L) SGS Lab
8,200	0.031	ND
6,200	0.031	ND
11.3; 12.5	ND	
ND		ND
12,600	0.061; ND	
14,000; 9,300	0.034; ND	
11,700	0.031; ND	
11,220; ND	0.031, ND	ND
ND	ND	
13,100	0.062; ND	
ND		ND
12,200	0.031	ND
6,500; 4,000	0.031	ND
3,500	0.033	ND
4,300	0.051	ND
9,888; ND	0.066	ND
ND	ND	
ND	0.077	
ND	0.124	
ND	ND	
ND	ND	
ND	ND	
ND	ND	
ND	ND	
ND	ND	
ND	ND	
ND	ND	
3,100; 33,000	ND	
4,400	ND, ND	
4,900	ND	

ND- Non Detect
Ground Water Quality Standard for mercury is 2 ug/L

Investigation Conclusions

Mercury was not detected above the Groundwater Quality Standards in any of the confirmatory samples from Bayaire Road collected by DEP or its contractor and analyzed by an independent laboratory. This indicates that the original results produced by Cape Environmental were not representative of the samples collected. The results of the DEP investigation found no evidence of mercury contamination that would pose a threat to public health or the environment. DEP advised residents of these results, and, by November 15, 2024, all property owners had returned to their residences. There is no need for the public to take additional precautions with respect to mercury at this time. DEP has referred the tampering allegations to the Division of Criminal Justice within the New Jersey Office of the Attorney General for investigation.

Please be advised that this summary is focused on the mercury investigation. Per- and Polyfluoroalkyl Substances (PFAS) compounds and volatile organic compounds were also found in wells during this investigation but are not addressed in this report.

For more information about PFAS, please visit the websites below.

- https://dep.nj.gov/pfas/
- https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas
- https://www.nj.gov/health/ceohs/documents/pfas_drinking%20water.pdf
- https://dep.nj.gov/wp-content/uploads/pfas/docs/faq-pfas-in-drinking-water.pdf