

NJ Statewide PFAS Study of Surficial Soils

September 2025



WHAT YOU NEED TO KNOW

NJDEP released the results of its statewide PFAS soil study, finding PFAS prevalent across New Jersey's 21 counties, with higher levels in urban areas and along the I-95 corridor. Regulated PFAS did not exceed its respective Interim Residential or Non-Residential SRS. PFAS detections are not considered "background" since PFAS are man-made; however, results of NJDEP's study should be considered when evaluating potential off-site contributions to your site.

On September 15, 2025, NJDEP released the findings of its long-awaited PFAS soil investigation in a report: "Per- and Polyfluoroalkyl Substances in New Jersey Soils: A Statewide Investigation." The investigation evaluated PFAS concentrations in surface soils across the state's 21 counties. The purpose of the study was to take a systematic look at PFAS presence in soils from atmospheric deposition at locations distant from known or presumptive sources of PFAS. The sampling results indicated that PFAS are prevalent in soil across the state in both urban and rural areas.

Between August and December 2023, a total of 157 surficial (0-6" depth) soil samples were collected, representing every county in New Jersey—83 samples from urban areas, and 74 samples from rural areas. Samples were analyzed for a suite of 40 PFAS compounds by EPA Method 1633, allowing for the comparison of results to the Interim Residential and Non-Residential Soil Remediation Standards (SRS). Samples were also analyzed using the synthetic precipitation leaching procedure (SPLP) to evaluate the leachability of PFAS from the soils, allowing for the evaluation of the Migration to Groundwater (MGW) SRS. Samples were collected from publicly accessible land without known contamination or a history of agricultural use.

The results indicated that:

- Of the 40 PFAS compounds analyzed, 23 were detected; PFOS, PFOA, PFNA, and PFUnA were the most common.
- Urban soils showed generally higher PFAS concentrations than rural soils, which can be attributed to increased industrial activities and consumer product use.
- The highest PFAS levels were found along the I-95 corridor (from New York City to the Philadelphia suburbs).
- Of the four regulated PFAS compounds in soil, no PFAS concentration exceeded the Interim Residential or Non-Residential SRS.

NJDEP does not have default Migration to Groundwater (MGW) SRS, so the results of the SPLP samples were used to calculate standards for the four PFAS compounds with leachate criteria. This deviates from standard practice, as samples for SPLP evaluations are typically collected from a specific area or site; however, NJDEP used a 5th percentile Kd for its calculations as a conservative measure. Although these calculated values are not meant to represent statewide MGW SRS, it should be noted that 27 samples exceeded the NJDEP calculated values as shown in the below table.

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Regulatory Update

Calculated standards:

PFAS Compound	Calculated MGW SRS (ng/g)	Number of Exceedances (of 157 samples)
PFOA	2.9	26
PFNA	5.6	1
PFOS	13	0
HFPO-DA/GenX	7.3	0

NJDEP notes that PFAS are not naturally occurring, from anthropogenic sources, and, therefore, are not “background” concentrations. Nonetheless, this does not preclude their evaluation as an off-site contribution.

Overall, the study’s results demonstrate the prevalence of PFAS in New Jersey soil. From Langan’s experience, the PFAS concentrations in soil reported by NJDEP are often higher than site-specific MGW SRS calculated using the SPLP method. For this reason, investigations to delineate PFAS in soil should consider PFAS concentrations that may be unrelated to a PFAS discharge at a particular site, but instead potentially related to atmospheric deposition from an off-site source.

The full report and fact sheet are provided at the following link: <https://dep.nj.gov/srp/research>

To discuss how these findings may impact your projects, please contact your Langan Project Manager or:



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