



CASE STUDY

Rapid Emergency Water Treatment Following an Underground Tank Leak at an Operational Petrol Station

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Reliable Temporary Water Treatment and Environmental Protection Solution from Sykes Pumps

A national forecourt operator identified a sudden and unexplained loss of fuel from an underground storage tank containing blended biofuel (diesel with FAME content). Over several days, the leak allowed fuel to migrate into the surrounding subsoil beneath the operational forecourt.

Following periods of heavy rainfall, contaminated groundwater and surface water entered interceptor chambers, inspection pits, and surface water drainage systems, creating an immediate risk to nearby land and water outfalls. The client required a rapidly deployable, temporary water treatment solution to contain the contamination, protect the environment, and maintain full site operations during remediation.

The Sykes Pumps team delivered rapid environmental mitigation, allowing the petrol station to remain fully operational while essential excavation and tank replacement works proceeded without interruption.

1 CHALLENGE

Contamination had spread through subsurface soils rather than from a single spill point, with the biofuel's FAME content increasing solubility and complicating separation. Rainfall mobilised contaminated groundwater, creating intermittent high-risk flows.

All mitigation measures had to be installed within a restricted footprint on a live forecourt, operational within 24–48 hours, and capable of running continuously alongside excavation and tank replacement works.



2 SOLUTION

Our team rapidly deployed a temporary, multi-stage water treatment system to contain and treat contaminated groundwater and surface water while maintaining full forecourt operations.

- Contaminated water was extracted from interceptor chambers, inspection pits, excavations, and affected perimeter ground using an **AFPK1042 electric submersible wastewater pump**, selected for reliable performance in hydrocarbon-impacted conditions.
- Flexible pipework allowed fast installation within the restricted site footprint, while integrated oil separation and carbon filtration ensured treated water met discharge consent requirements.



3 OUTCOME

The temporary treatment system delivered reliable performance throughout the remediation works, successfully reducing free hydrocarbons from 150–300 mg/L to less than 1 mg/L and eliminating all visible sheen from the discharge. By achieving a 70% reduction in COD and lowering dissolved hydrocarbons to under 0.1 mg/L, the solution ensured full regulatory compliance and prevented contamination of surface water outfalls.

Client feedback
"The temporary treatment system was deployed incredibly fast and prevented what could have been a major environmental incident."



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