PetroFix Remediation Fluid

REGENESIS

No Further Action Granted, Allowing Site Redevelopment to Move Forward

PetroFix Rapidly Reduces PHC Contaminants to Achieve Closure Goals and Avoid Future Disruption and Cost Exposure

PetroFix Application Design

Total VOC Concentrations:
Maxiumum of 3,090 µg/L

COCs above Groundwater Screening Levels:
Benzene, TMBs, Napthalene

Treatment Information:
Area: ~2,500 Square Feet
Injection Points: 56
Injection Interval: 10-16 ft. bgs.

Solution Applied: PetroFix and Electron Acceptor Blend

Quantity: 4,800 lbs/11,200 gal

Client completed the application design using PetroFix Design Assistant online software at www.petrofix.com/design

Project Summary

In 2017, four orphan underground storage tanks (USTs) were discovered at a former gas station site slated for redevelopment in a Southern Indiana town. Upon discovery, the USTs were promptly removed. However, during removal, petroleum hydrocarbon (PHC)-impacted soil was observed in the process of excavation. Approximately 100 tons of impacted soil were removed, and subsequent excavation confirmation sampling revealed PHC concentrations above the Indiana Department of Environmental Management (IDEM) soil screening levels. Site investigations were conducted in June 2017 and August 2018 to define the extent of the impacts.

EnviroForensics, an Indianapolis-based environmental consulting firm expert in developing site closure strategies, was contracted by the town to pursue regulatory closure. EnviroForensics first delineated the PHC plume in February 2019, identifying the PHC contaminants to be confined in the northern quarter of the site. In the most impacted well-MW-3-total volatile organic compounds (VOCs) concentrations were greater than 3,000 micrograms per liter (µg/L), exceeding IDEM's Groundwater Screening Levels (i.e., the most conservative action levels) for benzene, 1,2,4- and 1,3,5-trimethylbenzene (TMBs), and naphthalene.

Since the site was scheduled for redevelopment, it was necessary to eliminate future cost and disruption and demonstrate plume stability and Monitored Natural Attenuation (MNA) conditions. EnviroForensics decided to treat these low-level, residual impacts by injecting PetroFix® into the underlying groundwater. Following completion of the application design using PetroFix Design Assistant online software at www.petrofix.com/design, Enviroforensics mobilized to the site and completed the application in July 2019.

Results

Enviroforensics completed confirmation sampling in September 2019, less than two months after the PetroFix application. The groundwater analytical results revealed all VOCs to be non-detect in both treatment area monitoring wells--MW-3 and MW-5.

Based on these results, IDEM granted closure for the incident providing Completion of Independent Closure Process stating, "additional remediation are not required". Thus, the PetroFix treatment eliminated the need for costly groundwater monitoring and unnecessary time and disruption to document plume stability.

Through this effort, Enviroforensics has again demonstrated its expertise in what is needed to achieve site closure quickly. By gaining the critical information needed and then expediently applying PetroFix to the dissolved VOC plume, contaminants were treated at once, effectively addressing any potential environmental concerns and enabling the site redevelopment to proceed unhindered.

Monitoring Well	Total VOCs Before Treatment *February 2019*	Total VOCs After Treatment *September 2019*
MW-3	3,090 µg/L	All Non-Detect *Benzene and TMBs <5 µg/L, Napthalene <1.4 µg/L*
MW-5	108 µg/L	All Non-Detect *Benzene and TMBs <5 µg/L, Napthalene <1.4 µg/L*

About the Consultant

EnviroForensics is an environmental consulting and engineering firm comprised of experienced engineers, geologists, hydrogeologists, scientists, and insurance archeologists. The firm is considered an expert in remediating environmental issues and finding the funds to pay for it.

Key Benefits

PetroFix Remediation Fluid

- Fast, Safe, Affordable and Reliable Results
- Excellent Distribution Properties
- Simple Online Design Assistant and Full Customer Support

Technology

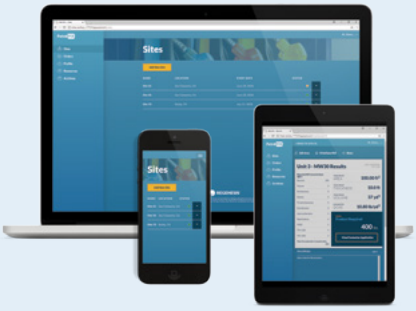
PetroFix® is a cost-effective solution for petroleum spills that equips environmental professionals with tools to take control of the remediation process. This technology works hand-in-hand with the PetroFix Design Assistant™, an online tool that enables users to design and apply individually-tailored remediation plans.

A Dual-Functioning, Activated Carbon Remedial Technology for Treating Petroleum Hydrocarbons

PetroFix has a dual function: it removes hydrocarbons from the dissolved phase by adsorbing them onto activated carbon particles then stimulates hydrocarbon biodegradation by adding electron acceptors. The environmentally-compatible formulation of micron-scale activated carbon (1-2 microns) is combined with both slow and quick-release inorganic electron acceptors. Practitioners can select between a sulfate and nitrate combination blend (recommended) or sulfate only for the additional electron acceptors required.

PetroFix Design Assistant: You Design

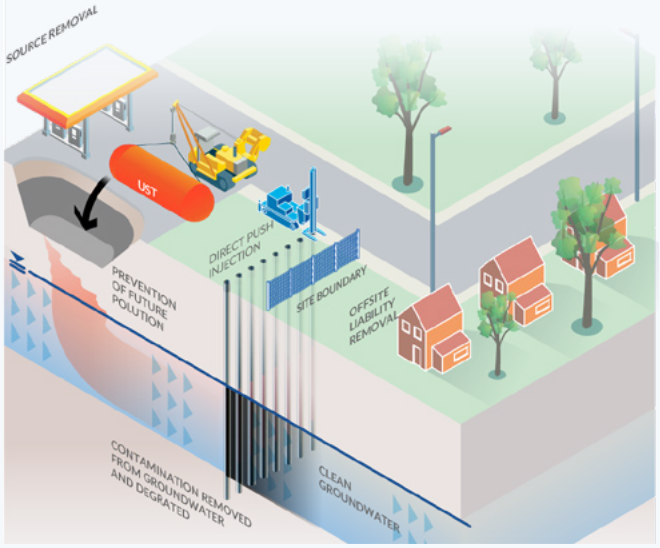
Use our Online Software to Generate an Estimate When you Need it.



Simple
Easy to Use

Flexible
Designs Tailored to Your Site

Fast
No Waiting for a Design



Are You Planning a PetroFix Project? Visit www.PetroFix.com to Learn More.

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