



PROJECT HIGHLIGHT

TACKLING PERSISTENT PETROLEUM CONTAMINATION AT A FORMER GAS STATION

LOCATION: COLORADO

CLIENT: CONFIDENTIAL CLIENT

TECHNOLOGY: DIRECT PUSH TECHNOLOGY INJECTIONS

CONTAMINANTS: PETROLEUM HYDROCARBONS, BTEX

Long-standing contamination issues can be frustrating for site managers, especially when previous remediation efforts haven't achieved the desired results. At a former gas station site in Colorado, petroleum hydrocarbons and BTEX contamination remained above reporting limits despite past remediation attempts.

PROJECT OVERVIEW

A confidential client contracted Cascade to perform direct push technology (DPT) injections of Klozur One, a sodium persulfate amendment, in a grid pattern across the site. This targeted in situ chemical oxidation (ISCO) solution was designed to drive down contaminant concentrations and effectively reduce levels in a challenging urban environment.

The site presented multiple obstacles, including abandoned utility lines and a location in a part of town with minimal infrastructure and higher-than-normal rates of vandalism. Additionally, the amendment selected for this project is typically injected through wells, making the application via DPT tooling an added technical challenge.

To mitigate risks, our team took a proactive approach:

- Conducted potholing and backfilled locations with hydrated granular bentonite to prevent amendment surfacing during shallow injection intervals.
- Stored amendment offsite and transported it daily to minimize the risk of vandalism.
- Successfully adapted our DPT injection process to handle the corrosive amendment with minimal loss of tooling

RESULTS

Cascade successfully injected the required amendment volumes, meeting the client's remediation goals for this phase of the project. While additional work may be needed in the future, this round of injections represents a key step toward site closure.

Although the project deadline was extended by a few days due to difficult geology and shallow injection challenges, our team remained adaptable, ensuring the work was completed to specification.

This project highlights Cascade's ability to navigate difficult site conditions while maintaining precision in amendment delivery. Our team's innovative approach to injecting a typically well-applied amendment through DPT tooling demonstrated both technical expertise and adaptability - proving once again that site complexity doesn't have to stand in the way of successful remediation.



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