Project

Auto manufacturer saves tens of millions with our approach to site remediation

5%

amount of site to which we limited remediation

$10 million+

saved by avoiding decades of treatment

Summary

- An auto manufacturer received a Resource Conservation and Recovery Act (RCRA) mandate to assess trichloroethylene (TCE) contamination at a nearly 30-acre site, including groundwater.
- To address the mandate, the manufacturer relied on our remediation expertise, local regulatory knowledge, and ability to solve difficult technical challenges while maintaining positive relationships with regulators.
- We successfully made the case to regulators that 95% of the area didn't require active remediation, saving our client a significant amount of money while still meeting its main aim of protecting human health and the environment.
- We also proposed an innovative bioremediation approach for an area where groundwater was highly contaminated — a more effective, cheaper solution than a traditional pump-and-treat system.

HALEY ALDRICH

Client challenge

An auto manufacturer had used TCE more than 50 years ago as an industrial solvent and received an RCRA mandate to assess a nearly 30-acre parcel of land, including groundwater. Our technically sophisticated client knew remediating the site could take decades and cost on the order of tens of millions of dollars — perhaps nearing $100 million.

State regulatory requirements evolved during the project and these changes allowed for more cost-efficient and effective remediation options.-The manufacturer had a trusted, decades-long relationship with Haley & Aldrich, and knew we would explore multiple avenues to advocate for their best interest. They turned to us seeking the right combination of remediation expertise, in-depth local regulatory knowledge, and an ability to creatively approach difficult technical challenges while maintaining positive working relationships with regulatory agencies.

> *"The success of this project came from understanding and leveraging the different regulatory environments that are in individual states. Sometimes that means making less money and taking on less work because it's in your client's best interest to limit the scope."*
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> James Little, Haley & Aldrich

Our approach

Haley & Aldrich's remediation and regulatory practitioners knew that, due to the state agency's approach to site clean-up, a risk-based approach was appropriate. Furthermore, the state passed legislation directing the agency to consider containment and risk management as a preferred approach. Haley & Aldrich worked with the client and key regulators to develop an approach that saved our clients a significant amount of money and still met the overarching goal of being protective for human health and the environment.

When we proposed that 95% of the 30-acre site didn't require active remediation and still met the condition of protectiveness, the regulators agreed. They then worked closely with us to negotiate a Corrective Measures Plan that managed risk with use restrictions for most of the impacted areas and incorporated innovative remedial approaches as well. This strategy reduced our client's remediation costs significantly.

Haley & Aldrich staff proposed active remediation to target a localized area of high concentration TCE in groundwater that would be amenable to an innovative bioremediation approach. Remediating groundwater using a typical pump-and-treat system would be costly and likely not address TCE trapped in ground, even after decades of operation.

Haley & Aldrich-experts paired creativity with technical excellence to recommend an in-situ recirculation-based, enhanced reductive dechlorination (ERD) bioremediation program. Less than 5% of TCE remediation sites used this technology at the time we recommended it. However, our client was technically adept and saw the potential benefits of

our approach. ERD is a technique that uses groundwater recirculation to distribute additives which accelerates destruction of TCE by naturally occurring microbes.

> *"Creating an adaptive system that could be modified as we went along and getting feedback from remediation data was key. The in-situ recirculation was complex and required expertise in engineering, geology, hydrogeology, microbiology, and chemical reactions. It was a unique and cost-effective approach."*
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> Adrian Fure, Haley & Aldrich

Before implementing ERD, we performed a study using tracer dyes released in multiple locations to better understand the groundwater flow in the treatment area to select optimal locations for injection and extraction wells. We also used the data generated during system performance to not just report out contaminant mass reduction but to optimize the remediation system over time. As a result, our innovative in-situ system degraded the TCE in less than a month, and tests performed a year later showed no increase of TCE concentration after system shutdown.

Using bioremediation on just 5% of the site, instead of applying a sitewide pump-and-treat system, saved our client tens of millions of dollars. They met their RCRA obligations much sooner than expected. We credit our savvy client and our trusting, collaborative relationship with the regulators to giving our team the freedom to find the best solution.

Value delivered

- Negotiated that the portion of the TCE contamination that required active remediation was limited to only 5% of the 30-acre site-
- Used thoughtful conceptual site modeling to prove to regulators that the risks associated with TCE contamination could be addressed with use restrictions for 95% of the site
- Saved our clients tens of millions of dollars — potentially close to $100 million — by using bioremediation on just 5% of the site, instead of applying a sitewide pump-and-treat system

For more information, contact:

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