ENVIRONMENTAL SOLUTIONS CASE STUDY





Rapid Containment and PFAS Remediation Protect Groundwater Following Oil Well Explosion

Following an oil well explosion at an energy production site, the operator faced a complex environmental challenge that extended beyond the initial incident. Fire suppression efforts required approximately 20,000 gallons of PFAS-impacted water, which breached containment and began migrating into surrounding soil. The site also sustained extensive damage to oil storage tanks, drainage systems, the well itself, and supporting equipment—raising concerns about additional contaminant releases.

With nearby residents relying on well water, the situation demanded immediate containment and comprehensive remediation. The operator turned to Republic Services, to assess the site, stop the spread of contamination, and implement a long-term environmental solution.

Opportunity

Before our involvement, the site faced multiple unresolved environmental risks. PFAS-impacted water used during fire suppression had escaped containment and was leaking into the ground, threatening groundwater relied upon by the surrounding community. At the same time, the explosion destroyed key infrastructure, increasing the likelihood of additional contaminants entering soil and subsurface pathways.

The operator needed a partner capable of quickly assessing the full scope of impact, stabilizing the site, and executing a remediation strategy that protected groundwater and restored environmental control. Speed, technical expertise, and coordination were critical in a sensitive community setting.

Republic Services was engaged to take control of the situation and implement a comprehensive containment and remediation plan.

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Solution

With our Environmental Solutions remediation capabilities, we moved quickly from assessment to execution to address immediate and long-term environmental risks.

Site Assessment and Response Planning

We dispatched personnel to conduct a full site assessment. This evaluation identified PFAS-impacted water pathways, damaged infrastructure, compromised drainage points, and soil contamination zones. Based on these findings, we developed a coordinated remediation strategy focused on containment, material recovery, and soil restoration.

Containment and Water Recovery

To prevent further migration of contaminants, our team implemented additional containment measures across the site. Sewage and drainage points were plugged to stop offsite movement, and affected areas were isolated.

We mobilized vacuum and liquid storage units to recover impacted water. All PFAS-impacted water was vacuumed and transferred into frac tanks, where it was staged securely for proper disposal—helping protect surrounding groundwater and stabilize the site.

Soil Remediation and Vegetation Removal

Our team conducted extensive soil remediation, removing impacted material to a depth of **20 feet** where contamination was identified. Impacted trees and vegetation were cleared and placed into soil, **roll-off containers** for proper handling and disposal.

Ongoing Environmental Control

Throughout the remediation process, our team coordinated closely with the customer to ensure work was executed safely, efficiently, and in compliance with environmental requirements. This integrated approach—from assessment through remediation—minimized handoffs and maintained consistent control over the site.

Data Points

Republic Services' remediation effort delivered measurable environmental protection and site stabilization:

20K

gallons of PFAS-impacted water generated during fire suppression

Incident Impact

- PFAS contamination breached containment and threatened groundwater
- Significant infrastructure damage increased contamination risk

Containment & Recovery Equipment

- Vacuum units mobilized for water recovery
- Liquid storage units deployed
- Frac tanks used to stage recovered PFAS-impacted water
- Drainage and sewage points plugged to prevent offsite migration

Remediation Activities

- Soil remediated to a depth of 20 feet
- Impacted trees and vegetation removed and placed in **roll-off containers**
- Containment areas treated with PFAS-mitigating chemicals

Operational Outcomes

- Groundwater exposure risk mitigated
- Contaminant migration stopped
- Site stabilized and controlled
- Continued customer engagement following remediation





Bottom Line

Republic Services helped this energy operator regain environmental control following a serious oil well explosion by addressing PFAS contamination, infrastructure damage, and groundwater risk. Through rapid assessment, aggressive containment, and deep soil remediation, Republic Services mitigated immediate threats and restored stability at a sensitive site.

Keys to Success

- Rapid site assessment and response planning
- Containment of PFAS-impacted water
- Use of PFAS-mitigating chemicals
- Effective management of contaminated vegetation and debris
- Groundwater protection for nearby residents
- Trust built through comprehensive remediation execution

> ***"Republic Services responded fast and helped us get our arms around a very challenging situation. They handled the containment and cleanup the right way, and made sure groundwater was protected, which gave us a lot of confidence during a difficult time"***
>
> **– Industry Partner**

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