



A FAILURE TO REMEDIATE: RESERVE PITS, BIOREMEDIATION, AND THE ENVIRONMENT

THE CHALLENGE

For many years, an independent energy company in the Permian Basin routinely left its drilling waste in onsite reserve pits. This mixture of used drilling fluids and cuttings would remain in the pits long after the rigs had left location, and the pits were earmarked for eventual backfill and closure by a construction team. However, due to a backlog, the operator fell into violation of state regulations requiring the pits to be dewatered, backfilled, and compacted within a certain timeframe.

Moreover, at some locations the company had attempted to bioremediate oily drill cuttings. This operation was unsustainable due to difficulty reducing total petroleum hydrocarbons (TPH), concentration of salts, and the greenhouse gas (GHG) emissions inherent in the process. The company subsequently faced the dual challenge of managing a backlog of pit closures while also finding a solution to the ill-fated bioremediation projects.



Onsite Reserve Pit in West Texas

THE SOLUTION

Amid the growing potential for liabilities and an increased focus on ESG-related issues, the company assessed their options in terms of environmental impact, social responsibility, and overall cost. Having considered the alternatives, sending the material to a network of professional offsite disposal facilities proved to be the most effective, reliable, and permanently secure solution.

The operator chose Milestone because its E&P landfills are extensively regulated and engineered to include multiple layers of protection, a leachate collection system, and permanent groundwater monitoring. The operator carries no further liability for the materials disposed of offsite and has peace of mind knowing that the waste is secure for generations to come, protecting the soil, groundwater, and air from further contamination.

KEY LESSONS/CONCLUSIONS

- Reserve pits are loosely regulated in some states and can be cost-effective in the short term; therefore, the use of reserve pits remains common practice among many operators in certain basins.
- Reserve pits can pose a risk to the environment in terms of soil and groundwater contamination, plus air pollution from vented GHGs and volatile organic compounds (VOCs).
- Bioremediation, by design, results in GHG emissions. The process breaks down hydrocarbons with bacteria and accelerants, and this is vented directly to the atmosphere. It also can be an unreliable and impractical process.
- Where infrastructure exists, offsite disposal in secure E&P landfills and slurry injection sites is the most effective, reliable, and permanently secure solution.
- The operator implemented a policy of proactively using regulated offsite disposal to permanently sequester its waste. In doing so, it reduced its environmental impact and potential liabilities to its landowners and the state.