CASE STUDY

# PETRODARCO® H2S Reduced Operating Risk, Lowered Costs, and Improved $H_2S$ Management

**Midstream Natural Gas Facility**

**Amine Tail Gas $H_2S$ Removal**

**Location:** Haynesville Shale – East Texas/North Louisiana

| Gas Conditions | |
|---|---|
| **Total Flow Rate, Mcf/d** | 8000 |
| **Gas Temp, F** | 100 |
| **Gas Pressure, psi** | 1120 |
| **Tail Gas Pressure, psi** | 8 |
| **Relative Humidity** | Saturated |
| **Air Injection** | >1:1 Ratio $O_2/H_2S$ |
| **$H_2S$ Concentration, ppm** | 1100 |
| **LBS of $H_2S$/d** | 1140 |

## PROBLEM TO SOLVE

An owner of several midstream natural gas gathering and processing assets in the Haynesville Shale operates a site with a high throughput, high-pressure gas stream and varying hydrogen sulfide ($H_2S$) content. Reliable and safe $H_2S$ mitigation is critical to:

- Protect downstream equipment
- Maintain gas specifications
- Ensure uninterrupted operations

Historically, the operator relied on triazine-based chemical treatment for $H_2S$ control. The triazine scavenger system presented operational, economic, and safety challenges that prompted them to evaluate NORIT's PETRODARCO H2S.

Triazine prices were unpredictable, volatile, and having a destabilizing effect on the site's budget. Overdosing was a constant operating concern and source of overspending. Disposal costs were also high due to being a hazardous material requiring special handling.

Unexpected breakthrough of $H_2S$ was another concern, whether from inadequate mixing or contact time or from reaction by-products that would sometimes foul or plug equipment.

The operator needed a safer, more reliable, lower cost solution.

> "We really like that [PETRODARCO H2S] is not messy [like triazine] and that its application lasts longer. We're lasting 2 months between change outs."
>
> **- Plant Operator**

## KEY CHALLENGES

These challenges drove the need for a safer, cleaner, and more efficient $H_2S$ control solution

**Time-intensive operation,** including dosing, monitoring, and logistics

**Short effective life,** requiring frequent reapplication and monitoring

**Higher total cost** due to price volatility, over-consumption, labor intensity, and handling/disposal

**Moisture and trace** contaminants present

## SOLUTION

In 2024, the operator initiated a controlled field test using PETRODARCO H2S activated carbon for $H_2S$ removal. A temporary vessel skid system was installed to evaluate the carbon's performance and value against triazine using the site's own tail gas.

The savings benefits were immediate and substantial.

> "The carbon lasts longer, it's cleaner to deal with, safer for our operators, and costs less overall."
>
> **— Plant Operator**

## RESULT

The operator decommissioned the triazine scavenger system and installed a new $H_2S$ filter vessel system using PETRODARCO H2S activated carbon. Four filter vessels were installed at a CapEx of approximately $1 million plus installation. The switch saved over $6 million annually at one site, while also delivering a safer, more predictable, and more reliable operation. Following this success, the operator adopted PETRODARCO H2S at a second site.

- **Lower operating cost, stable**
- **Dry media, no liquid chemicals**
- **High $H_2S$ removal capacity**
- **Improved safety profile**
- **No dosing, reduced labor and handling**
- **Reliable, simplified $H_2S$ management**

## ABOUT NORIT®

For more than 100 years, NORIT has been a global leader in activated carbon innovation, manufacturing, and application expertise. Our products are trusted by engineering firms, plant owners, and operators around the world to reliably remove contaminants from gases, air, and liquids.

Backed by deep technical knowledge and a history of solving complex treatment challenges, NORIT is recognized as an industry standard for quality, performance, and reliability.

**100 YEARS OF EXPERIENCE**

**SIMPLE, SAFE, RELIABLE**