

# US NGL Extraction Plant

**BASF Durasorb™ is a family of products developed in combination with proprietary system design software to complement each other for the purification of Natural Gas streams. Based on the long and successful history of BASF Sorbead® for hydrocarbon and water dew point control, BASF Durasorb™ products are designed to work together to provide optimum solutions for the most difficult gas processing conditions, including retrofit of existing units.**

### Challenge

The NGL extraction gas plant is a 200 MMscf/d plant requiring deep dehydration prior to cryogenic separation of NGLs from natural gas. The plant produces 50,000 barrels of NGL per day.

Regeneration reflux and hydrocarbon liquid carry over were degrading the competitor material in the dehydration unit. This degradation resulted in high pressure drop and caused a plant shutdown every six months to replace the material. Costs totaled \$0.5 million per 4-day turnaround. Revenue losses totaled \$6.4 million per shutdown. To save OpEx costs and lost revenue, operations needed to extend the dehydration unit life time.

### Solution

BASF technical experts worked with plant operation engineers to identify the problem and design a solution. The solution was Durasorb. Durasorb improved materials and combination bed design addressed both regeneration reflux degradation and hydrocarbon liquid carryover damage.

Experts strategically designed the dehydration bed with Durasorb HD on the top layer to withstand liquid carryover and increase bed capacity. Durasorb HR, placed in the bottom of the bed, is a mechanically stable molecular sieve designed to last in a refluxing environment. Durasorb HR provides water removal to cryogenic specifications.

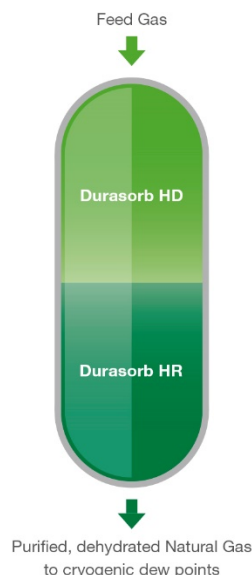


Figure 1. Durasorb layered adsorbent bed design.

### Project Results

- ▶ 5x increase in dehydration unit life time with Durasorb
- ▶ 5 less turnarounds required with Durasorb compared to competitor material
- ▶ \$2.5 million in turnaround cost savings realized over adsorbent life time
- ▶ 20 more production days resulted in \$32 million additional production revenue

*“Durasorb has been successful in helping us to eliminate plant outages from every 6 months to once every 3 years. It improved overall plant reliability, decreased downtime, and lowered operating costs. BASF is great, they provide excellent technical support when needed!”*

Plant Operations Engineer

## About Us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF's Catalysts division develops unique, proprietary solutions that drive customer success.

**BASF - We create chemistry**

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