



# CASE STUDY: RAPTR™

Location: USA Appalachia Basin

## Operator Saves 2.2 Drilling Days with RAPTR™

### CHALLENGE

In drilling operations, particularly in mud circulating systems, operators may encounter overpressure events (OPE), leading to inefficiencies, nonproductive time (NPT), lost time incidents (LTI), and suboptimal wellbore delivery. An operator in the Appalachia Basin approached E3 to mitigate OPEs while drilling extended laterals (+3 miles) and enhance operational efficiency.

### CONVENTIONAL APPROACH

In today's drilling environment, standpipe pressure is regulated by mechanical rupture pins, which lack accuracy, versatility, and automation. To mitigate OPE and NPT, additional safety factors are often applied, further limiting the full utilization of the circulating system. Ultimately, these traditional pressure management methods hinder drilling optimization.

### SOLUTION

E3 addressed the operator's challenge with the RAPTR™ automated pressure relief valve system, which integrates a proprietary algorithm, user-defined parameters, and pressure transducers. Seamlessly integrating into the existing drilling rig, RAPTR™ enabled the drilling team to track, modify, and optimize pressure set points remotely via the Human Machine Interface (HMI) in the doghouse. This system ensured controlled pressure releases with 99.94% accuracy (+/- 5 PSI), discharging in just 0.4 seconds directly into the active fluid system—eliminating any environmental release. Once the pressure was relieved, the valve closed within seconds, allowing drilling operations to resume without additional nonproductive time (NPT).

Implementing RAPTR™ not only reduced overpressure events but also increased working surface pressure, rate of penetration (ROP), flow rate, and motor output, while minimizing connection times and equipment downtime due to overpressure-related repairs. As a result, the drilling operation became more efficient, saving drilling days and enabling the operator to deliver the wellbore as planned.



### RESULTS

✓ OPERATIONAL EFFICIENCIES

✓ COST SAVINGS

✓ INCREASED SAFETY

✓ CONTINUOUS PUMPING

✓ INCREASED ROP

✓ 99.9% PIN ACCURACY

## DRILLED

# 200,000

Lateral FT

## ELIMINATED

# 12

HIGH PRESSURE  
EVENTS

# 24

HOURS  
NPT

## SAVED

# 2.2

Drilling Days

To learn more or request a demo, email [sales@e3team.com](mailto:sales@e3team.com).

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