

RESTORING LANDFILL GAS WELL PERFORMANCE WITHOUT REDRILLING

PROJECT CASE STUDY

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SUMMARY

A landfill operator at a Texas Landfill faced declining landfill gas (LFG) collection efficiency due to extended well casings with limited perforations. ESI deployed its patented Termite™ well perforation technology to rehabilitate existing wells without redrilling.

The result: improved gas flow, increased well productivity, and measurable performance gains across treated wells — delivering a cost-effective alternative to infrastructure replacement.

CHALLENGE

Landfill gas extraction wells had been raised during operations, creating extended sections of unperforated casing that restricted gas collection efficiency.

This resulted in:

- Reduced gas flow rates
- Lower collection efficiency
- Aging infrastructure challenges
- Potential need for costly well redrilling
- Operational disruption risks

SOLUTION

ESI deployed its patented Termite™ system — a downhole apparatus that drills new perforations in existing PVC or HDPE well casing, creating new gas pathways and restoring well productivity.

- Rehabilitates existing wells without replacement
- Minimizes operational disruption
- Improves gas recovery efficiency
- Reduces capital and maintenance costs
- Rapid deployment and measurable results

RESULT

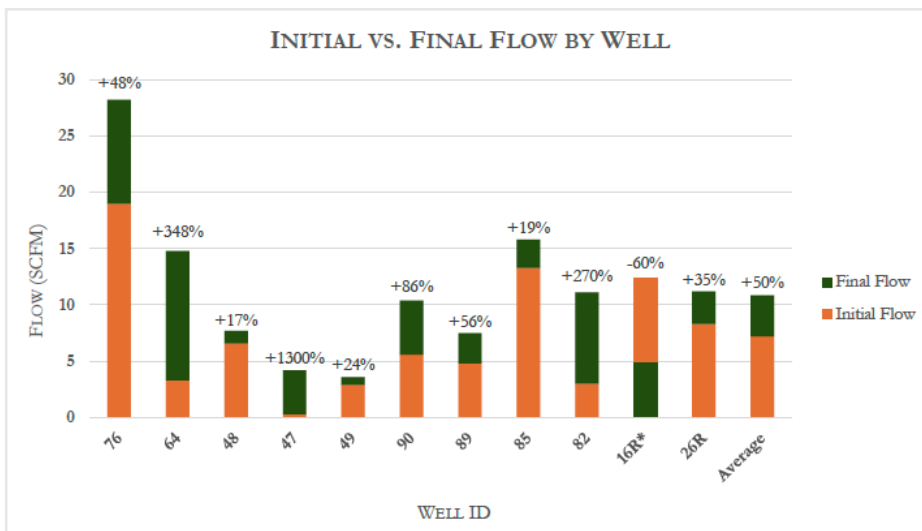
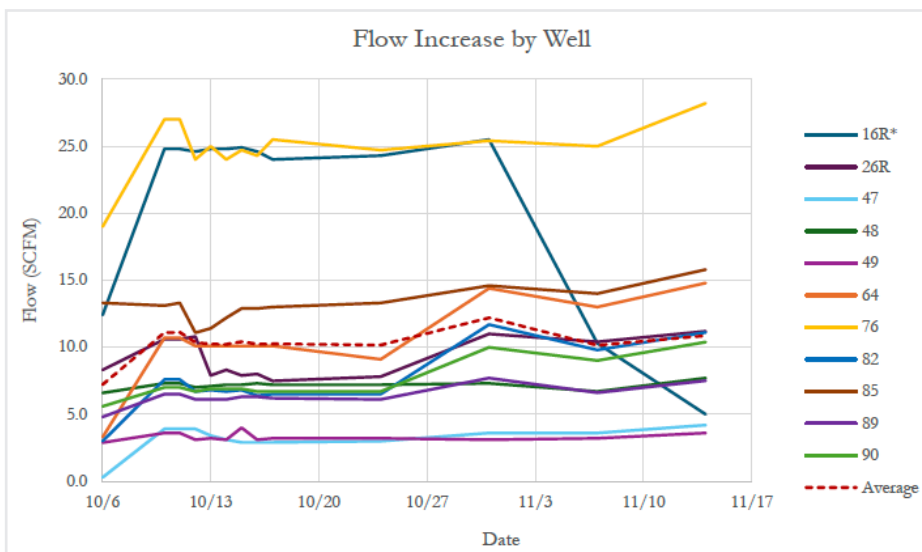
39.7 SCFM

Net increase of landfill gas flow.

3.6 SCFM

Average gain per well.

- Immediate flow improvement after treatment
- Sustained performance over 30-day monitoring period
- Significant flow increases observed across nearly all treated wells



IMPLEMENTATION

- 5-day onsite deployment
- 50+ hours of field work completed
- Pre- and post-performance monitoring conducted
- Camera inspections verified perforation placement
- 11 wells successfully reperforated
- 175 linear feet of new perforations installed
- 30-day performance monitoring completed

BUSINESS IMPACT

- Increased landfill gas recovery
- Extended infrastructure life
- Reduced need for well replacement
- Lower capital expenditures
- Improved operational efficiency
- Rapid return on investment

CONCLUSION

The Texas Landfill project demonstrates that downhole reperforation using Termite™ technology provides a practical and cost-effective alternative to well replacement. The technology restored gas collection performance, produced measurable operational gains, and delivered sustained improvements across treated wells.