

# Methodology to Rehabilitate Methane Recovery Wells that Outweigh the Cost of Well Replacement

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# Problems Associated with Methane Recovery Wells:

1. Cost of Well Installation
2. Capital Cost of O & M
3. No Alternative to Well Replacement



# Solution to Methane Recovery Well Replacement: Post-Perforation!



# Post-Perforation: Generates New Apertures in Methane Recovery Wells After the Well has been Installed.



- Produces a New Screen Interval for LFG Capture
- Relieves Flooded Wells to Allow for LFG Capture
- Creates New Migration Pathways for LFG in Vertically Extended Wells

# How Post-Perforation Works:

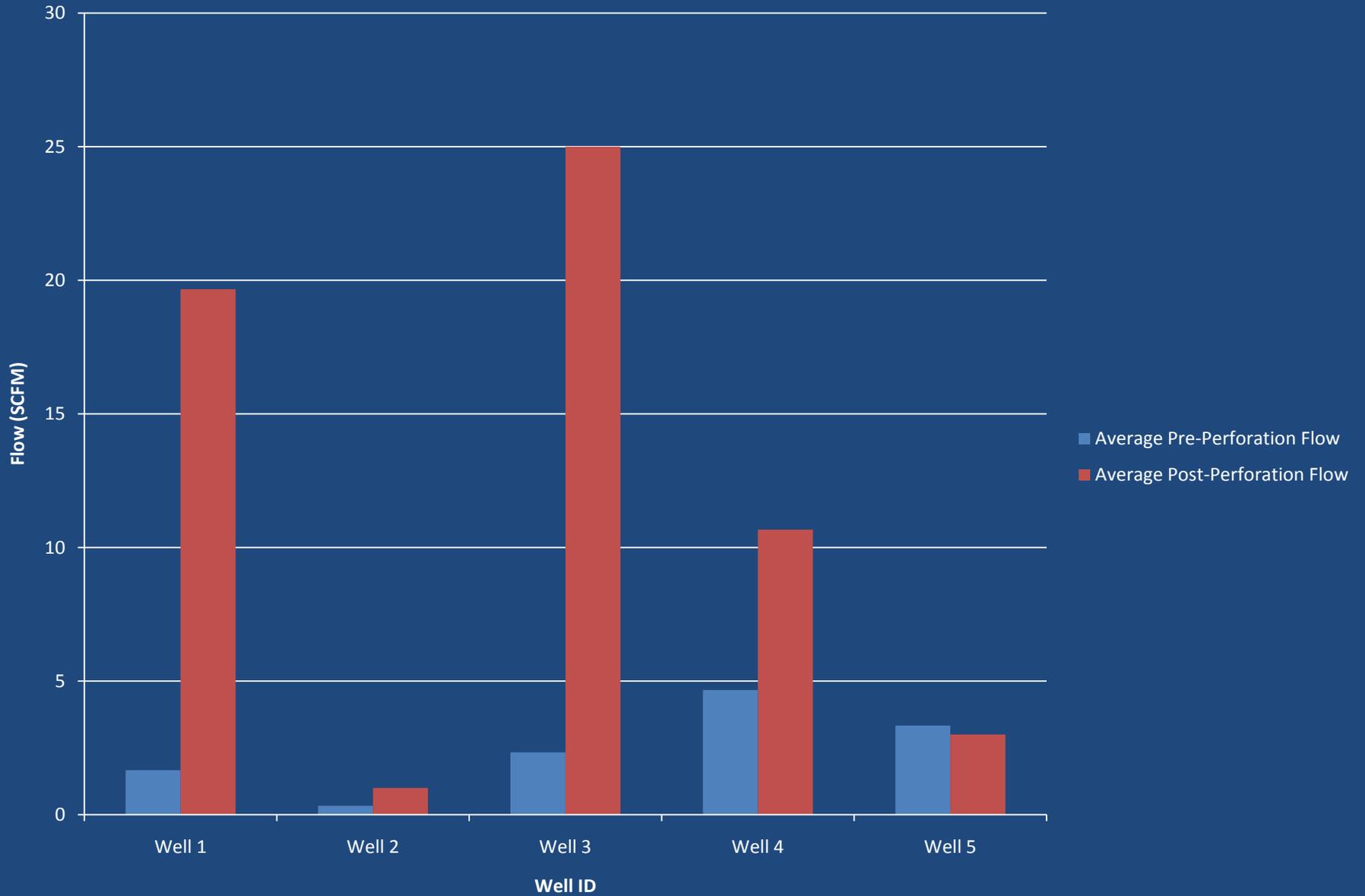
- Navigates Past Bends and Deviations in Well Casings
- Hydraulically Generates Apertures in Well Casings from the Inside Out
- Intrinsically Safe / Works Safely in Explosive Environments
- Safe for, and Maintains Integrity, of Both PVC and HDPE Wells

## Case Study – Metro Houston Area (Site 1)

- Five Methane Gas Extraction Wells were Post-Perforated on the Same Day
- Average Length of Post-Perforations per Well = 16.4 feet (from 20 to 36.5 ft bgs)
- **Average Measured Flow** for 3 Consecutive Months before Post-Perforation Compared to Averaged Measured Flow for 3 Consecutive Months after Post-Perforation

Well ID	Average Measured Flow Pre-Perforation (SCFM)	Average Measured Flow Post- Perforation (SCFM)
Well 1	1.67	19.67
Well 2	0.33	1.00
Well 3	2.33	25
Well 4	4.67	10.67
Well 5	3.33	3.0

# Average Flow Pre- vs. Post-Perforation

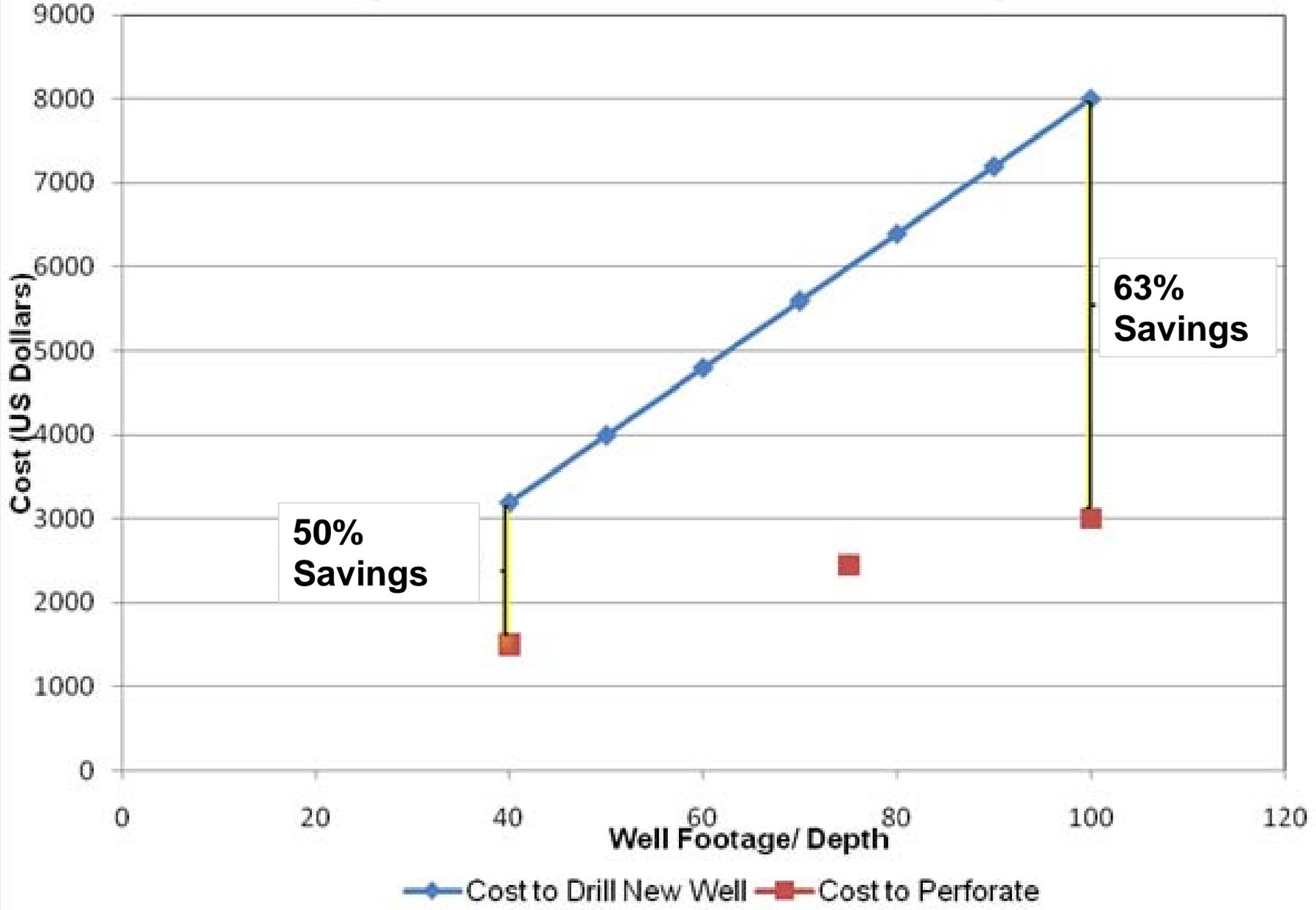


# Cost Savings by Utilizing Post-Perforation

## The Cost Difference Between Post-Perforation and Drilling a New Well:

- Typical Cost to Install a New Methane Extraction Well 40 feet in Length (minimum industry standard)  
= ~ \$ 3,000
- Cost to Post-Perforate 40 feet in Length in an Existing Well = ~ \$ 1,500

# Cost Savings of Post-Perforation vs. Drilling New Well



# Post-Perforation Extends the Life of Methane Extraction Wells

- Increase Methane Flow
- Decrease Oxygen Levels
- Maximize Gas Collection

Patent Awarded under the  
EPA Green Technology  
Initiative, 2010



# For More Information about Post-Perforation

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