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Best Practices for Well Plugging in Densely Populated Environments

Minimizing Risk and Impact

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Presenter Profile

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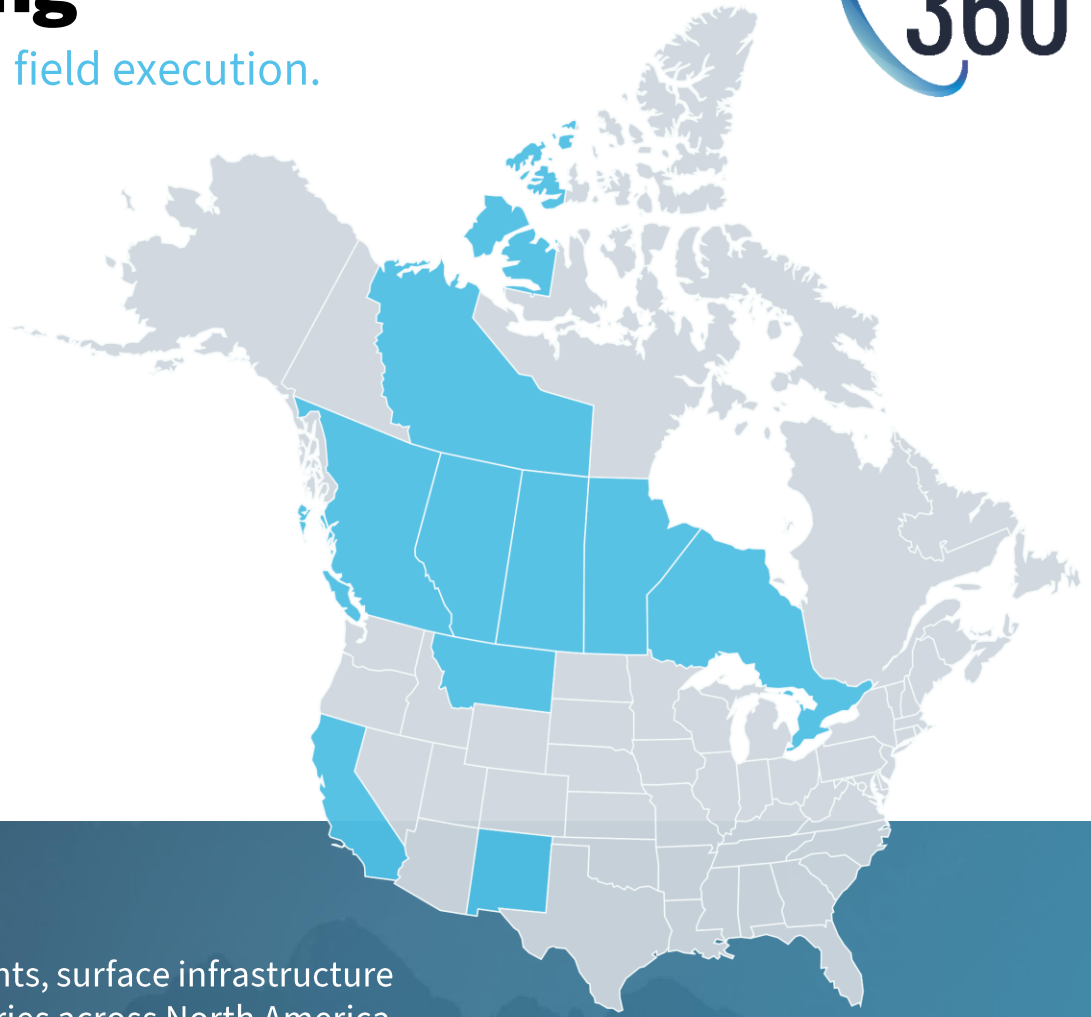
Adam Derry is a seasoned professional engineer with extensive experience in well abandonment, decommissioning, and oilfield operations. With over 12 years in the energy industry, he has managed thousands of well and pipeline abandonments across North America, optimizing costs and improving efficiency. His expertise in vent flow repair, gas migration identification, and regulatory compliance makes him a leader in minimizing environmental impact. As Director of Engineering at 360 Engineering & Environmental, Adam oversees a team of professionals and plays a key role in shaping abandonment strategies, emissions monitoring, and safety initiatives.

Abandonment & Decommissioning

Specializing in program design, operations management, and field execution.



OUR SERVICES

- Prime Contractor program management
- Well file review and AFE preparation
- Well abandonment design and operations programming
- Wellbore integrity repair (fishing, surface casing vent flow and in-soil gas migration repair, isolation of porous and protected intervals, casing failures)
- Operations and HSE management
- Daily operations reporting and cost tracking
- Wellsite Supervision
- Regulatory submissions including non-routine variance requests
- Facility decommissioning

WHY WORK WITH US

360's engineering team has executed thousands of downhole well abandonments, surface infrastructure decommissioning projects, and capital projects for multiple sectors and industries across North America.

152,347+
Idle or inactive sites reviewed

6,000+
Sites abandoned

The Problem: Wells in Densely Populated Environments

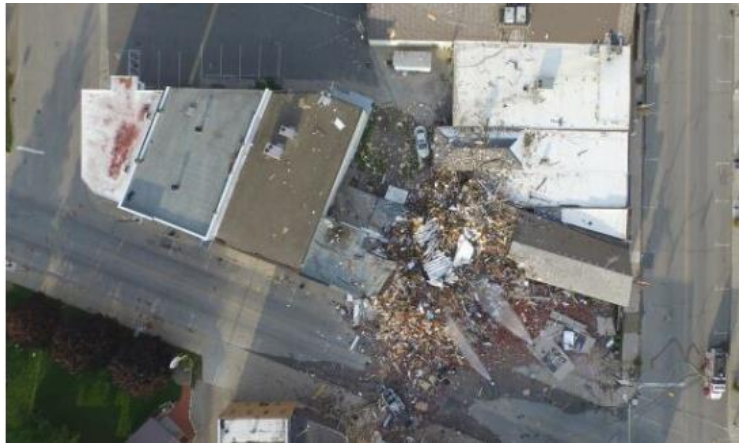
Expansion of urban centers into historical oilfields

- Historical data non-existent
- Wells discovered that were not known to exist
- Subsurface contamination
- Risk to human life and health

Case Study: Wheatley Gas Investigation

Brief history:

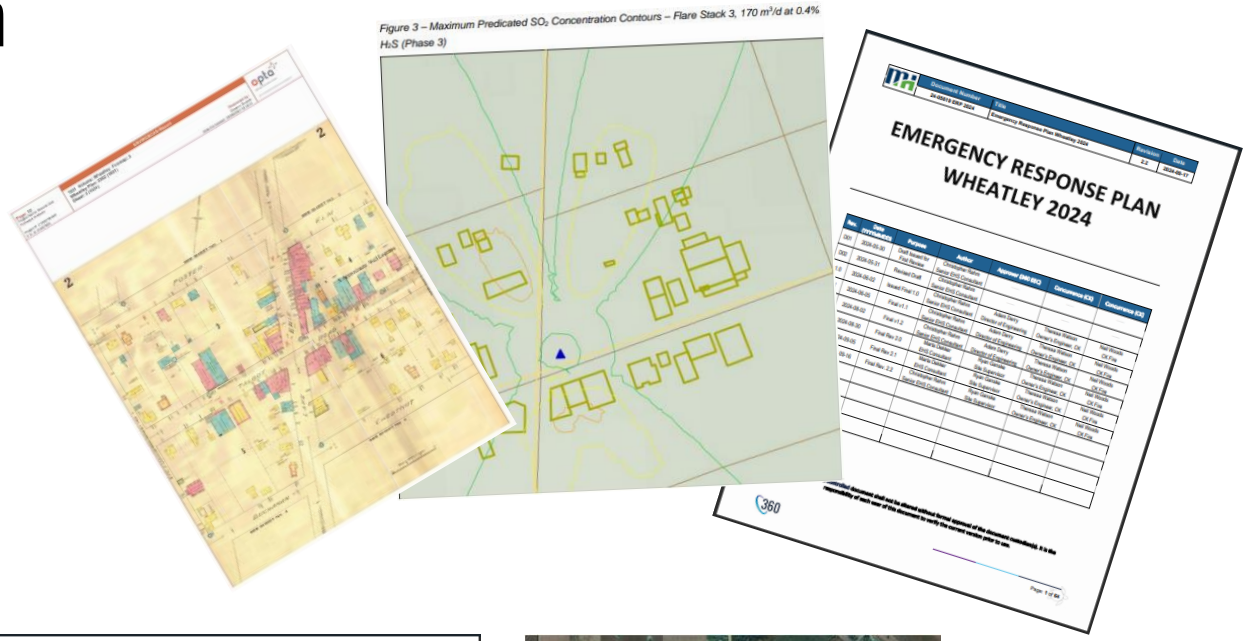
- Gas leak caused explosion in 2021
- Evacuation of ~20% of the town
- Initial discovery of multiple abandoned water wells
- Water well responsible for gas leak
- Monitoring well installed
- Three years of monitoring and planning for remediation
- Demolition of city block began in summer of 2024

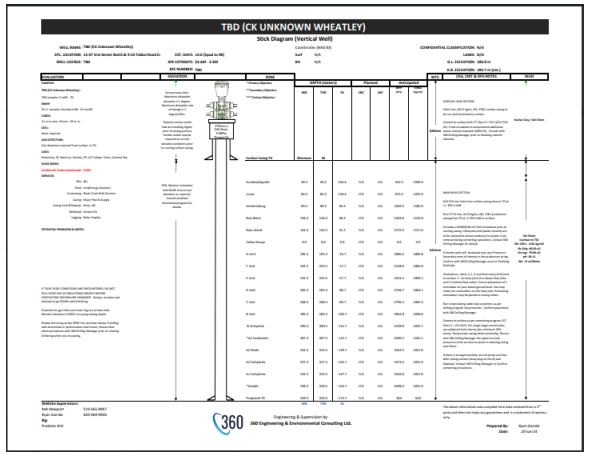


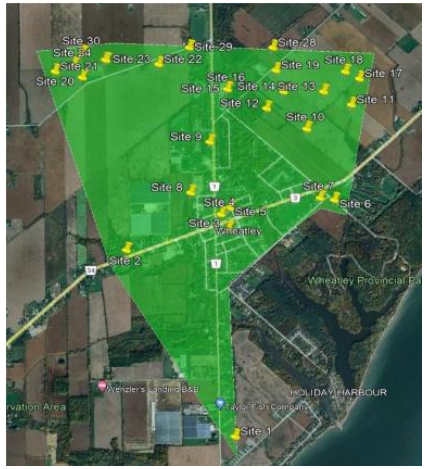
The Solution: Risk Mitigation

Collect the right information, and define what success looks like

- Stakeholder engagement
- Historical research
- Build subsurface models
- Create site specific ERP
- Obtain baseline data







Source: Theresa Watson and Scott Mundle, Wheatley Site Excavation, Re-entry and Data Analysis Preliminary Report, January 10, 2025

The Solution: Impact Mitigation

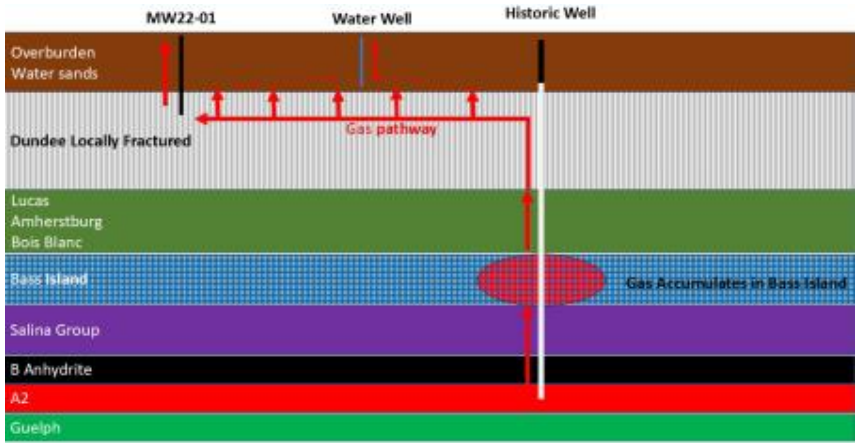
Anticipate all scenarios, and do it right the first time

- Decision trees
- Engage with local expertise
- Build a plan for each anticipated scenario
- Obtain all possible data while you have the opportunity
- Regulator discussions in advance to avoid down-time

The Results

A story of success due to collaboration and team-work

- No off-site release of methane or H2S
- No injuries to personnel
- Preliminary emissions results are encouraging
- Data obtained has provided stakeholder assurance



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What Did We Learn?

- Be prepared to provide more staff than a typical project
- Don't be afraid to ask questions
- Over-communication is better than under-communication
- Assume that all stakeholders are able to contribute to success

Thank you!

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