



# Investigation and Remedial Activities at PFAS Sites in a Changing Regulatory Environment

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# State of PFAS in Texas

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16 distinct compounds listed

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Screening and action levels  
for groundwater and soil

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EPA HA for drinking water

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No regulatory criteria for  
other media

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How do stakeholders continue to move projects forward and maintain compliance in the current regulatory environment?

# REGULATORY CHRONOLOGY OF PFAS

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FEDERAL

2000s  
Voluntary phase out  
SNUR and other initiatives

2010s  
Limited enforcement authority  
Limited toxicity data  
2012 UCMR3

2016  
EPA issues HA for PFOS/PFOA  
Inadvertent PFAS impacts identified

2018  
ATSDR issues draft toxicological profiles for PFOA/PFOS

2019  
EPA issues PFAS action plan  
Numerous state agencies adopt lower criteria or enforce EPA HA levels

Pre-8/2011

- TRRP had no PFAS criteria

8/2011

- TCEQ Remediation Division prepares screening criteria for limited PFAS compounds in groundwater only

9/2014

- TCEQ releases full list of 16 PCLs for groundwater and soils

11/2014

- TCEQ releases revised lower PCLs citing calculation errors

12/2014

- TCEQ determines that PCLs should have increased in prior revision, but no immediate action taken

12/2015

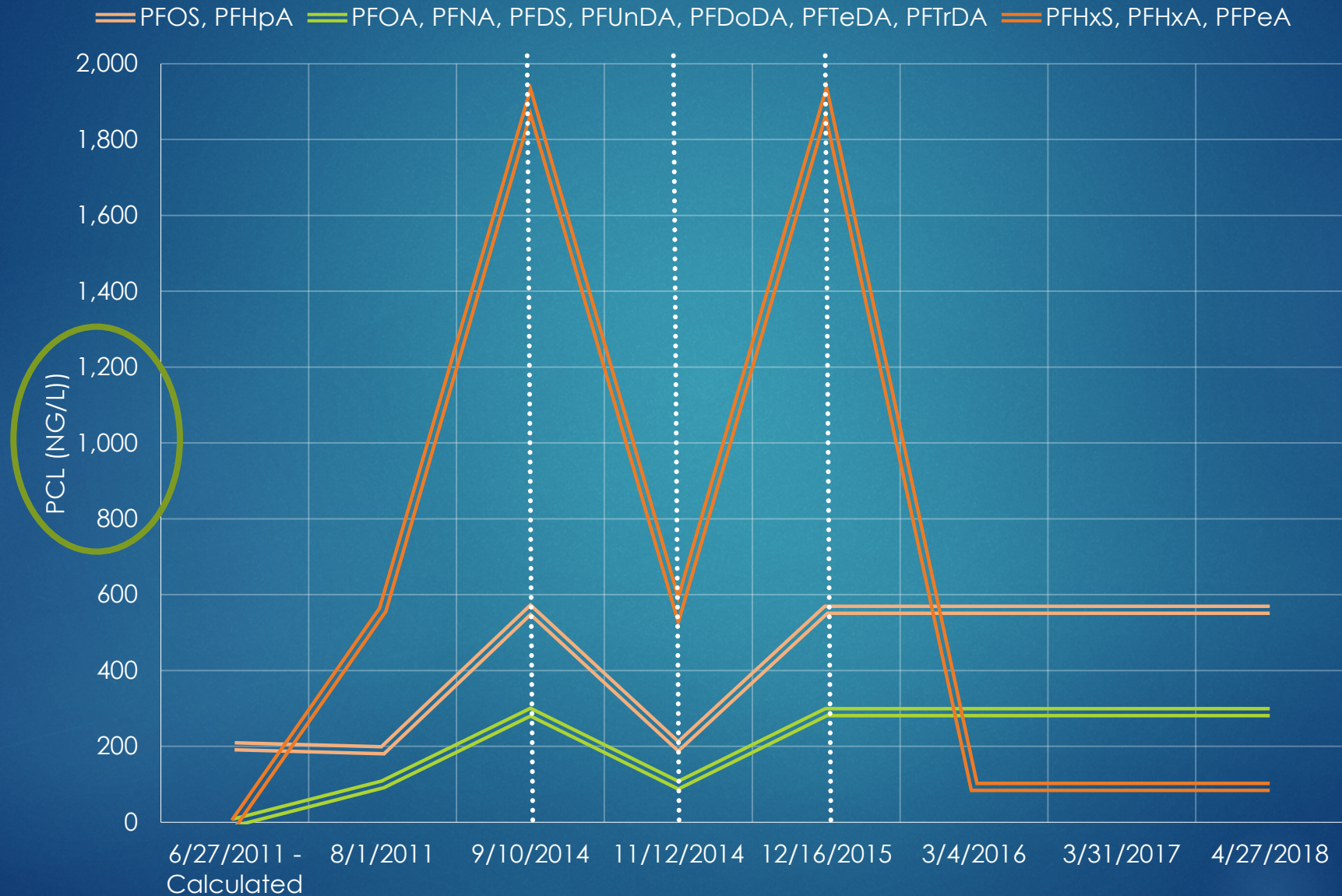
- TCEQ formally releases PCLs as part of regular update citing RfD correction

3/2016

- TCEQ releases revised PCLs citing updated RfDs and RfCs

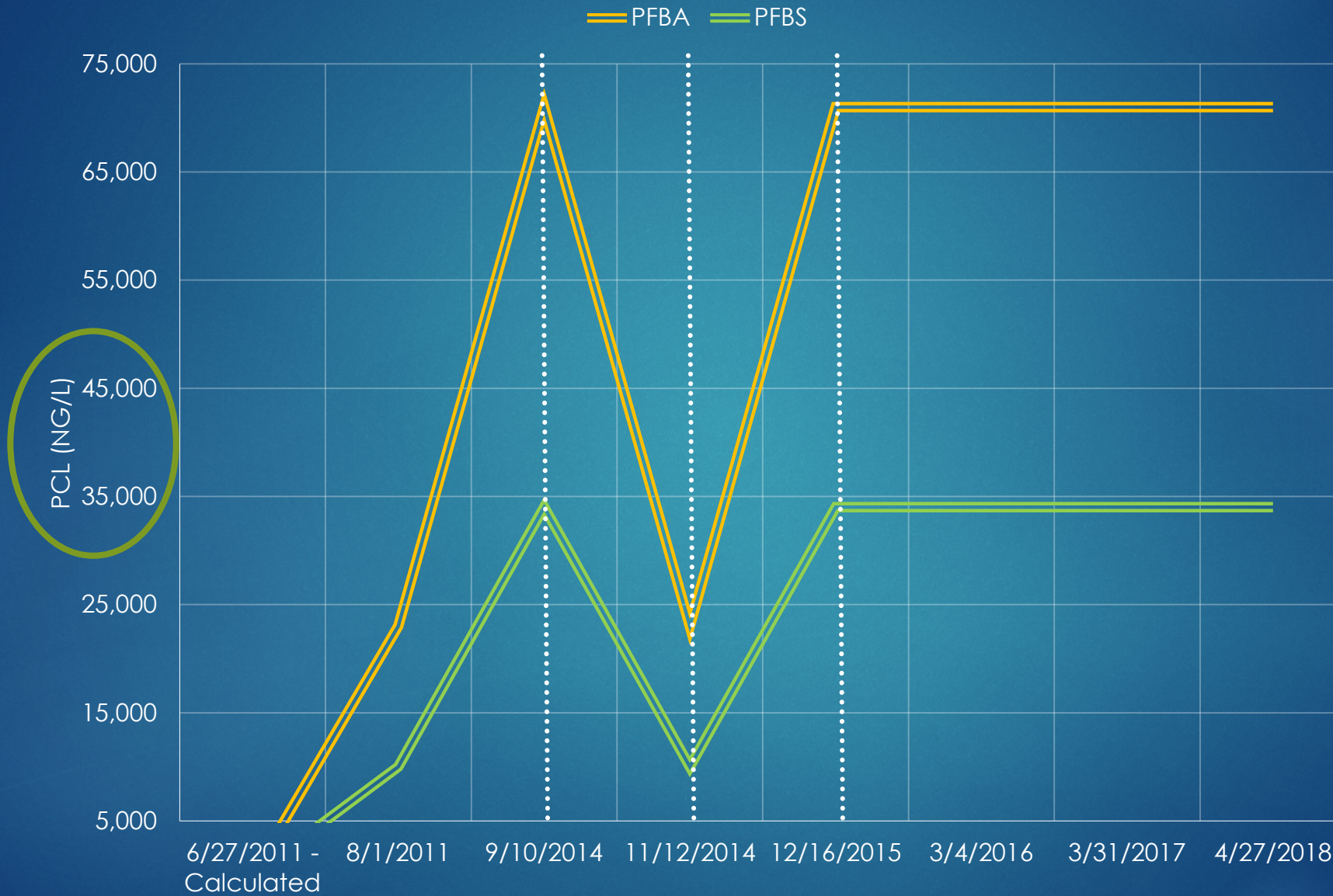
# RAPID EVOLUTION OF CRITERIA

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# RAPID EVOLUTION OF CRITERIA

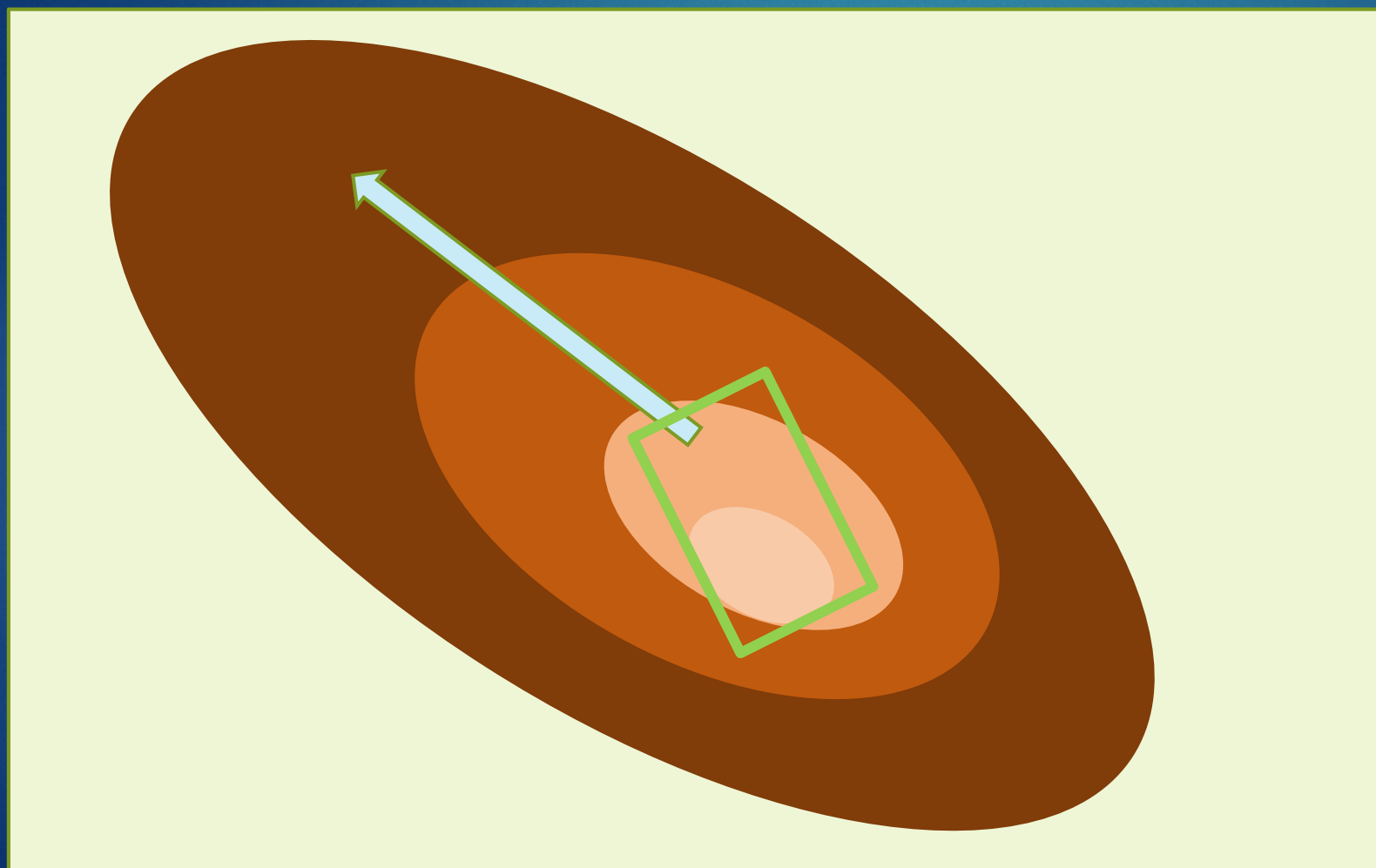
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# CASE STUDY No. 1

## TEXAS SITE INVESTIGATIONS

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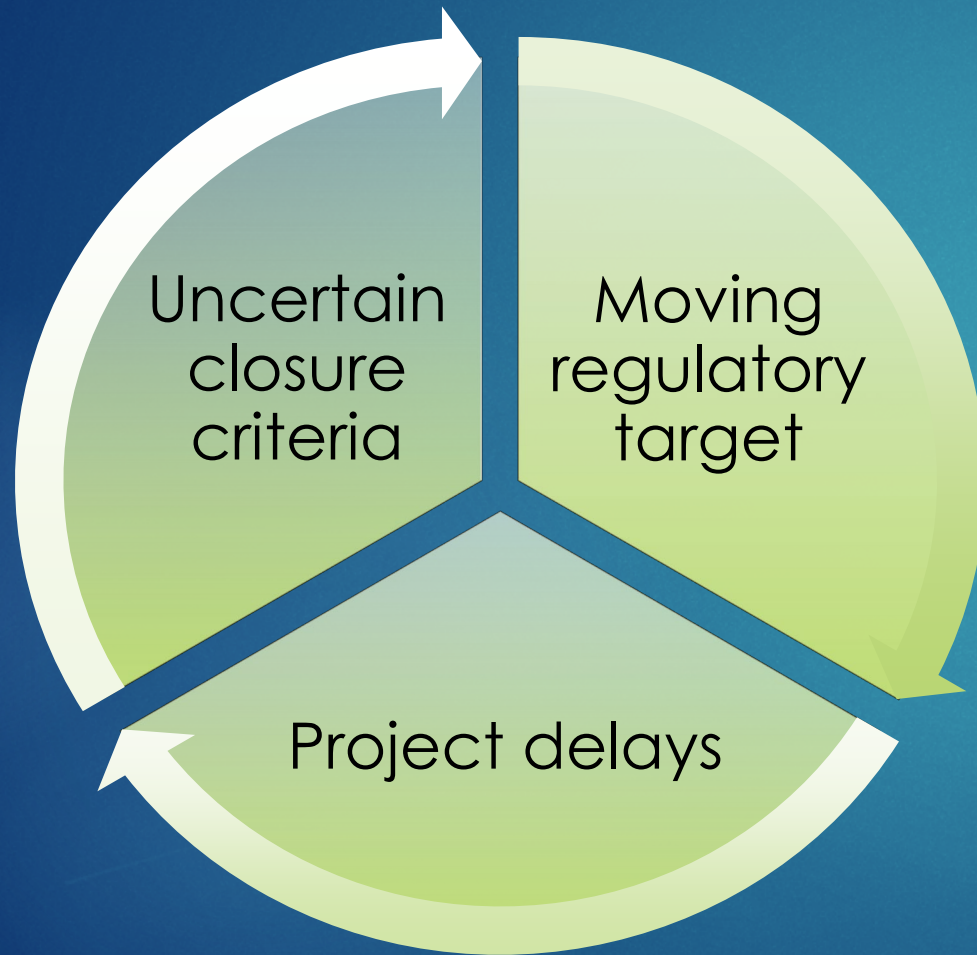
- ✓ 30+ acre source area
- ✓ Commercial/industrial usage
- ✓ PFAS historically used on site
- ✓ PFAS confirmed during due diligence
- ✓ Mixed use zoning

- Site boundary
- Plume based on provisional PCLs
- 09/2014 and 12/2015 PCLs
- 11/2014 PCLs
- 03/2016 PCLs

# CASE STUDY No. 1

## TEXAS SITE INVESTIGATIONS

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### Client Perspective

- Current and future liability
- Cost limitations
- Risk mitigation

### Action Strategies

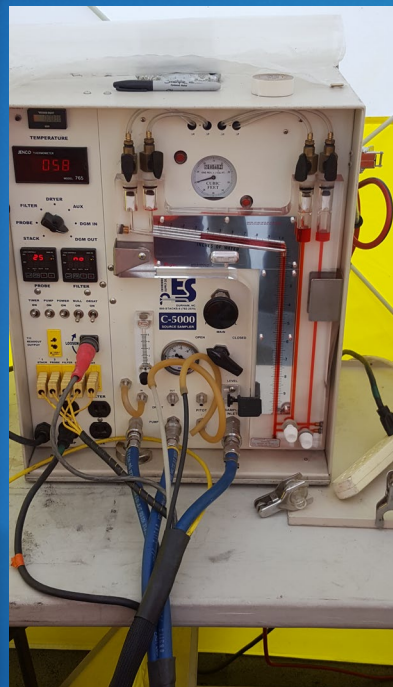
- Start with receptor risk evaluation early
- Constant communication and engagement with stakeholders
- Evaluate options for iterative investigations
- Consider mitigation options

# CASE STUDY No. 2

## INTEGRATED AIR SERVICES

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- No EPA validated test methodologies for PFAS emissions sampling
- Weston has participated in the development of testing protocols
- We worked with our client and an analytical lab to develop emissions test method for PFAS and GENX compounds and their byproducts



Control console



Impinger ice bath



Impinger ice bath

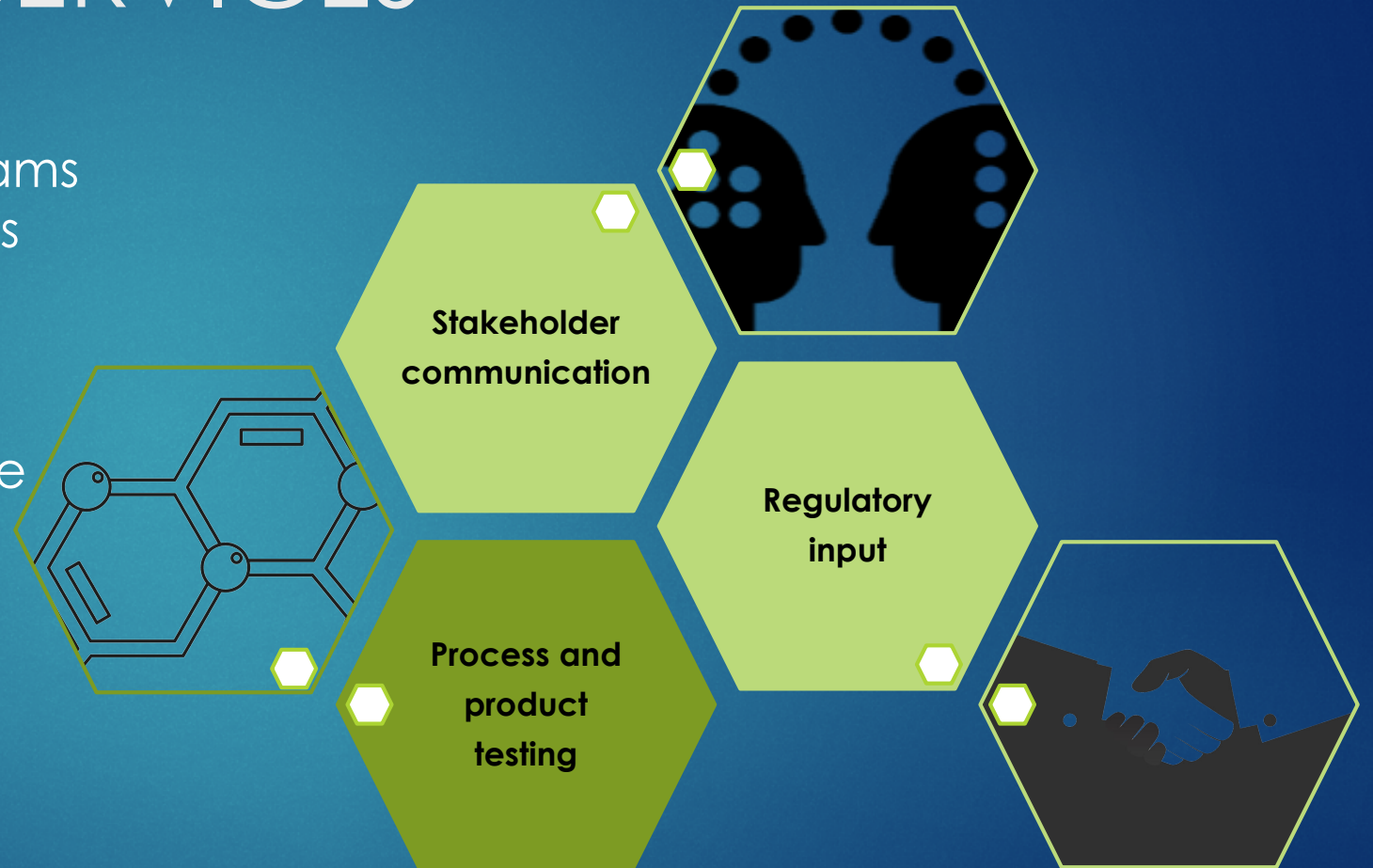


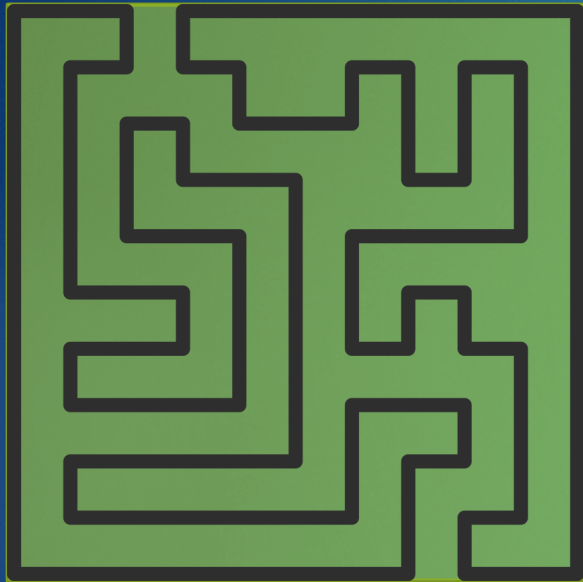
# CASE STUDY No. 2

## INTEGRATED AIR SERVICES

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- Performed hundreds of test programs on several processes and products
- Conducted under observation of state regulators
- Reported data to EPA and/or state agencies
- Assisting with stakeholder communications
- Continuing to respond to clients emission testing needs





- PFAS regulation will continue to evolve in the near-term
- New methodologies are being developed where no regulatory methods exist
- Expect challenges to advancing project investigations, remediation, and closures
- Evaluate risk to receptors early
- Constant communication and engagement with stakeholders
- Anticipate regulatory changes
- Evaluate options for iterative investigations
- Consider mitigation options appropriate for site

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