



# WSP PFASER / FRED-PFAS™ Cost Comparison

On-site Analysis. Time Efficiency. Cost Savings.

WSP and FREDsense conducted a multi-phase pilot study to compare the performance of the FRED-PFAS™ technology against standard laboratory methods. In addition to the technical validation study, the project's economics were modelled to showcase three possible scenarios for WSP's PFASER pilot project at a chemical plant in the Great Lakes area of the US.

It has been established that purchasing and using FRED-PFAS™ for the whole project would have decreased project costs and reduced the duration of the pilot project from months to weeks when compared to Standard laboratory turnaround time. If WSP were to use the FRED-PFAS™ equipment for their next projects of a similar scope, they could **save as much as 78% on the project costs.**

A large, stylized molecular structure graphic on the right side of the slide. It features several red spheres of varying sizes connected by red lines, representing a chemical molecule. The spheres have a glossy, 3D appearance.

<4h

Fast results on-site

## Cost Comparison

The following scenarios were studied:

- **Scenario 1:** Standard 10-day laboratory Turnaround Time (TAT)
- **Scenario 2:** Rushed 5-day laboratory TAT
- **Scenario 3:** Onsite use of **FRED-PFAS™**

The cost of sample analysis, hours of labour on-site, project duration, and travel costs were compared in all three scenarios.

### FRED-PFAS™ Project Costs

	2-day Trip to Site	On-site Labour Cost (\$82/h)	Travel Cost (hotel, meals flight)	Cost/ sample	Total Project Cost for 22 samples
<b>Scenario 1</b>	5	\$8,200	\$7,500	\$441	<b>\$25,402</b>
<b>Scenario 2</b>	5	\$8,200	\$7,500	\$1323	<b>\$44,806</b>
<b>Scenario 3</b>	2	<b>\$3,936</b>	<b>\$3,000</b>	<b>\$131</b>	<b>\$9,818*</b>

\*. initial equipment cost of \$25,000

Same-day PFAS screening analysis can be beneficial for pilot projects, particularly in cases where on-site wait times are extended due to laboratory turnaround times. FRED-PFAS™ screening, when used in conjunction with detailed laboratory analysis, has the potential to save consultants and their end customers significant time and money when designing a pilot study for PFAS treatment.

## Key Takeaways

- FRED-PFAS™ is easy to use and provides results within **2-4h**.
- FRED-PFAS™ detects total PFAS at **1 ppb limit** of detection.
- FRED-PFAS™ did not suffer water matrix interferences in tested **ground waters, EO and GAC-treated water**.
- FRED-PFAS™ reduces site visits by **60%**.
- FRED-PFAS™ reduces overall project costs by up to **78%**.
- FRED-PFAS™ reduces project timeline from months to weeks.



Current analytical technologies do not allow for the same level of precision as for other pre-established parameters in the industry.

## About FREDsense

FREDsense is a Canadian cleantech company that develops portable biosensor-based systems for rapid, on-site water quality analysis

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## About WSP

WSP is one of the world's leading professional services firms, uniting its engineering, advisory and science-based expertise to shape communities to advance humanity.

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