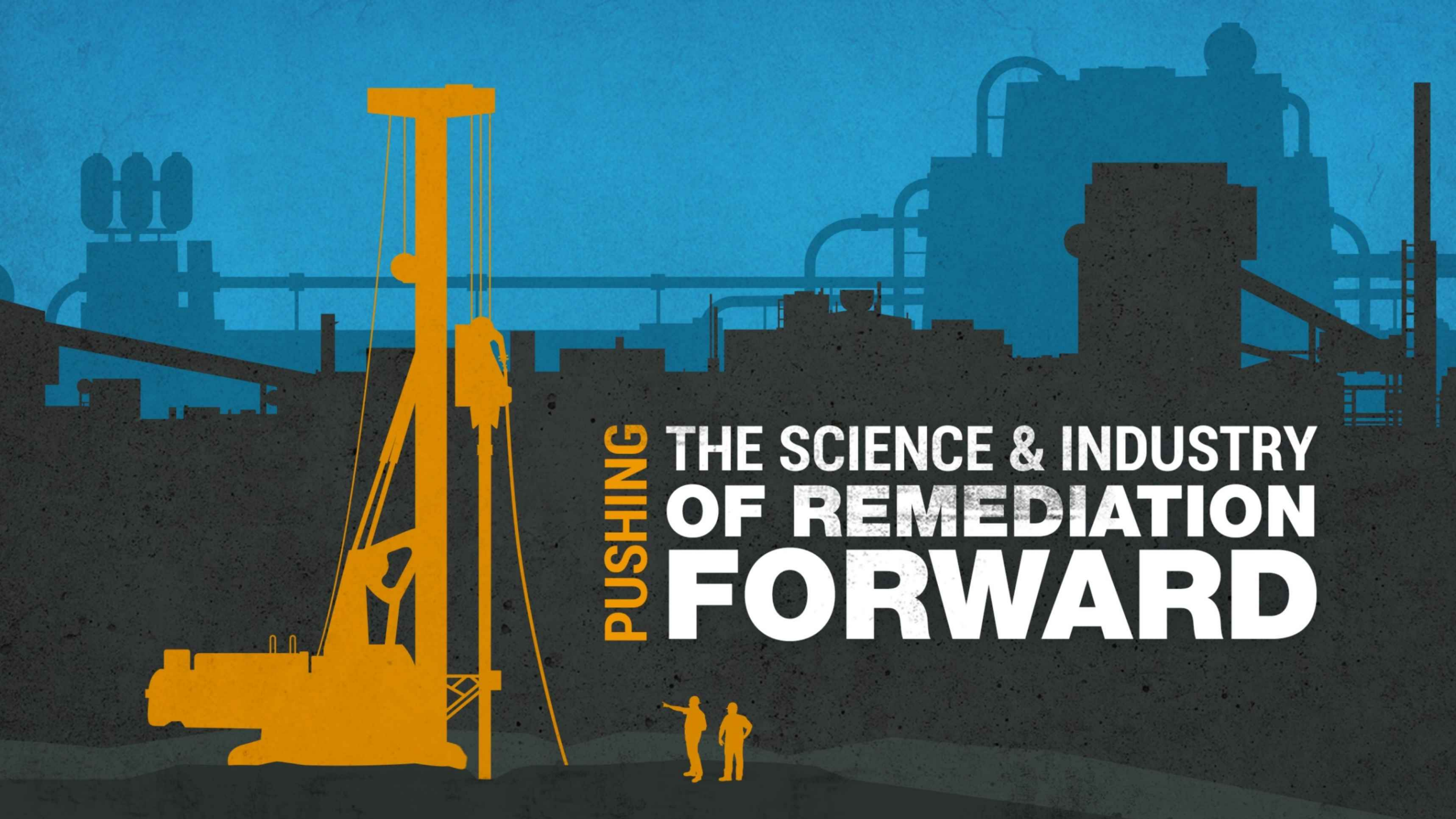


An illustration of an industrial remediation site. In the foreground, a large yellow drilling rig stands on a dark, textured ground. Two small yellow figures of workers are standing near the base of the rig. In the background, a complex industrial facility with various tanks, pipes, and structures is silhouetted against a blue sky. The overall style is graphic and industrial.

PUSHING

THE SCIENCE & INDUSTRY OF REMEDIATION FORWARD

CAT 100 & 1,4-Dioxane

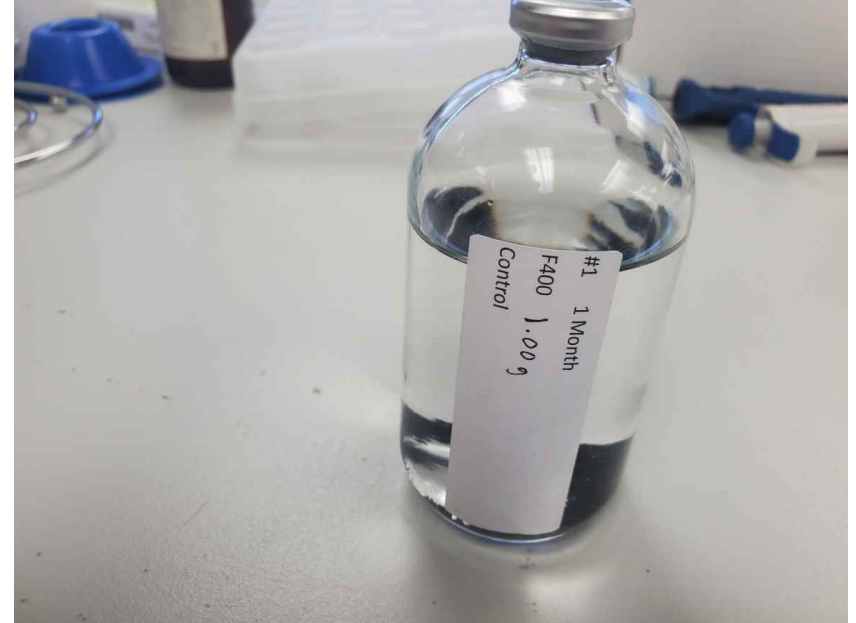
- RPI has been working on this problem for more than a couple years. Its fair to ask why.
- What exactly is CAT 100?
 - BOS 100 is the heart and sole of CAT
 - A **Unique Material** made from activated carbon and metallic iron
 - Blended with a diverse consortia of microbes, nutrients, and substrate
 - Fermentation generates electrons and hydrogen
 - Designed to degrade a wide range of contaminants ...

The First Step

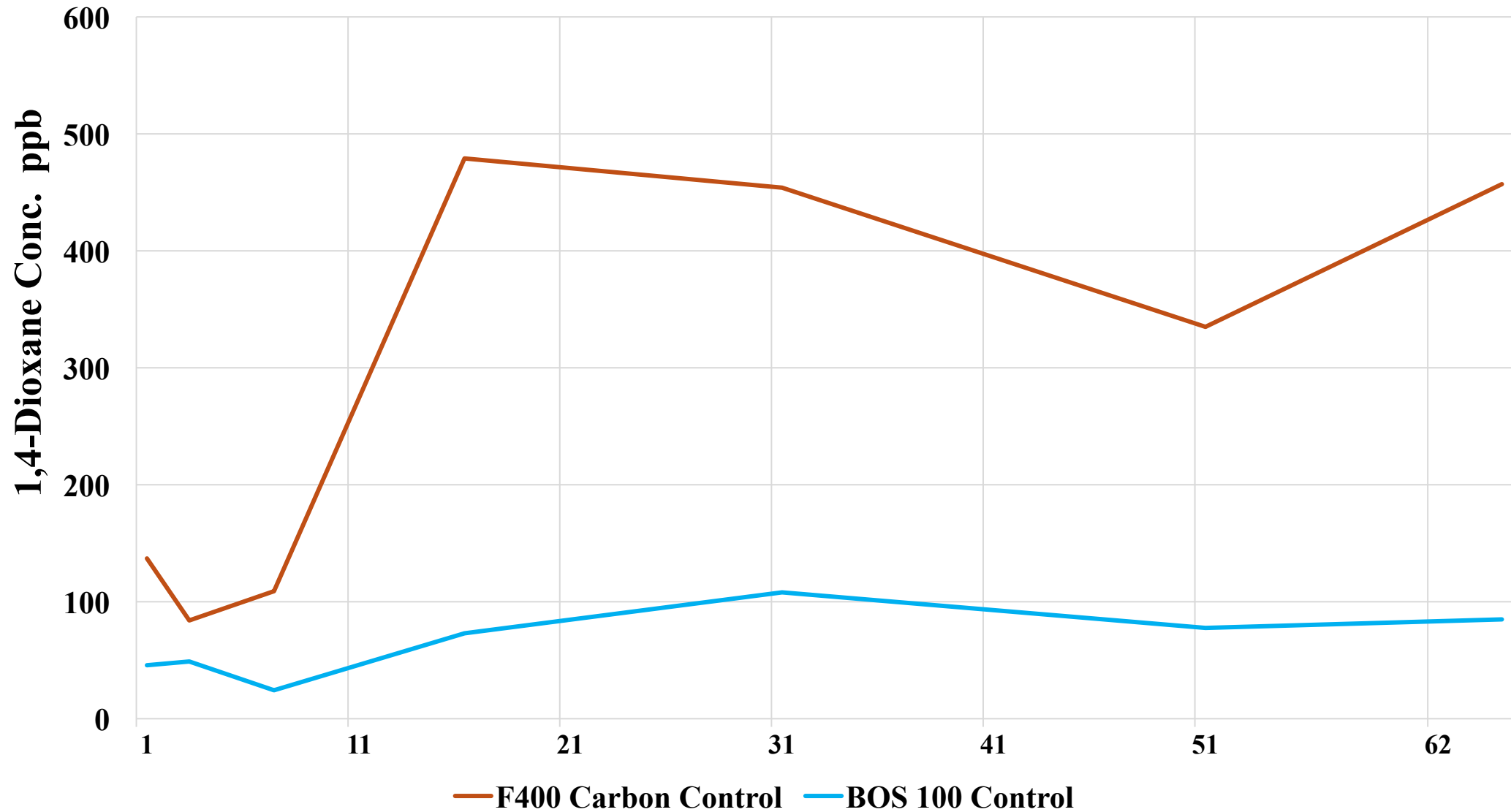
- The Consortium
- Evaluation by outside laboratory
- 12 strains present that can utilize 1,4-Dioxane

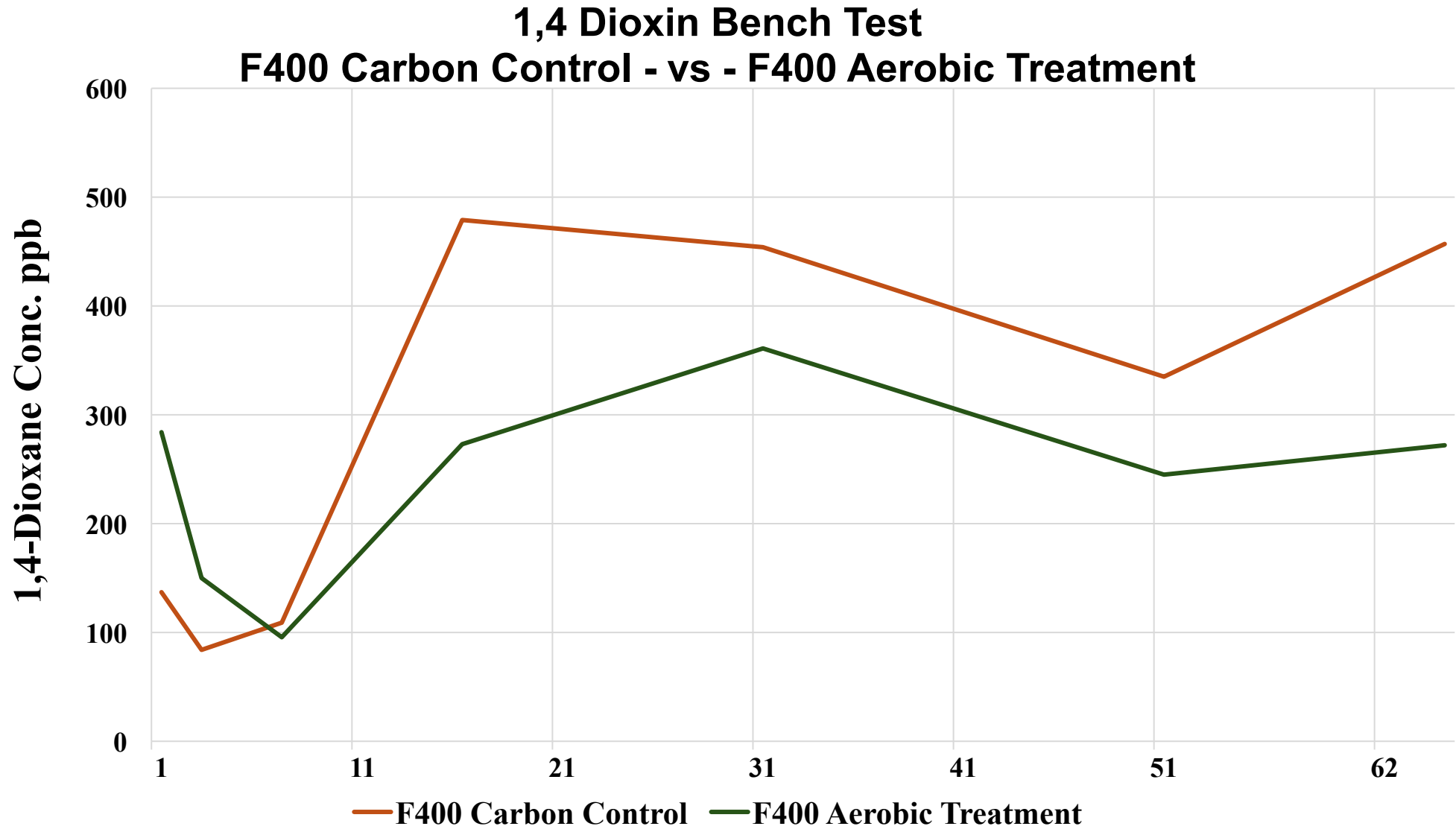
Description of Bench Test

- 150 ml Serum Vials in sets of 7
- 5 ppm 1,4-D in basal salt medium
- Starch, Pea Fiber, Yeast Extract
- RPI's Consortium
- Amended with 7.5 mg Humic Acid
- Vials sacrificed after 1-day, 3-days, 7-days. 2-weeks, 1-month, 1.5 months, and 2-months



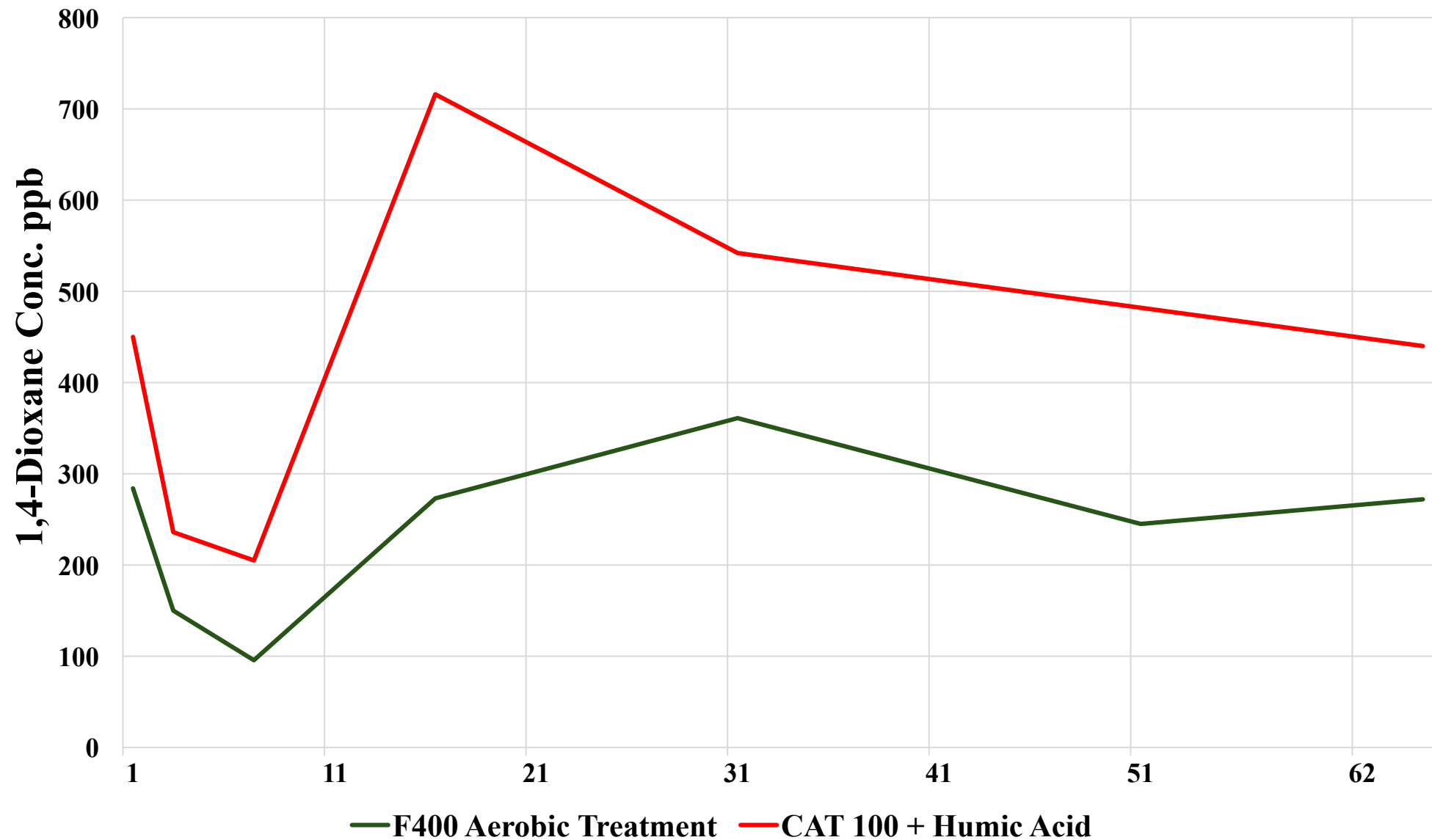
1,4 Dioxin Bench Test Absorption Controls



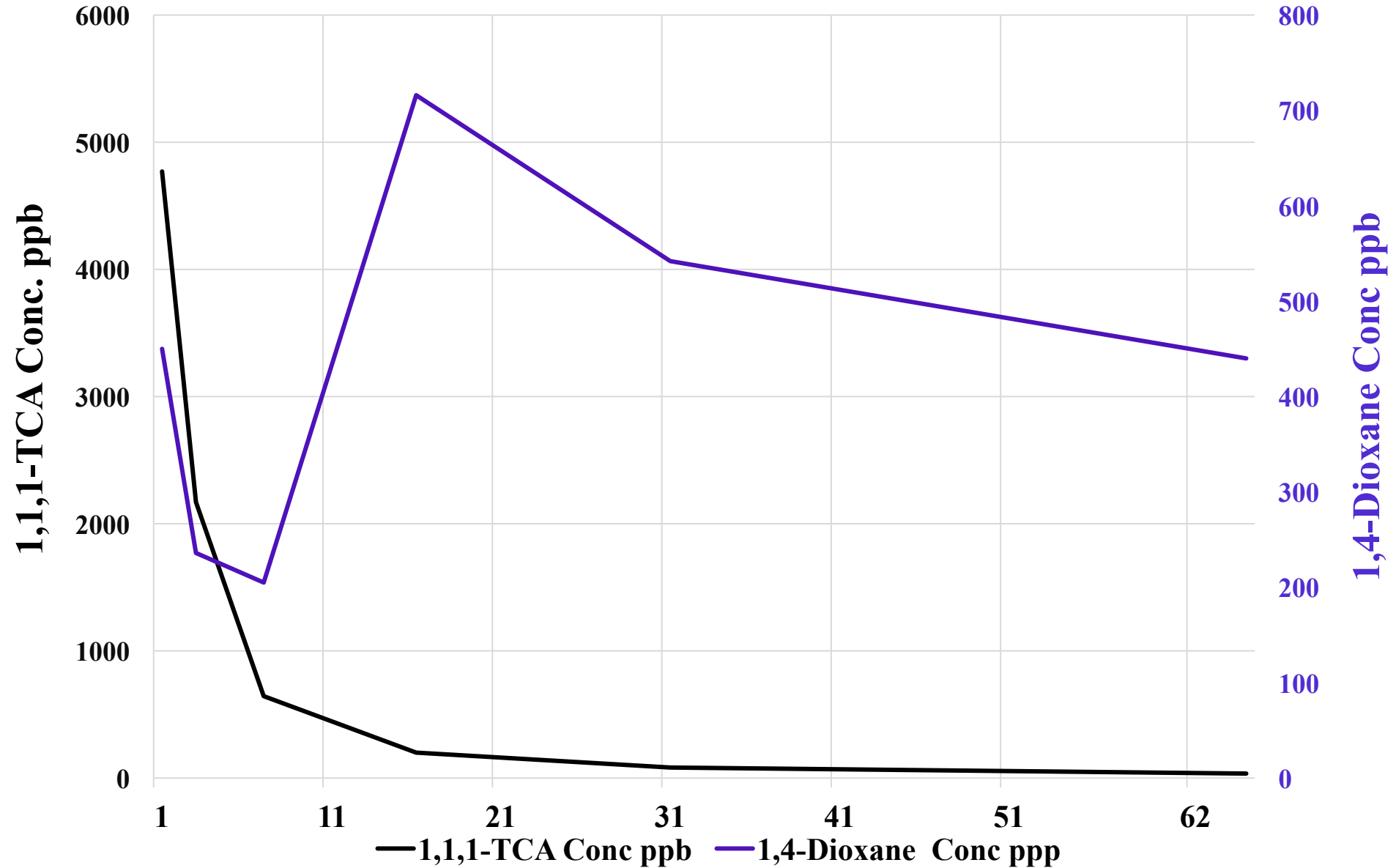


1,4 Dioxin Bench Test

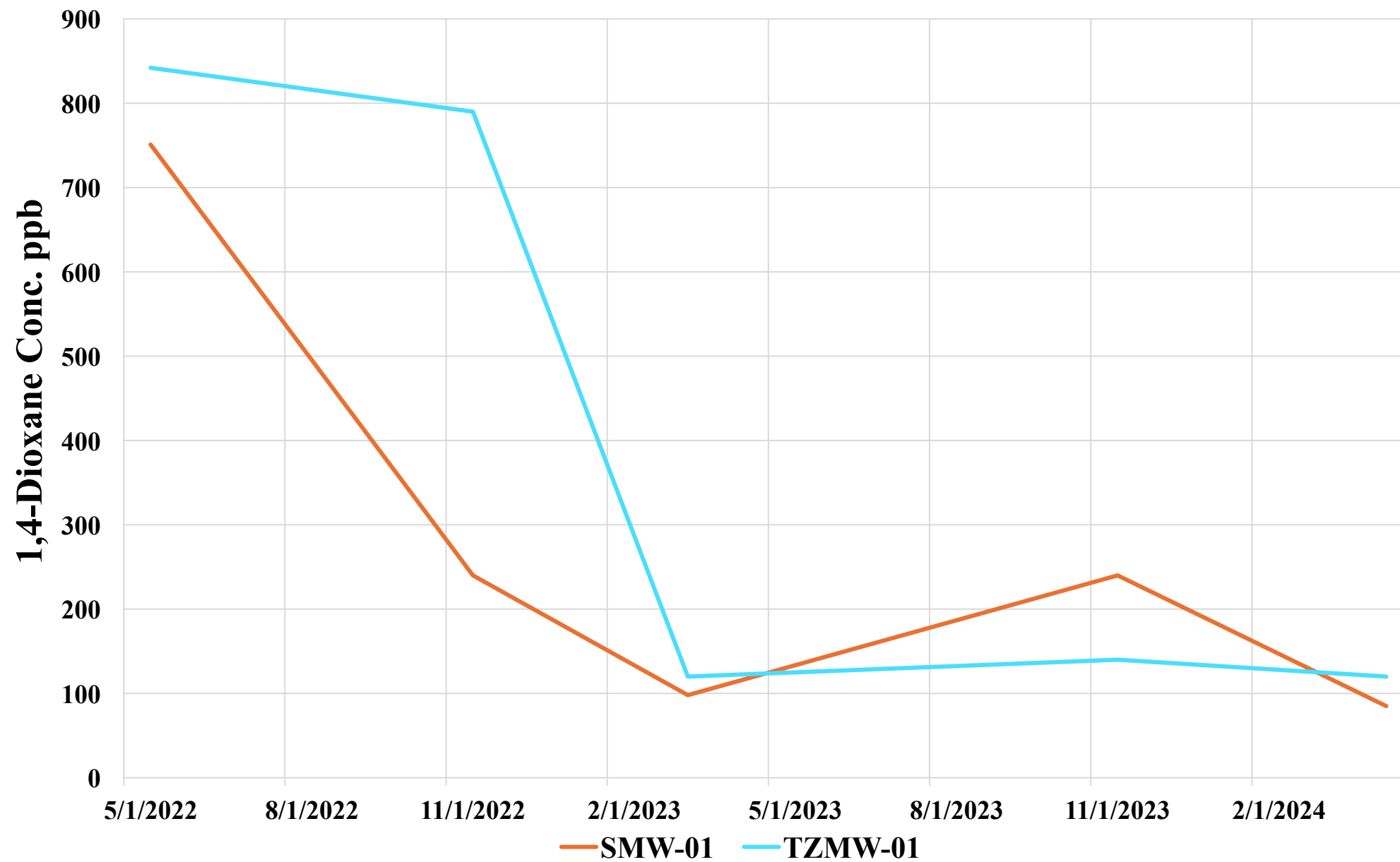
F400 Aerobic Treatment - vs - CAT 100 + Humic Acid



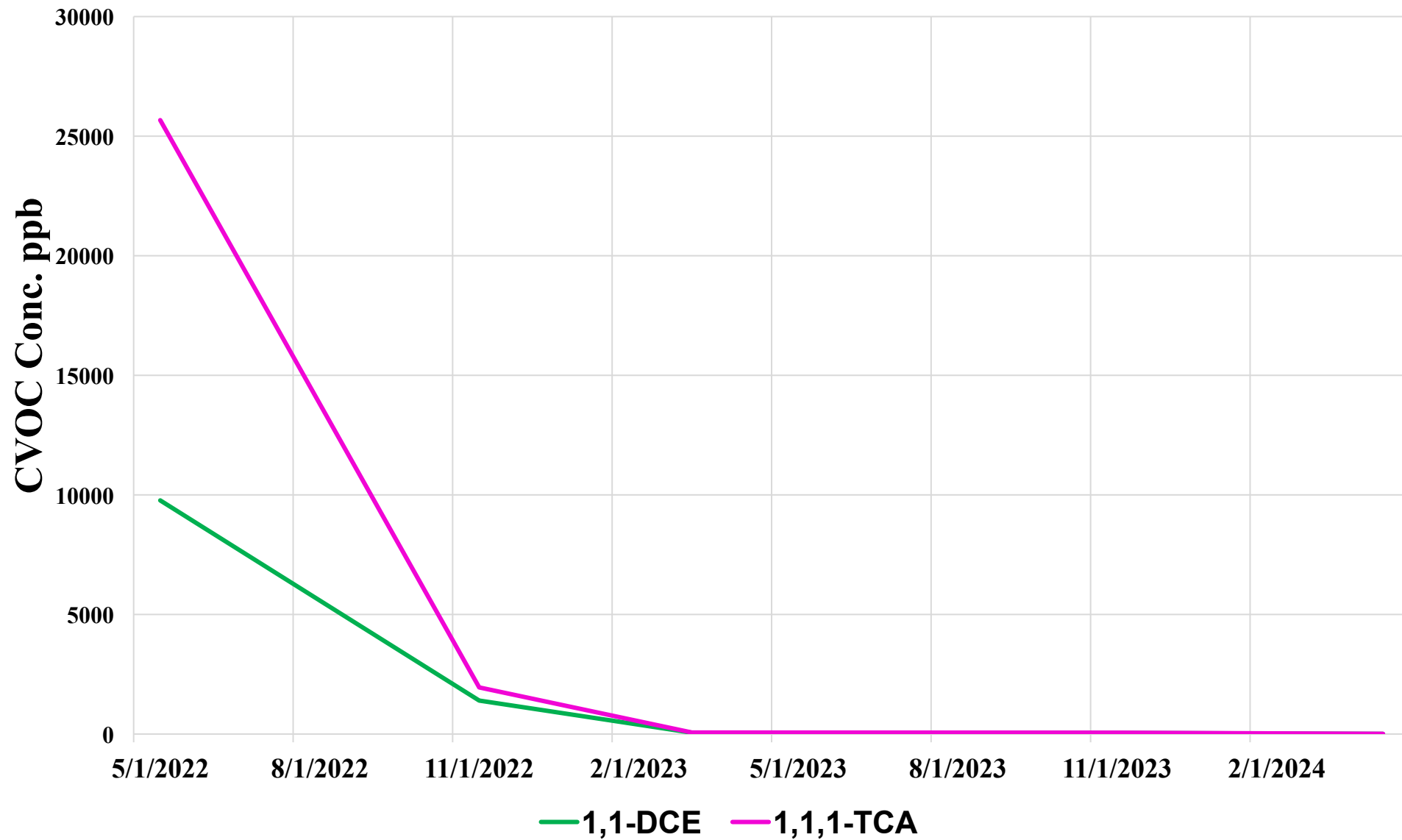
CAT 100 + Humic Acid
Plot of 1,1,1-TCA and 1,4-Dioxane



NJ Site Monitor Well Data



NJ Site Monitor Well Data - CVOC TZMW-1



CONCLUSIONS

1. RPI has a growing body of evidence that 1,4-D can be degraded under anaerobic conditions in the presence of CVOCs using CAT 100 enhanced with catalytic organic compounds at low concentrations.
2. Data demonstrates there is an interaction between 1,4-D and BOS 100. This interaction binds 1,4-D to iron within the microporous structure and enables electron transfer both to and from the metal through the chemical bond between the carbon and iron.

Thank You for Listening



Questions?

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