



DETECTION // TREATMENT // REGULATION

EMERGING CONTAMINANTS
— S U M M I T —

Field Application Treating 1,4-Dioxane with Activated Potassium Persulfate

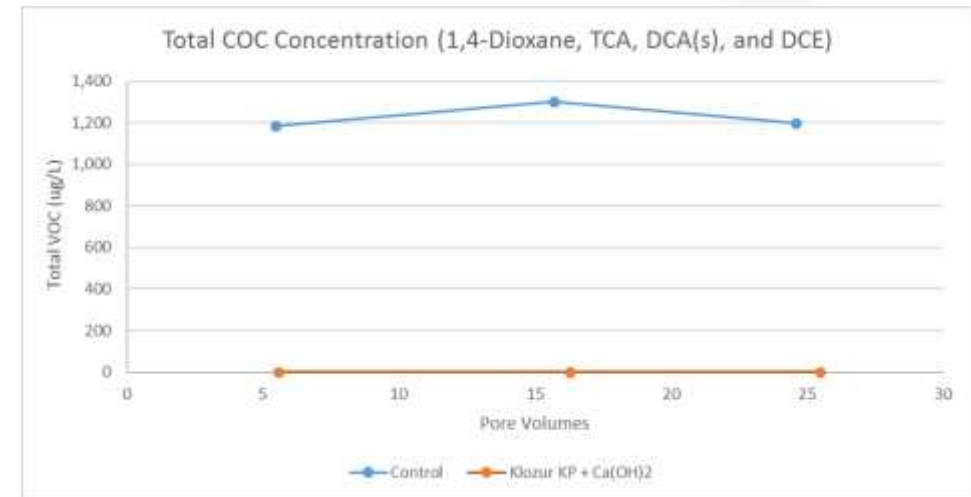
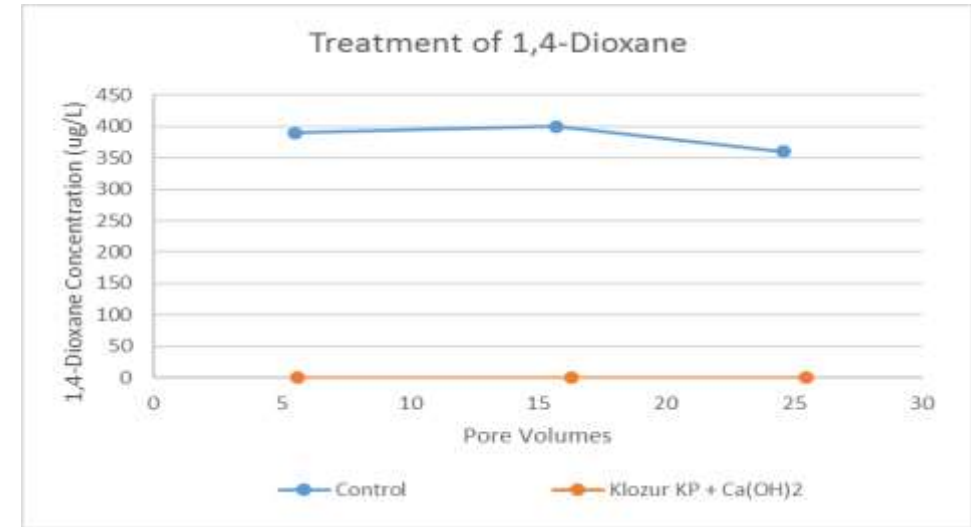
Fayaz Lakhwala

Technical Applications Manager

PeroxyChem

Bench to Field

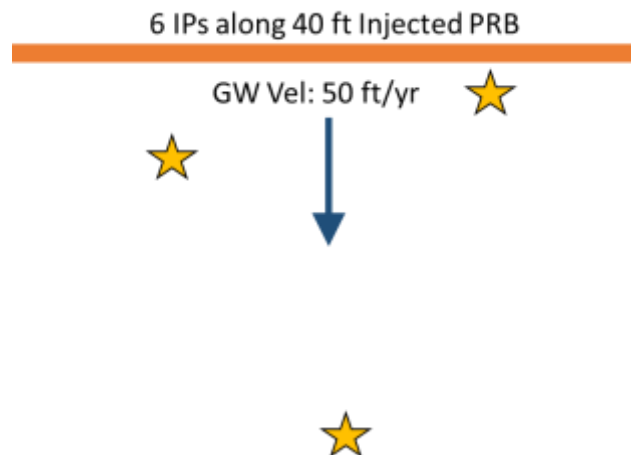
- Site:
 - Former industrial facility in Northeast USA
 - Contaminant plume migrating to wetlands
 - 1,4-Dioxane, TCA, DCA(s), DCE, TCE, etc
- Bench:
 - Cometabolic bioremediation and EVO
 - Limited treatment. Not selected due to complexity in implementation
 - Column Studies with alkaline activated persulfate
 - COCs treated to below detection limits



Field Pilot Test Results

- Field Pilot Test

- 6 month design of alkaline activated Kloxur KP and Kloxur SP
- 1,4-Dioxane treated to ND at PRB
- COCs reduced by 99.8% at PRB
- Downgradient contaminant reductions and repartitioning of COCs from soils



Event	Persulfate (g/L)	pH	Contaminant Concentrations (µg/L)				
			DCA	DCE	1,4-Dioxane	VOCs*	Reduction VOCs (%)
Location 1 (3 ft downgradient of PRB transect)							
Baseline	NA	6.9	21	40	30	115	
3 month	7.2	12	0.2	nd	nd	0.2	99.8%
6 month			0.2	nd	nd	0.2	99.8%
8 month	14.2	12					
Location 2 (10 ft downgradient of PRB transect)							
Baseline	NA	7.2	44	72	55	184	0%
3 month	3	6	10	11	nd	26	86%
6 month			16	nd	16	34	82%
8 month	2.5	6.8					
Location 3 (25 ft downgradient of PRB transect)							
Baseline	NA	7.2	89	270	200	610	0%
3 month	NA	NA	46	82	69	216	65%
6 month			63	30	110	230	62%
8 month	8	6.5					
* VOCs listed. Not including acetone							