

Cascade Chemistries

Turnkey Solutions

TREATMENT AREA	TARGET COCs	CONTAMNANT CONCENTRATIONS	CASCADE CHEMSTIRES Colloidal iZVI™	COMBINED REMEDIES with Colloidal iZVI™	CASCADE CHEMISTRIES ColloidalChem™	COMBINED REMEDIES with ColloidalChem™	HIGH RESOLUTION DESIGN OPTIMIZATION (HRDO)	INJECTION LAYOUT	INJECTION TECHNOLOGY
Source	CVOCs	DNAPL	SourceKill™	Combined with Bioaugmentation	NA	NA	MIHPT	Grid	Hydraulic Fracturing, Pneumatic Fracturing
Plume	CVOCs	Dissolved and sorbed phases	Colloidal iZVI™	Colloidal Chem, Bioaugmentation	ColloidalChem™ + ISCR	NA	MIHPT	Grid, Transects	Injection, Pathfinder™
PRB	CVOCs	Dissolved and sorbed phase	Colloidal iZVI™	Combined with Bioaugmentation	ColloidalChem™ + ISCR	Upgradient ISB - Anaerobic	MIHPT, Waterloo ^{APS}	Transects	Injection, Pathfinder™
Source	Petroleum	Dissolved and sorbed phase	NA	NA	ColloidalChem™ + Bio	Surfactant/ISCO	MIHPT, OIP	Grid	Injection, Pathfinder™
Plume	Petroleum	Dissolved and Sorbed Phase	NA	NA	ColloidalChem™ + Bio	NA	MIHPT, Waterloo ^{APS}	Grid, Transects	Injection, Pathfinder™
PRB	Petroleum	Dissolved and Sorbed Phase	NA	NA	ColloidalChem™ + Bio	Upgradient ISB - Aerobic	MIHPT, Waterloo ^{APS}	Transects	Injection, Pathfinder™
Plume	PFAS	Dissolved Phase	NA	NA	ColloidalChem™	NA	Waterloo ^{APS}	Transects	Pathfinder™
PRB	PFAS	Dissolved Phase	NA	NA	ColloidalChem™ + Anchor	NA	Waterloo ^{APS}	Transects	Pathfinder™

Definitions

ISB	In Situ Bioremediation
ISCR	In Situ Chemical Reduction
APS	Advanced Profiling System
PRB	Permeable Reactive Barrier
MIHPT	Membrane Interface Hydraulic Profiling Tool

OIP	Optical Image Profiler
Injection	Traditional Liquid Injection Equipment
Pathfinder	Cascade's patent pending automated injection system
Passive Flux Meter	Measures groundwater and contaminant fluxes simultaneously