

## (A) Technology Platform to Harness Speed and Certainty in Groundwater Remediation

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This presentation will focus on utilizing a technology platform based on combined remedial approaches to maximize speed and certainty to achieve groundwater remediation objectives. The platform has a dual function; it sorbs contaminants quickly removing them from the mobile phase and provides a high surface area matrix favorable for microbial colonization and growth. Contaminant availability within a risk pathway is therefore reduced, while at the same time contaminant destruction is accelerated. A detailed discussion regarding the use of conventional technologies like groundwater extraction, soil excavation and in situ bioremediation will show how combined technologies can significantly improve remediation efficiency. Data from full-scale field applications with long-term performance monitoring (>18 months) on mixed plumes with chlorinated solvents and petroleum hydrocarbons will be highlighted.

The presentation will include a case study featuring a Midwest manufacturing facility, which utilized the liquid activated carbon solution coupled with a slow release electron donor to control migration of a TCA and TCE plume offsite. Long-term performance data (18 months) showing up to a 99% reduction in contaminant concentrations was observed and will be discussed.

In addition, a brownfield redevelopment project in downtown Chicago will be presented. The urban site was planned for redevelopment and future use as a convention center and sports arena. With groundwater contamination as the primary concern and time/cost-sensitive deadlines rapidly approaching, a fast and permanent remediation strategy was required. Performance data and the results of the redevelopment will be outlined.

Discussion will also include representative data from three legacy sites in California in support of the in situ bio process. The legacy sites to be discussed had been stuck in a monitoring-only phase for several years, but transitioned to a combined approach with in situ bio and sorption to rapidly reduce contaminant concentrations below regulatory standards. Lessons learned on how to successfully navigate the regulatory process to closure will be presented.

### Ashley Cedzo

Ms. Cedzo has been the Northwest District Technical Manager for REGENESIS for the last three years and she is responsible for the development of innovative, cost-effective remediation and vapor intrusion solutions throughout the Pacific Northwest (including Washington, Oregon, Idaho, Montana, Alaska, Alberta, Saskatchewan, and British Columbia.) Ashley has experience in both the design and implementation of in situ remediation technologies and she joined Regenesis after having laboratory and field research experience. This includes working for the National Oceanic and Atmospheric Administration (NOAA) where she participated in environmental sampling and ecosystem monitoring projects on marine environments. During her undergraduate studies, Ashley completed an honors thesis on the effects of urban runoff impacts to sensitive marine ecosystems of Curacao. She has also spent time educating the public on sustainability, environmental issues, and the natural world- including the natural ecology of the Pacific Northwest. Ashley holds a Bachelor of Science degree in marine biology, minor in chemistry from the University North Carolina Wilmington and a Master of Education in curriculum and instruction, with an emphasis in science education from the University of Washington.