Pacific Meat Sediment Remedy Leads to Evaluation of Columbia Slough Cleanup by a Presumptive Remedy

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Background/Objectives. The Columbia Slough (Slough) is an approximately 31-mile urbanized waterway located in Portland, Oregon. Sediment in the Columbia Slough waterway has been contaminated with a variety of hazardous substances such as PCBs, pesticides and metals over the past 100 years by industrial, commercial, and agricultural facilities. Pacific Meats is a former industrial facility located along the Slough where PCB transformer recycling occurred. Site soils containing PCBs historically discharged through several private stormwater outfalls to the Slough. In 2015, baseline testing was conducted at Pacific Meats, followed by a PCB sediment cleanup pilot study. The pilot study consisted of placing two different types of activated carbon (AC) amendment caps across two 20,000 square foot sections of PCB-impacted sediment. Baseline and follow-up pore water and sediment data were collected to evaluate the performance of the AC caps and to assess the bioavailability of the PCBs. DEQ contracted with state contractors and with Texas Tech University to execute the pilot study at the Pacific Meats site. The data collected, including baseline and post-construction porewater and bulk sediment sampling, showed an overall 90 percent reduction of porewater concentrations, 1-year after the implementation of the AC caps. The immediate success of the pilot study is being considered for the permanent cleanup action for the Site. DEQ's goal is to use AC as a presumptive remedial technology for addressing PCB hot spots throughout the Slough as a way to streamline the remedial action implementation, and reduce the implementation costs and timeline.

Approach/Activities. Other key data factors will be evaluated as the next step towards streamlining to approach to cleaning up the Columbia Slough. Key data factors, including the Site-specific partitioning rates and resulting pore-water concentration ranges for the PCBs, the expected absorption capacity and longevity of AC capped areas, how the remedial action addressed other co-mingled constituents, such as metals and polycyclic aromatic hydrocarbons will be evaluated. The key factors at the Pacific Meats site will be compared to three other high-priority PCB-impacted sediment sites within the Columbia Slough. The data comparisons provide a basis to evaluate whether AC capping can be implemented immediately as a presumptive remedy, without conducting extensive investigations, and only using a few key pieces of information to determine which Sites might qualify for an equivalent cleanup action within the Slough. Unknowns and challenges to implementing a streamlined remedy at each of the three additional project sites will also be explored.

Results/Lessons Learned. The results at Pacific Meat provide the basis to develop a decision framework for a larger-scale application of the remedial approach at other, similar Slough sites. The application of a presumptive remedy within the Slough reduces the need for extensive data studies and achieving an immediate reduction of risk to receptors, thereby reducing the overall time and cost of the larger scale Columbia Slough cleanup.