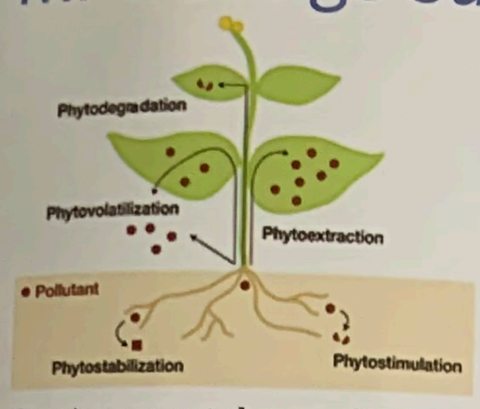
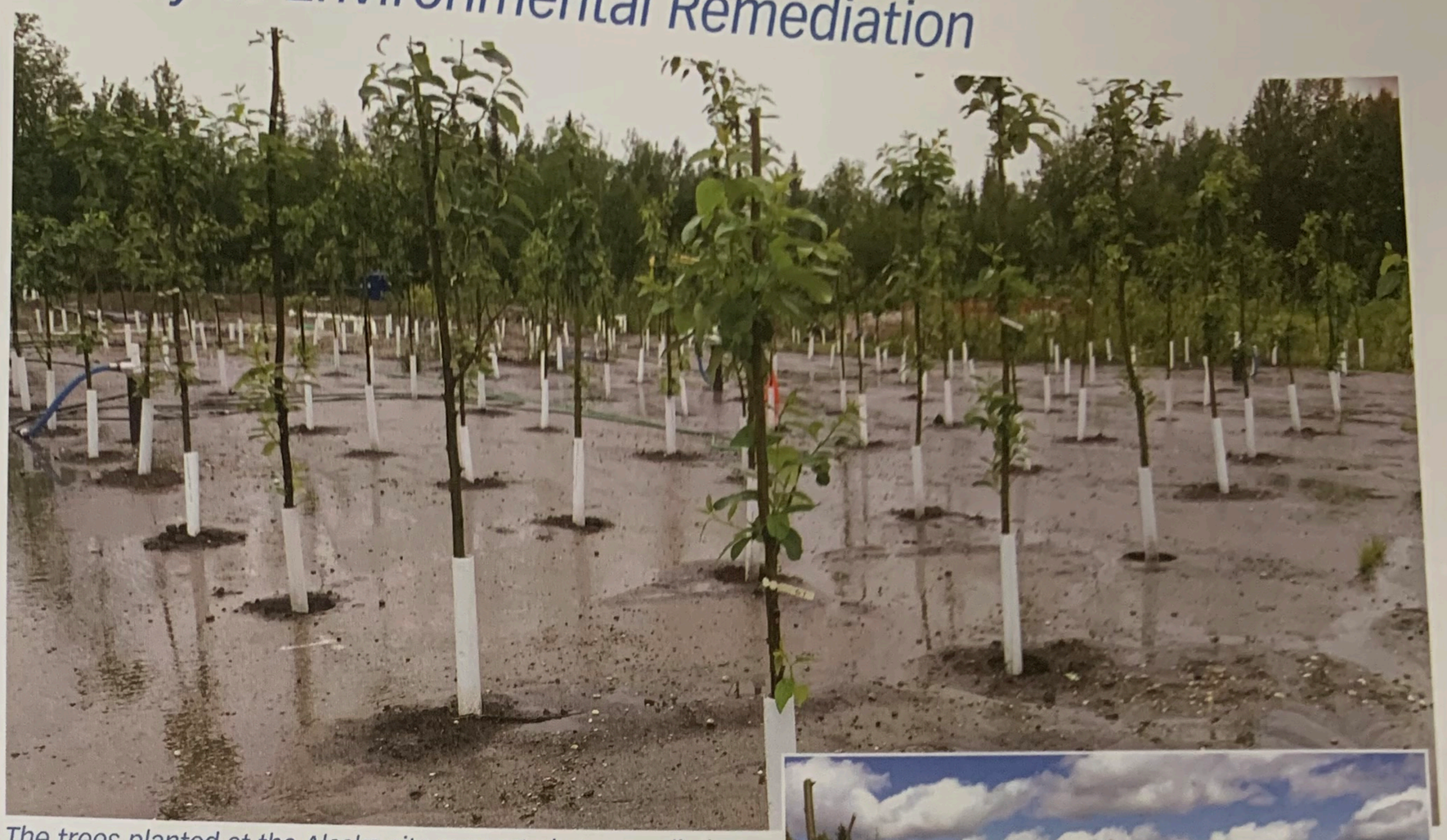
CLEANING UP THE CLEANUP

MPC Brings Sustainability to Environmental Remediation



Environmental remediation involves removing contaminants from water and soil to protect human health and restore the environment; however, certain remediation activities can generate emissions or other waste products that impact the environment. MPC is moving to the forefront of the oil and gas industry with plans for a new company-wide approach to remediation projects that incorporates a sustainability evaluation.



The trees planted at the Alaska site support phytoremediation, which relies on the natural processes of plants and trees to mitigate the effects of contaminants.

Framing the Bigger Picture

The program's foundation is an assessment that identifies opportunities for reducing a project's anticipated amount of greenhouse gas, air emissions, energy use, waste, water use and raw materials. This can lead to switching remediation technology, exploring greener options in the supply chain or introducing new habitat features. The assessments aim to go beyond environmental concerns to address the broader potential of this work to positively affect surrounding communities.

"We are looking to factor in stakeholder inclusion and evaluating software tools that could gauge economic and social factors for more complex sites," said Kyle Waldron, HES professional in Environment, Safety, Security and Product Quality (ESS&PQ). "Considering economic and social factors may allow remediation projects to provide value to the local community through the use of low-impact solutions and by identifying reuse opportunities for the remediation resources."

This tactic is expected to help shorten the use of mechanical systems at the site by at least seven years, adding to the benefits of using more energy-efficient equipment for other tasks. Together, these measures are calculated to reduce carbon dioxide (CO_2) emissions during the project's lifecycle by roughly 90 tons, which is equivalent to the energy use of 10.8 average homes in one year.

Advantages Made in the Shade

In developing its sustainable remediation program, MPC is conducting pilot testing at two company remediation sites. It is also drawing upon successful initial results from a remediation effort at a former Andeavor fuel terminal in Alaska. This undertaking has shown sustainability can create substantial cost advantages, especially when it includes planting trees (phytoremediation) to mitigate the effects of petroleum contaminants. Remediation has added 550 balsam poplar trees to the three-acre site.

"Prior to planting the trees, they were inoculated with specific bacteria that have the ability to degrade the contaminants of concern at the site," Waldron said. "When the trees are fully mature after approximately four years, they will take up groundwater at a rate that significantly reduces groundwater flow across the site, and treat the water through their natural processes, eliminating the expense of operating a mechanical pump and treatment system."