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Licht

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(54) **PHYTOREMEDIATION TREATMENT SYSTEM AND CONTAINERIZED METHOD OF TREATING POLLUTANTS IN WATER**

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CPC **C02F 3/32** (2013.01); **C02F 1/001** (2013.01); **C02F 1/281** (2013.01); **C02F 1/283** (2013.01); **C02F 2101/30** (2013.01); **C02F 2305/06** (2013.01)

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See application file for complete search history.

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(57) **ABSTRACT**

A scalable and moveable phytoremediation cell and system that uses perlite medium surrounding a poplar or willow tree root zone in a cell that results in excellent organic and mineral pollutant treatment. COC removal is achieved by pollutant sorption, increased microbial mineralization activity, fluctuating redox potential, and achieving faster break down of pollutants to achieve regulated water quality standards. The cell reactor system uses photosynthesis and rhizosphere dynamics to create a predictable reactor into carbon-rich microbial biomass mass to remove waste water pollutants (COC). The cell uses <10% of the energy required for alternative tertiary treatment system.

18 Claims, 5 Drawing Sheets
(3 of 5 Drawing Sheet(s) Filed in Color)

