

REACTIVE INFILTRATION BASIN FOR IN-SITU SOIL TREATMENT

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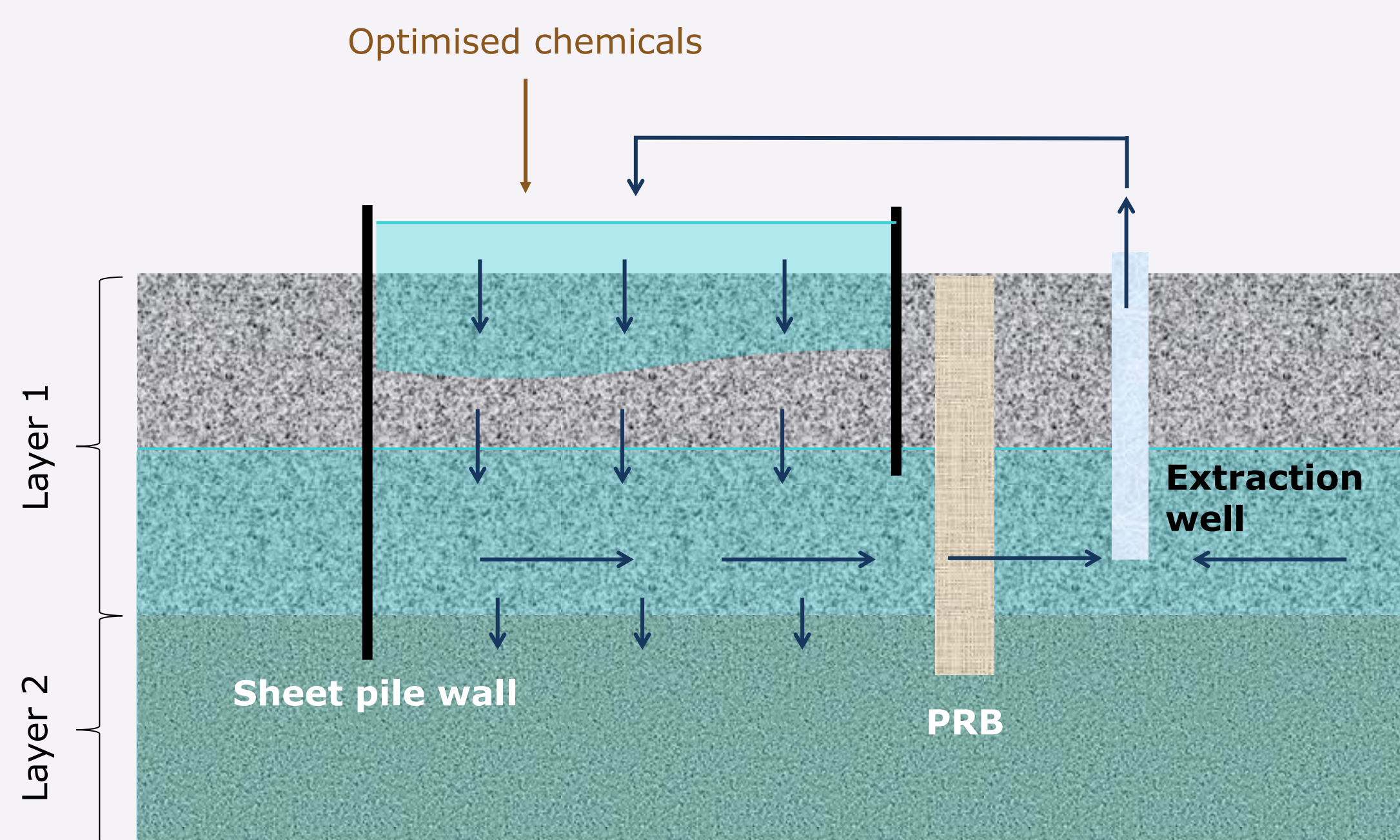
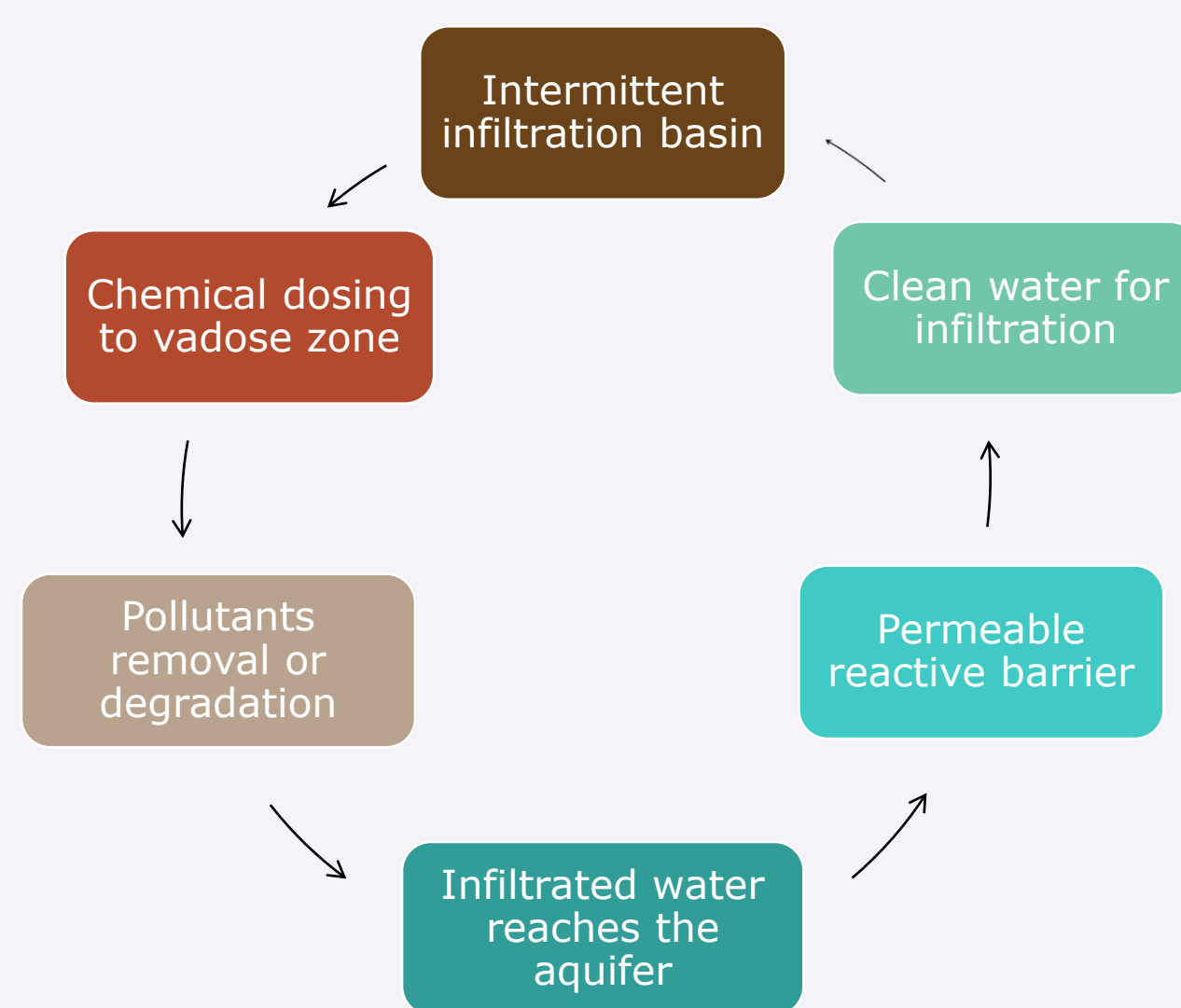


POSIDON Challenge

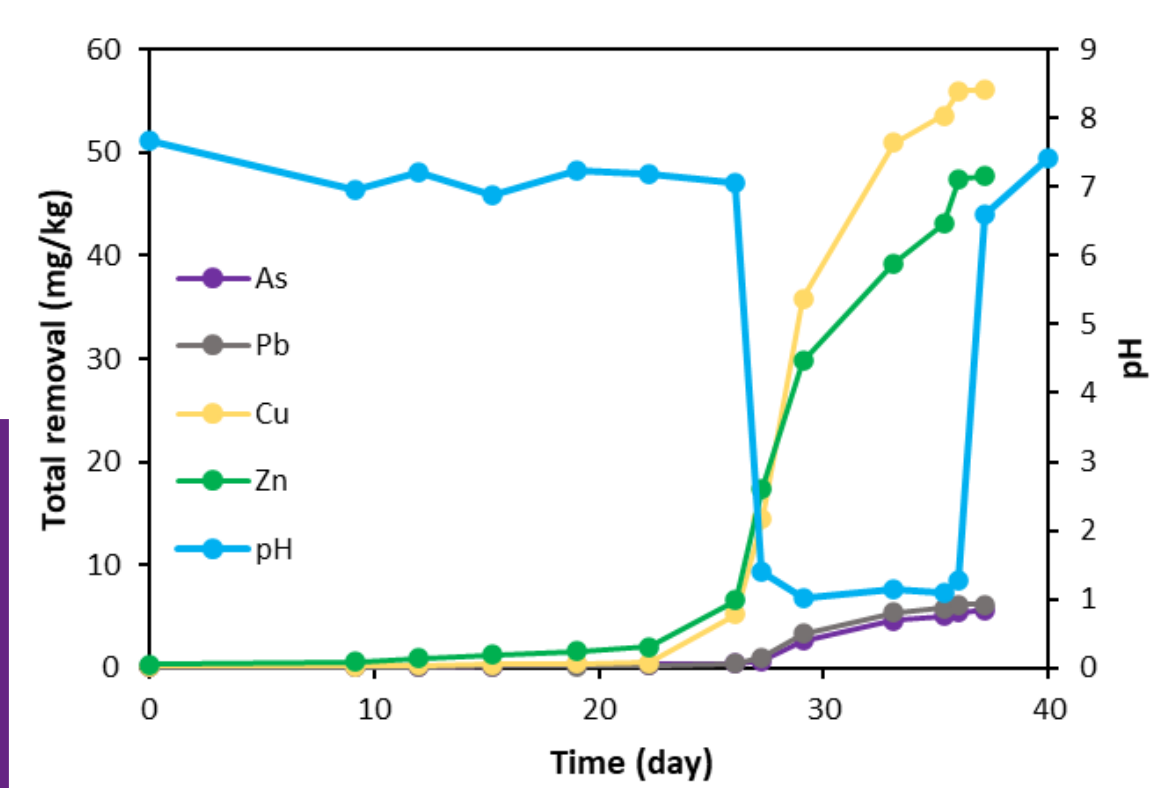
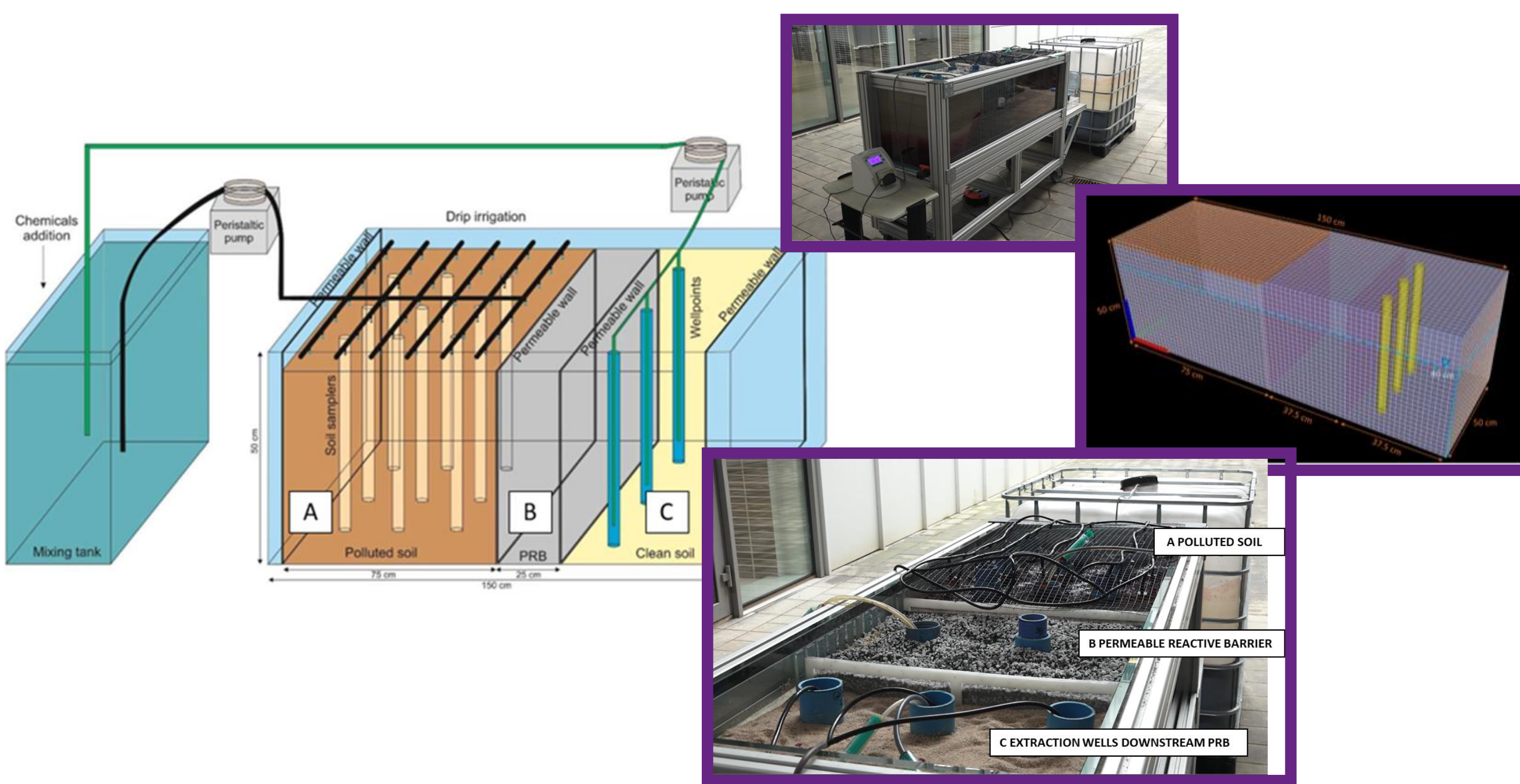
Conceptualize and demonstrate a soil innovative and cost-effective remediation technology, preferred as in-situ, to be capable of decontaminating TPH, PAH and metal(loid)s (Pb and As) from a brownfield

POSIDON targets: competitive with landfilling rate (€/ton), time to clean-up < 1 year for an in-situ strategy, and quantitative assessment of its sustainability

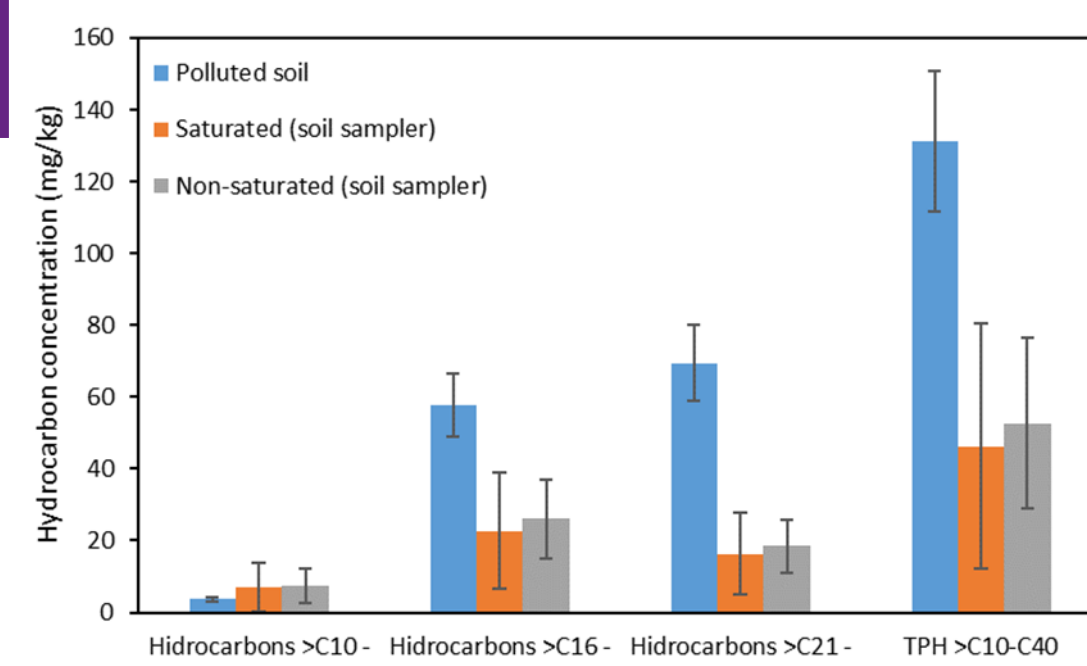
RIBAS Concept



Results at prototype scale



Metal(loid)s were mobilized at removal rates of 0.9, 1.0, 4.9 and 8.2 mg/kg/day, for As, Pb, Zn and Cu. The timeframe needed to reach threshold limits were 21, 92, 4.3 and 3.4 months, respectively.

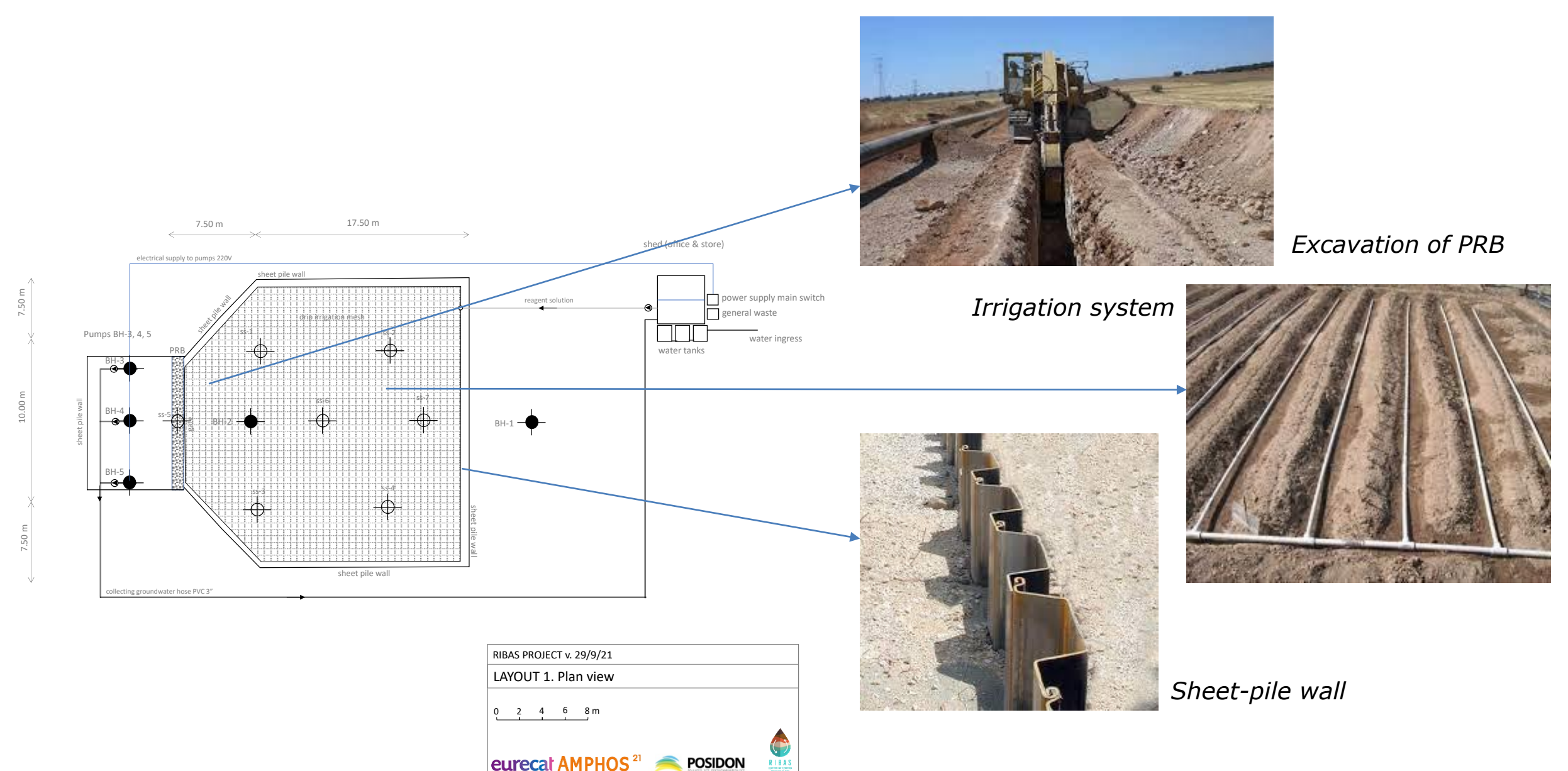


During the prototyping phase the threshold limit for total TPH (<50 mg/kg) was achieved.

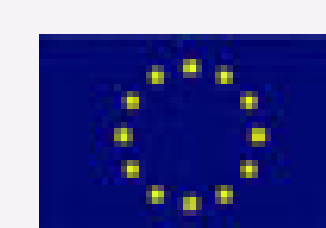
RIBAS sustainability

		RIBAS acid washing + chemical oxidation	RIBAS acid washing + biological degradation
CAPEX	R+D	2.99E-01	2.99E-01
	Infrastructure	3.67E-01	3.67E-01
	Indirect costs	1.83E-03	1.83E-03
	TOTAL	6.68E-01	6.68E-01
OPEX	Staff	1.58E-01	1.58E-01
	Consumables	1.22E+02	1.03E+01
	Energy	4.95E-01	2.41E-01
	Maintenance (pilot site)	6.33E-02	6.33E-02
	Other costs	8.43E-06	8.43E-06
	TOTAL	1.23E+02	1.08E+01
	TOTAL (€/m³ polluted soil)	124	11.5

Full-scale deployment



Project partners



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