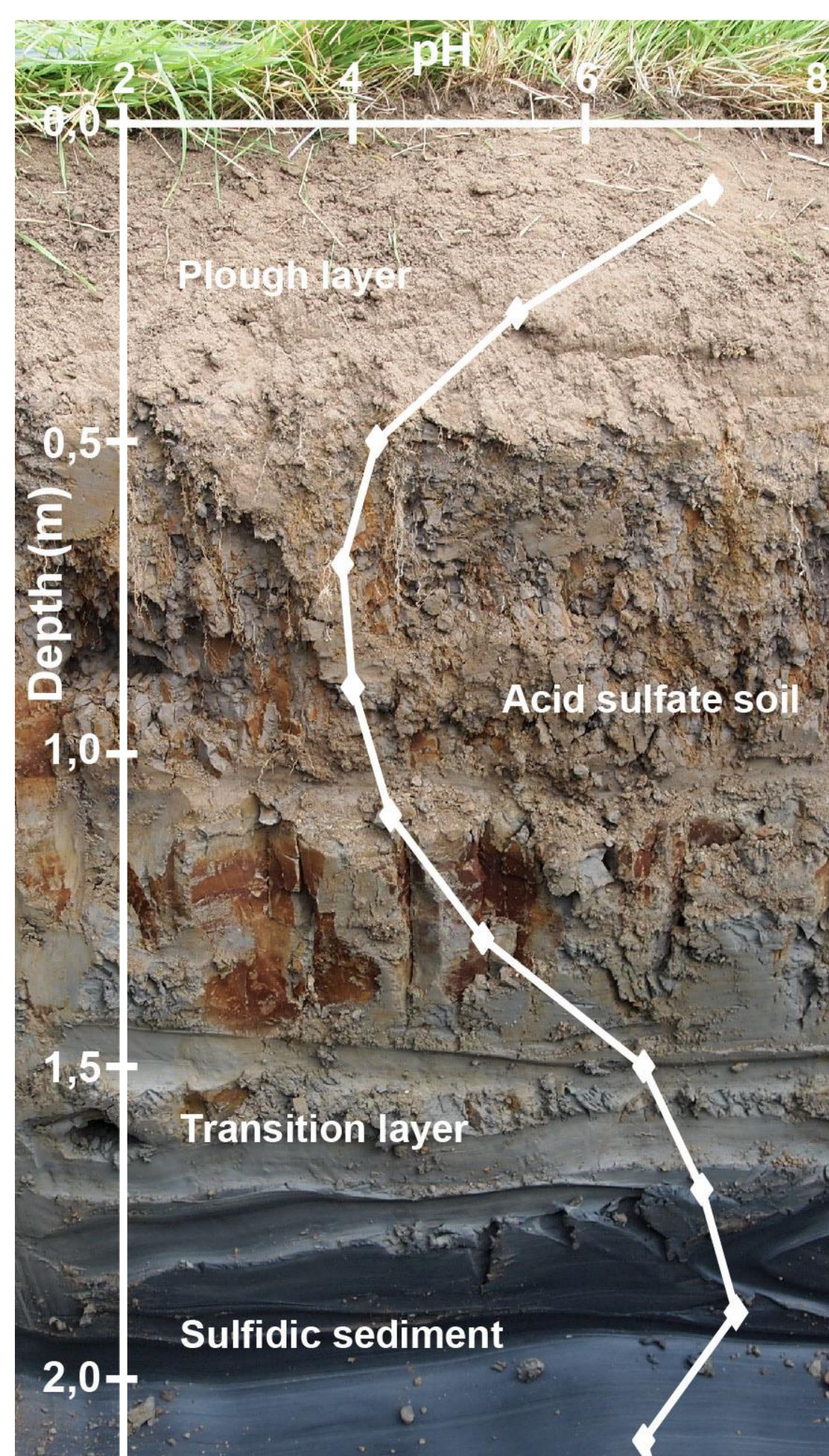


Recent developments at the Risöfladan Experimental Field

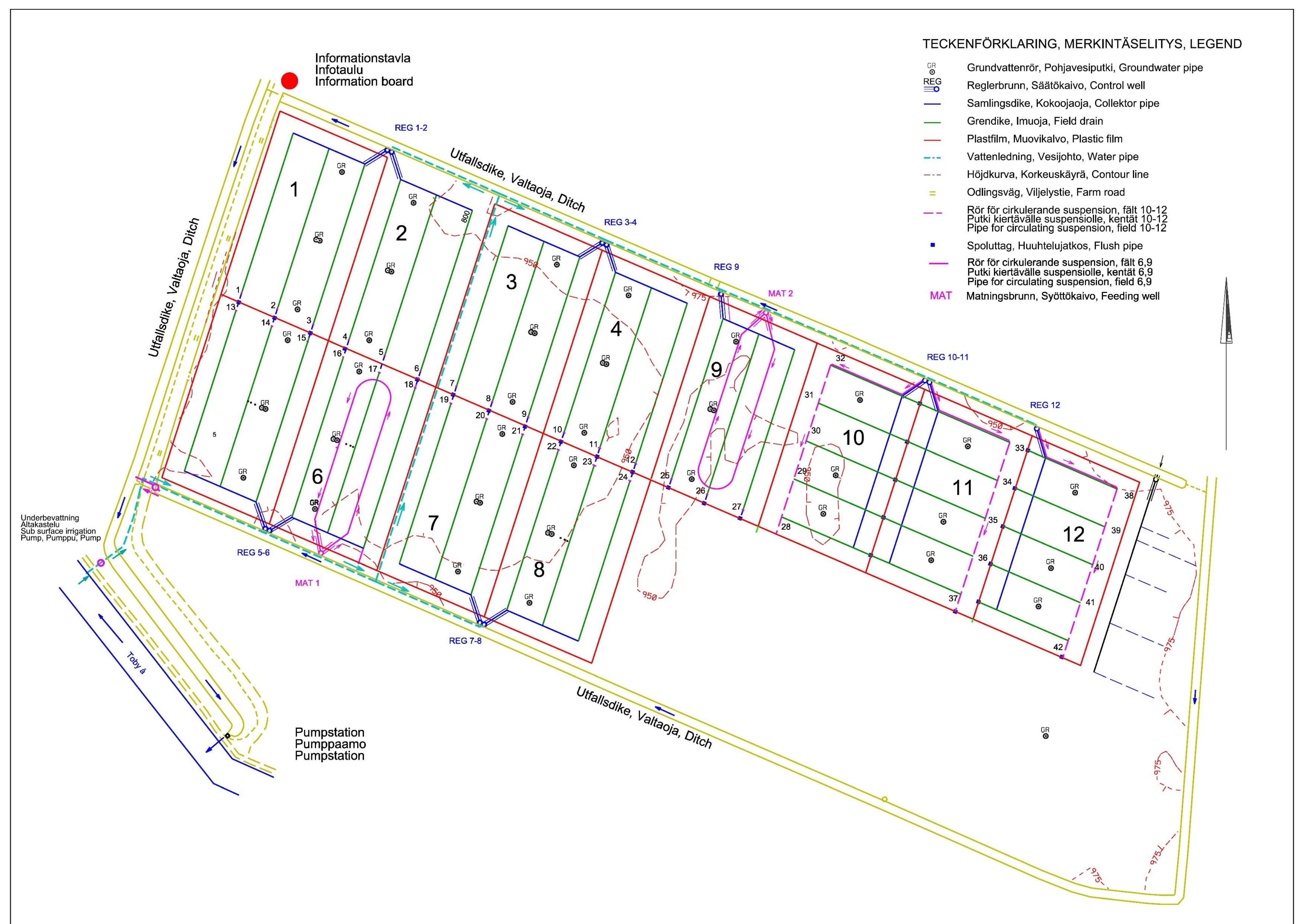
Sten Engblom¹, Eva Högfors-Rönholm¹, Pekka Stén², Anders Grannas³ & Peter Österholm⁴

¹ Novia University of Applied Sciences, Vaasa, Finland, ² Vaasa University of Applied Sciences, Vaasa, Finland, ³ YA! Vocational College of Ostrobothnia, Vaasa, Finland, ⁴ Åbo Akademi University, Turku, Finland

Agriculture on a boreal acid sulfate soil is usually both possible and very successful once the pH of the plough layer has been raised to a suitable level. However, the soil horizon below the plough layer and down to drainage depth is not affected by liming activities at the surface, and the drainage water from this soil layer is still very acidic and rich in leached metals.



A typical pH profile of an acid sulfate soil in agricultural use



A 12-hectare experimental field at Risöfladan (Vaasa, Finland) is an integral part of a series of projects. By utilizing the subsurface drainage system, treatment chemicals mixed with irrigation water are injected into the environmentally critical subsoil. The experimental field is divided into twelve 1-hectare subfields, each with its own drainage system. Every subfield is surrounded by a plastic sheet that extends from about 0.4 m below the surface down to about 1.9 m. This sheet prohibits hydraulic contact between the subfields and between the subfields and the open ditches. Drawing by: Rainer Rosendahl and Mikael Blomqvist, ProAgria.

A novel system of injection pipes is installed in two subfields, 6 and 9. These pipes lie about 50 cm above the drainpipes and enables injection of the treatment suspension into the upper part of the structured subsoil.



A conveyor belt is transporting the C2 powder to a funnel

See also project home page:
<http://www.precikem.eu>

Accompanying video is found here:



Three screws in the bottom of the funnel enables an exact dosing of the C2 powder



The C2 powder is mixed with river water in a 3 m³ mixing container



Injection of the suspension into the soil via the injection pipe