
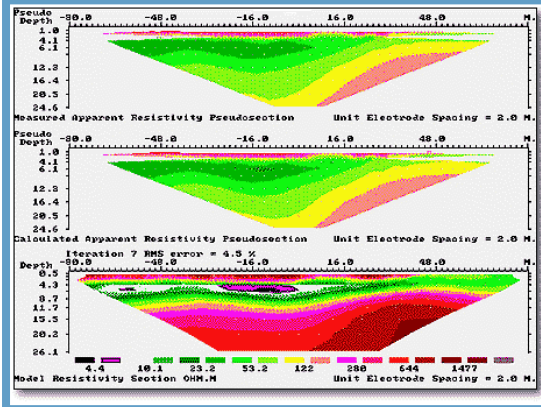
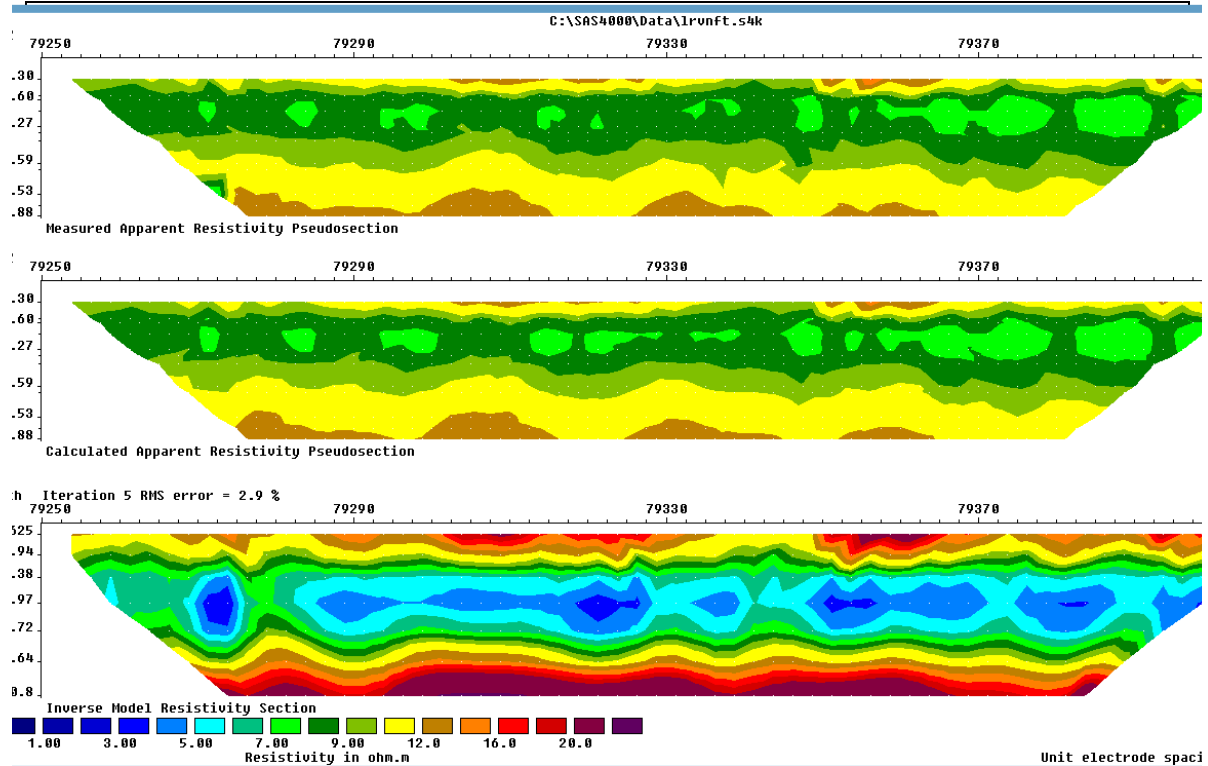


Form 2

Technology Information	
Area	(7) Understanding the Groundwater Flow
Title	Use of electrical geophysical methods
Submitted by	SAFEGE (SUEZ ENVIRONNEMENT GROUP)
1. Overview of Technologies (features, specification, functions, owners, etc.)	
<p>Summary Description:</p> <p>In this case the method is adapted to the context of production of electrical high resolution panels, coupled with electrical surveys of Schlumberger kind.</p> <p>Ground conductivity is homogeneous with aquifer permeability.</p> <p>The electrical panel to a 3D acquisition with high resolution (5 m mesh or 2.5 m) at depths up to 50 m (maximum 35 m here), with a high rate of achievement (a profile of 700 m long in one day).</p> <p>Functions:</p> <p>Interest is multiple:</p> <ul style="list-style-type: none"> • To have a quick preliminary approach to implementation, • Who can highlight discontinuities in the thickness and permeability of basement formations • To optimize the number of wells or observation holes that need to be undertaken. 	
<div style="display: flex; justify-content: space-around;">   </div>	
<p>Advantages:</p> <p>Geophysical methods have the advantage of:</p> <ul style="list-style-type: none"> • Being an early method of implementation • Drawing an accurate map of the discontinuities of the geological structure and permeability of the aquifer. • Identifying local abnormalities in the geological structure linked to specific phenomena 	



2. Notes (Please provide following information if possible.)

Technology readiness level (including cases of application, not limited to nuclear industry, timeline for application):

- Electrical methods have been applied to the aquifer at nuclear sites in France.
- The calibration is done with electrical soundings of Schlumberger type, which allows a precise geoelectric cut.

Challenges:

- Develop a method for fast semi-automatic acquisition (without permanent staff).
- Achieve a sufficiently accurate mesh to highlight the discontinuities.
- Making a developer model to differentiate anomalies due to structural abnormalities.

Other (referential information on patent if any):

- SAFEGE office pioneer of subsurface Geophysics: more than 50 years of experience.