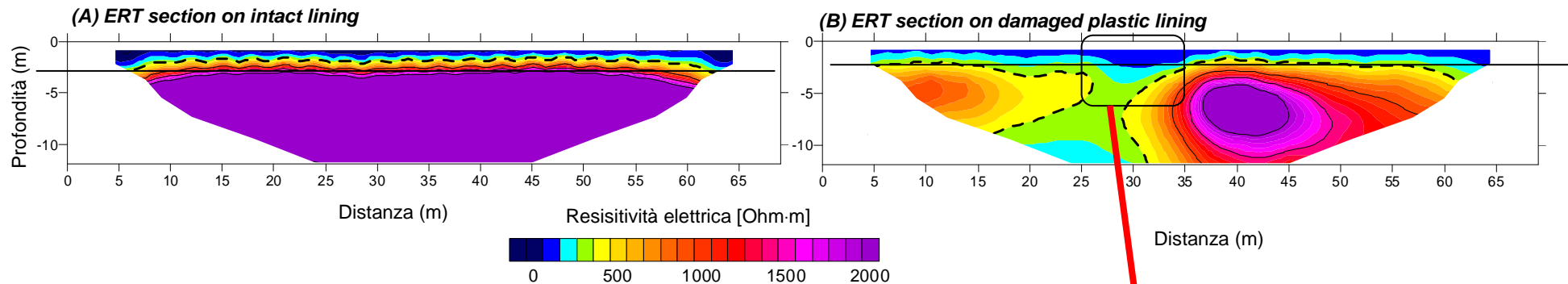


INTEGRITY EVALUATION OF CAPPING PLASTIC LINING OF CLOSED LANDFILL GEOELECTRICAL METHOD

The coverage of closed landfills with plastic sheets (capping) is designed to prevent the infiltration of rainwater and - therefore - the production of leachate. The presence of lacerations in the lining (caused during installation or during the operating phase) determines the preferential infiltration of meteoric water, with an increase in the cost of pumping and disposal of leachate.

To locate any rupture in the capping lining (usually placed under a cover of soil of variable thickness between 2 and 5 m) we use multi-electrode geoelectric method. The plastic sheet is, in terms of geo-electrical, "impervious", and the presence of holes /lacerations promotes the movement of electricity rays below the sheet. The geoelectric section will present, therefore, low resistivity anomaly below to the lining (B). The intact lining does not allow the passage of current (A).



Project:

Location of holes and lacerations of the top plastic lining (capping) of a closed solid urban waste landfill.

Site:

Castrezzato MSW landfill (BS) - 2010

Scope of the survey:

Verify the presence of holes / lacerations of the upper HDPE lining over an area of approximately 23000 square meters,

Survey Design:

The survey was carried out with geoelectric multi-electrode method (regular grid lines 2 x 2 m). More than 200 lines have been traced in about 15 days work and using 2 technicians (30 days / man).

Results:

The survey has located several anomalies related to lacerations of the sheet, the repairs have allowed a significant reduction in the production of leachate

