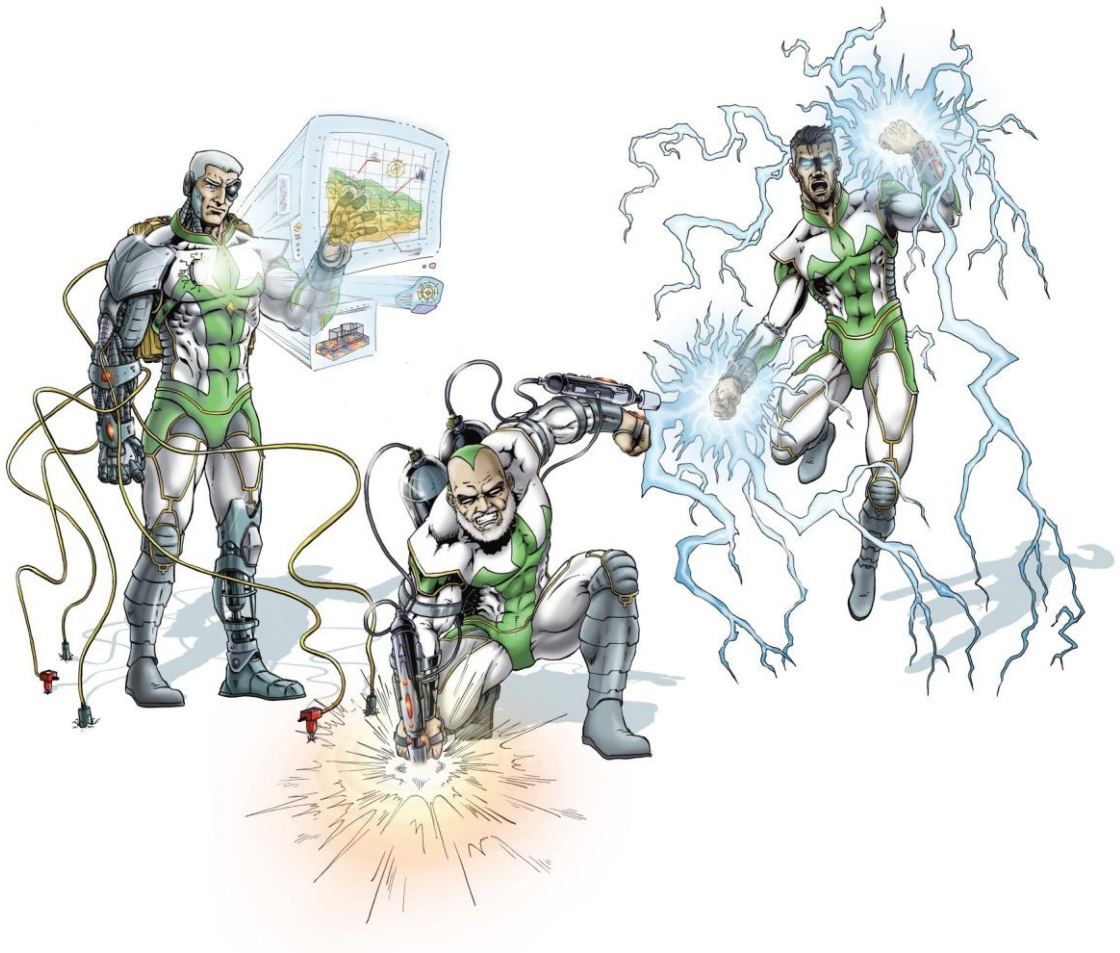
GECo

DMC srl



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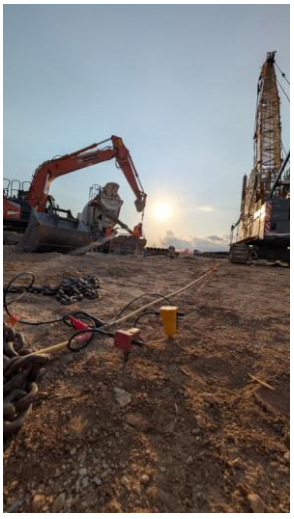
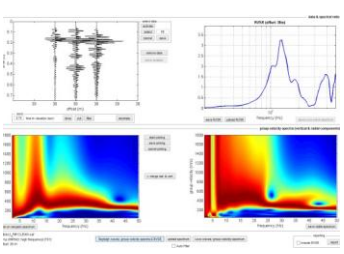
GE-CO is a technologically-advanced provider of 2D/3D/4D geophysical surveys acquisition and high-end data processing services to the main engineering construction and oil & gas industry.

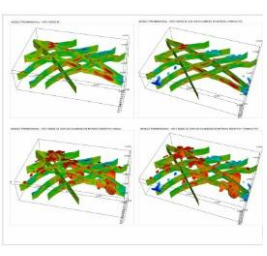
Assisting you to know the subsurface:
If you want detailed information from the subsurface concerning geophysical and geotechnical techniques, we can service you. We can offer high and very high-resolution imaging and analysis of the subsurface from depths below one meter to some kilometers. The solid experience in geophysical and geological sectors working on national and international projects in different type of environmental conditions, collaborating with the main big companies, confirm the **GE-CO** ability to organize, acquire and interpret complex investigations for the subsoil characterization of a wide type of projects ranging from civil engineering, natural resources and environmental tasks. Main geophysical know-hows include seismic, geo-electrical, ground penetrating radar, electromagnetic, magneto-telluric and gravity techniques.

Why contact GECO?

- confirmed experience: more than 3000 projects around the word;
- innovation: we have financed in developing the services and technologies necessary to study complex subsurface problems in difficult surroundings;
- support: we can interpret the final results in a easy-to-read way and help you in all phases of your project with advancing modelling, competent opinion and professional recommendation.







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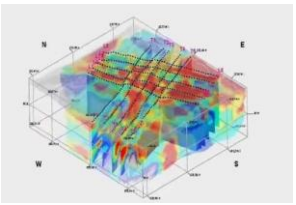
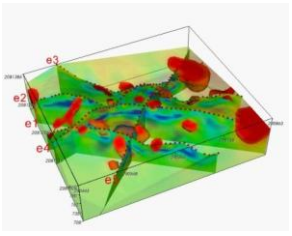
Site characterization and optimization of geotechnical drilling:
Geophysical surveys can offer high resolution images useful to client to better understand the subsurface and optimizing the number and location of geotechnical test boreholes identifying drilling problems.

Geohazards
When there is alarm about the presence of geological hazards such as micro and macro cavities, tectonic structures, or pollutants we can detect these features and reported them into maps useful for design the better solution and minimize the risks. Typical applications include: deep and shalow faulting and fissures, sinkhole, caves and karstic solution phenomena, abandoned mine workings, tunnels and other man-made cavities, geologic structure for seismic risk evaluation, supporting to manage flood risk by investigating the integrity of dams, coastal structures and levees.



Dynamic modulo (engineering properties)
Geophysical techniques can offer a suite of quantitative data relating to the physical properties of the ground to enable the engineer to model rocks behavior in response to different loads. Main applications are suitable to improving buildings, bridges, dams, etc. foundations design, tunnel layout characterizations and structural analysis.

Natural resources & energy
GECO is an important global provider of data analysis applied to the exploration for natural resources and energy sector. We offer services to evaluate and plan the exploitation of natural resources and geothermal energy, with a high specialization in geophysical investigations. Seismic reflection method can reconstruct the buried geological structure (from the surface to some km of depth) and play a significant part in exploration for energy resources. Other geophysical methods can play a key role in exploration and characterization of subsurface resources including groundwater, coal and minerals and in ground investigations for planning and design wind generation schemes, waste storage sites and hydroelectric projects.

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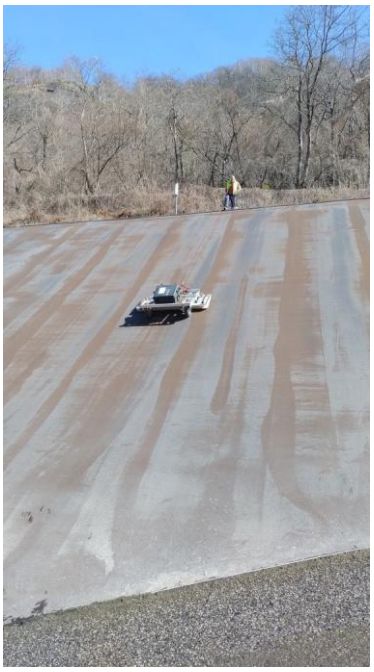
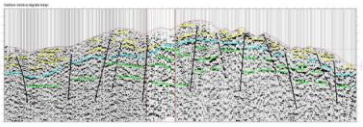
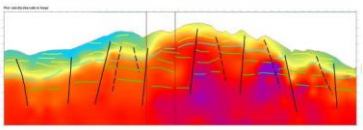
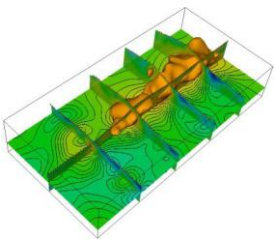
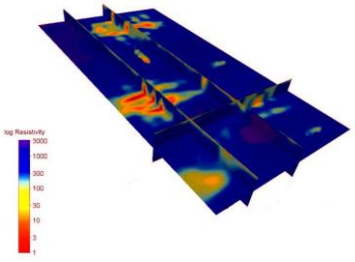
Geophysical investigation methods are suggested for their efficient, cost-effective, nonintrusive, and non-destructive nature. GECO has developed ground-breaking, trailblazing technologies and methods in-house to encounter the specific needs of our customers. Usual applications of surface and subsurface geophysical methods include:

- Buildings, bridges, dams, etc. foundations & Jet grouting
- Tunnels, pipe-lines, railways, roads, etc. layout characterization
- Seismic assessment of the subsoil
- Structural analysis of existing structures
- Monitoring
- Depth of bedrock
- Site survey analysis
- Geologic structural mapping and fault investigation
- Seismic risk evaluation
- Dike and levee inspection
- Mapping P&S wave velocity/dynamic modulo and rippability
- Void & Sinkhole
- Oil and gas exploration
- Co2 injection monitoring
- Evaluation of the potential exploitable resource
- Locating of geological structures potentially productive (faults etc.)
- Mineral deposit exploration
- Locating of polluting substances
- Definition of contaminant plume extension
- Evaluation of volumes of solid waste in landfill sites
- Structural verification of landfill sites
- Structural verification of impermeable diaphragms
- Hydrogeology
- Locating buried unexploded war's weapons:
- Locating of buried structures in archeology
- Analysis of building materials of existing structures
- Locating and mapping of network utilities
- Structural evaluation (concrete, pillar, asphalt, etc.)







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Geophisycal instruments:

Quantità	DESCRIZIONE ATTREZZATURA
5	Sismografo digitale GEODE GEOMETRICS Serial n. 6614 Serial n. 6615 Serial n. 6817 Serial n. 6895 Serial n. 6896
120	Geofoni verticali Hz 28
120	Geofoni verticali Hz 4.5
120	Geofoni orizzontali Hz 4.5
4	cavi 12 take/out passo 10 metri
5	cavi 24 take/out passo 5 metri
5	cavi 24 take/out passo 2.5 metri
6	prolunghe 120 metri cavi sismica
1	Energizzatore sismico (fucile sismico)
1	Landstreamer
1	GEORADAR - MALA GS GPR EL Pro HDR Wide Range 80-900MHz Kart con encoder
1	Dispositivo AREA51-C x acquisizioni MAAM
1	Doppio geofono da foro n.2 terne 10Hz passo 1m lunghezza 150 m
1	Energizzatore da foro onde P/S 50 metri di cavo e trigger x Geode
1	Geofono da foro 3D 50m, cavo collegamento e compressore
1	Doppio geofono da foro passo 1 m lunga 150 m Ambrogeo

Quantità	DESCRIZIONE ATTREZZATURA
1	catena 24 idrofoni passo 1 m lunga 150 m Ambrogeo
1	Sorgente elettrodinamica IGP 800 lunghezza 70 m per CrossHole e Unità principale generatore impulsi INDAGO snc
1	sonda Inclis30 lunghezza 150 m SOLGEO
1	sonda termica MAE
1	Elettromagnetometro DUALEM multi-array
1	Pacometro Novascan R630A
1	Termocamera
1	Sistema GPS Stonex Serial n. S95056116609021 Serial n. S80333110318
1	Sistema GPS Leica GS14 sn2872050 CS15 sn2899064
1	Tromino Zero
1	Georesistivimetro Syscal Terra Switch 72 - 20 canali Geoastier Serial n. 38
3	Cavo Elettrico 24tko passo 10.0m
3	Cavo Elettrico 24tko passo 5.0m
4	Prolunghe Cavo Elettrico
100	Elettrodi per Elettrica
24	Elettrodi non polarizzabili (ricevitori)

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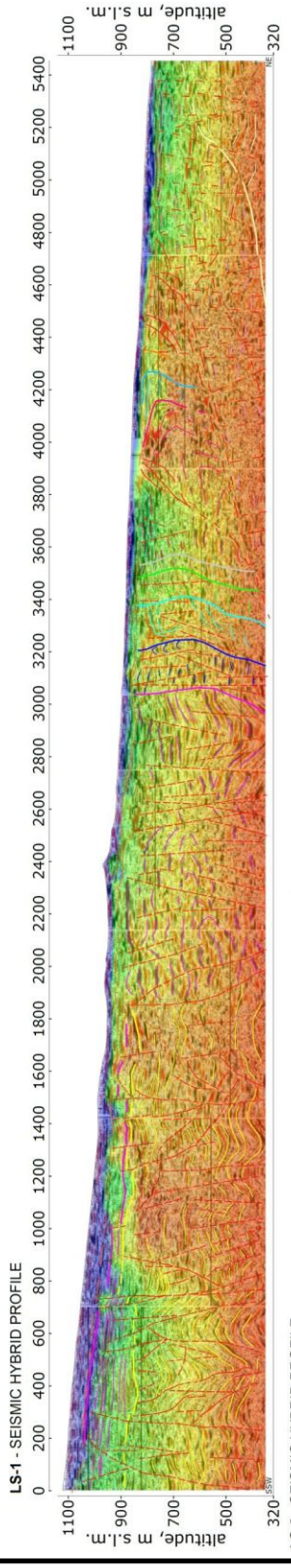
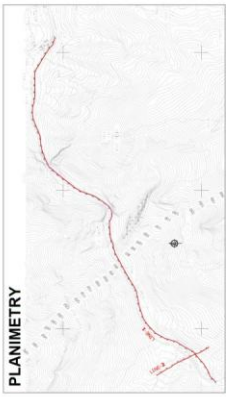
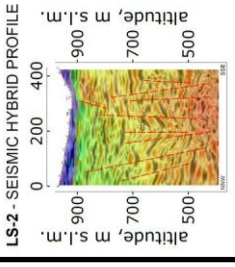
Geophisycal survey by GECO-DMC

HYBRID SEISMIC SURVEY.



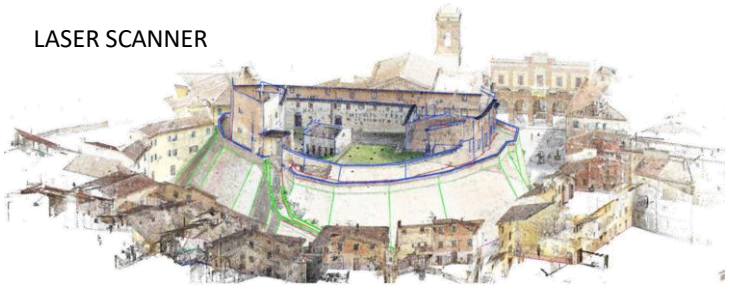
Hybrid seismic survey (HD reflection seismic combined with refractive seismic refraction tomographic analysis) with an interpretative model. LS1 array length: 5.5 Km. Survey depth: about 700 m.



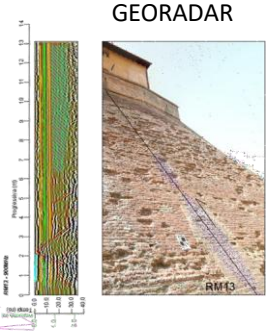


GEOELECTRIC TOMOGRAPHY SURVEY.

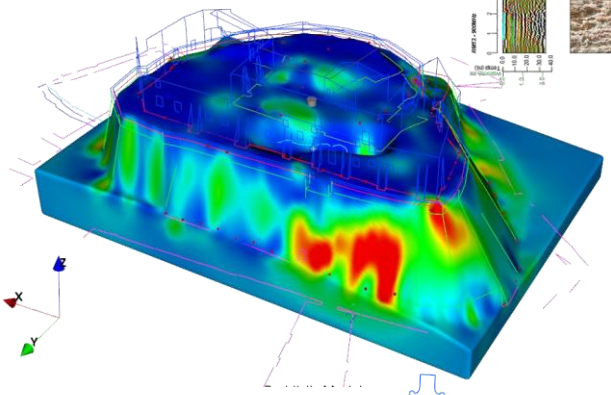
LASER SCANNER



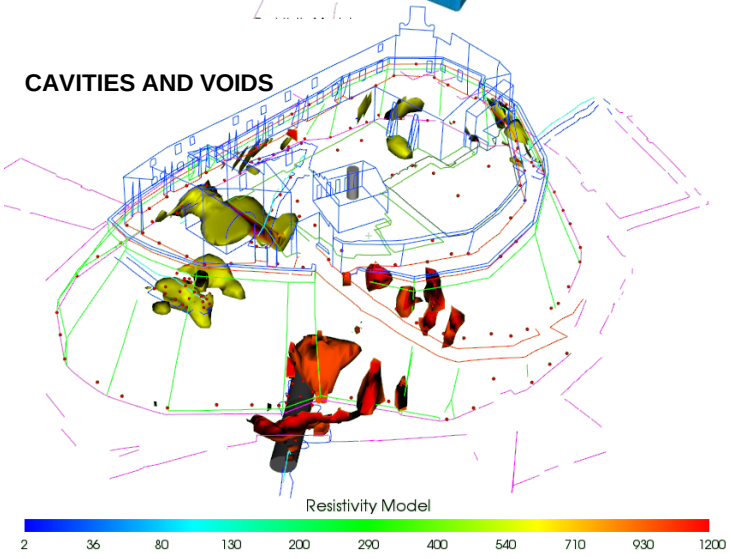
GEORADAR



3D GEOELECTIC TOMOGRAPHY



CAVITIES AND VOIDS



Laser Scanner, GPR & <u>3D Geoelectric Tomography</u> (180 channels) for the characterization of the arenaceous basement of a Castle and the search for cavities.

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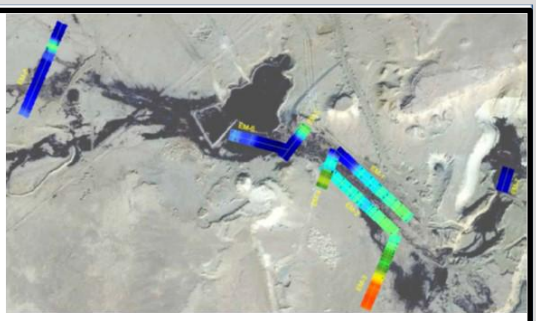
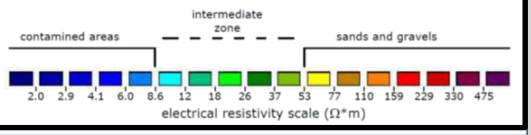
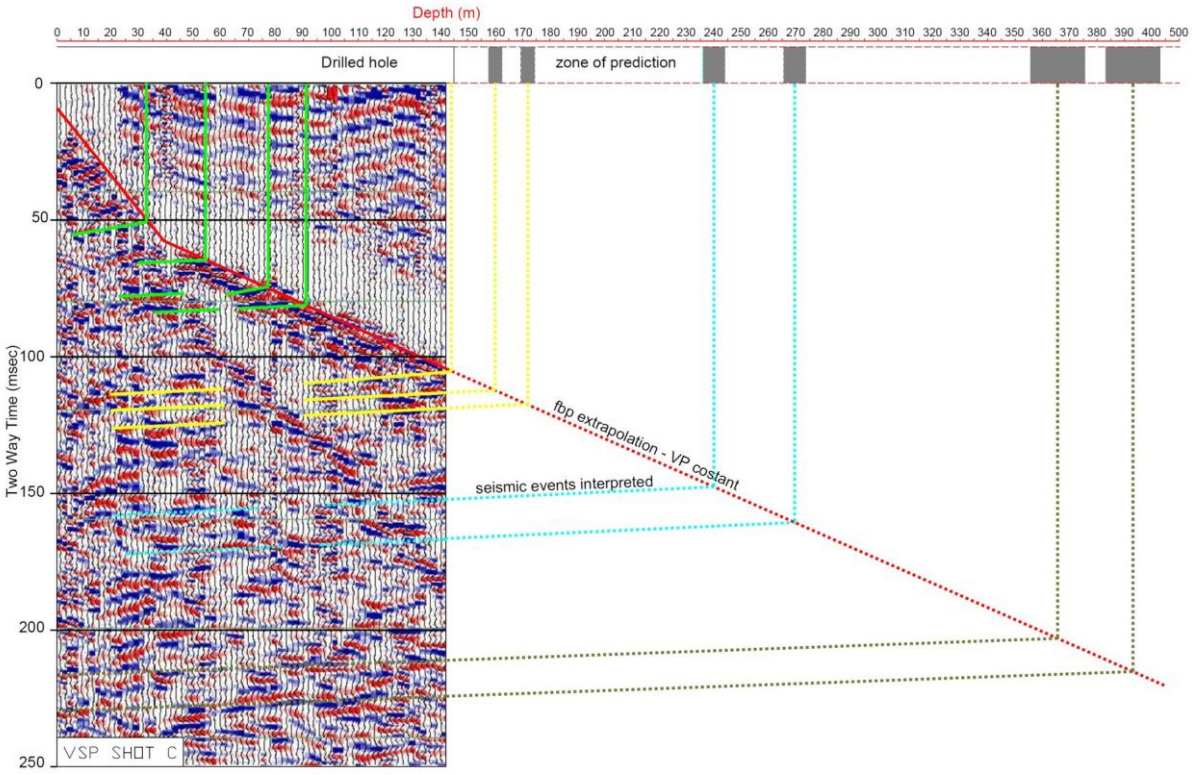
ELECTROMAGNETISM & GEOELECTRIC TOMOGRAPHY SURVEY.





Electromagnetism and Geoelectric Tomography in sedimentary soils and carbonate structures for the characterization of pollutant plumes (oil) and for the definition of the aquifer.

TSP & VSP SURVEY.



The TSP (Tunnel Seismic Prediction) and VSpP (Vertical Seismic profile Prediction) surveys are used to predict the presence of reflectors beyond the tunnel face or below the shaft floor. In these cases, a chain of geophones is positioned on the walls of the tunnel or lowered into the shaft in a space between the point of explosion and the front of the tunnel or the bottom of the shaft, according to precise geometries. This method has the advantage of avoiding surface noise and reaching a fairly large depth of investigation (about 100-150 meters beyond the tunnel front or the bottom of the shaft). The objective of the requested study is to predict the distance at which geological discontinuities will be encountered during advance.

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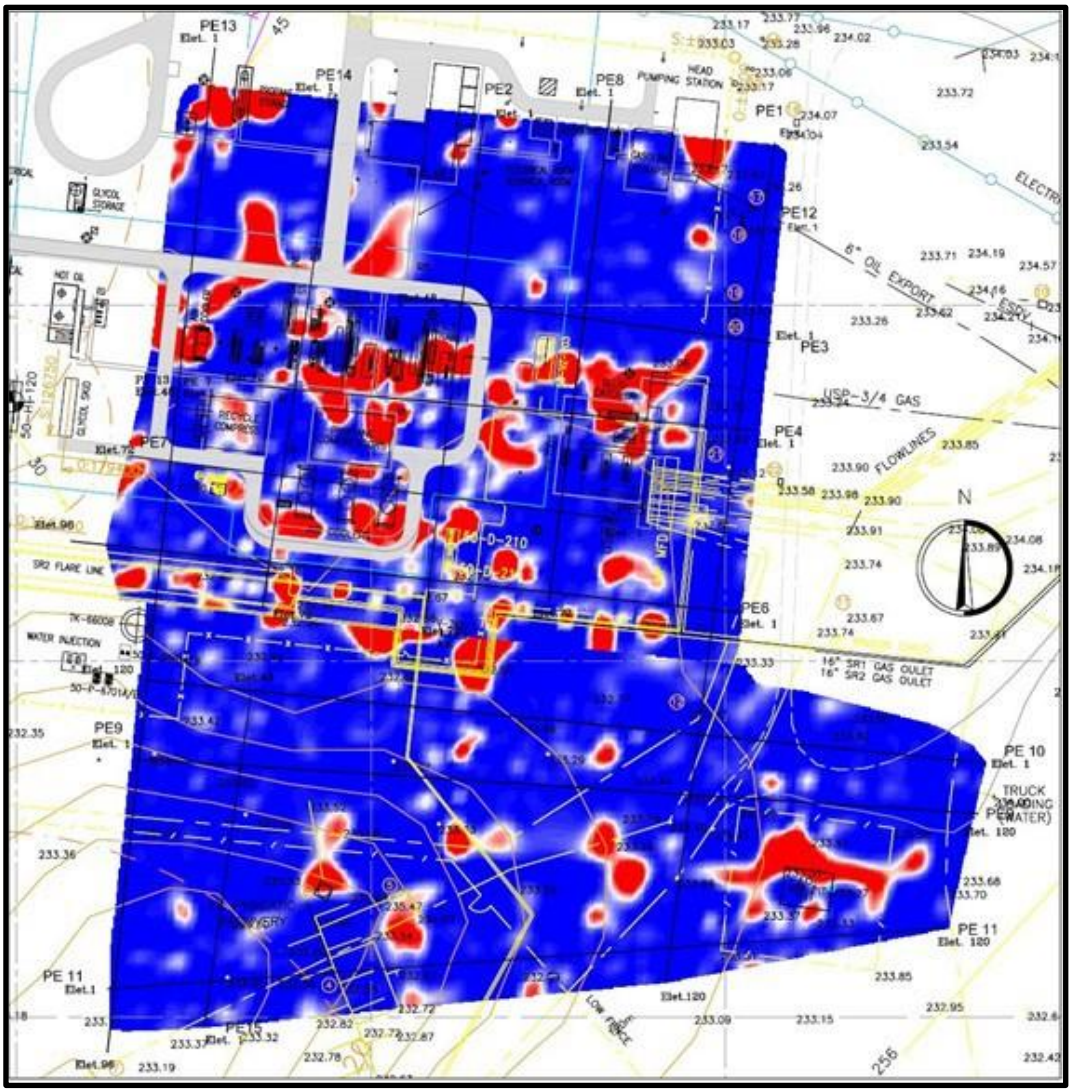
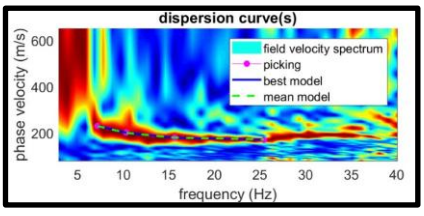
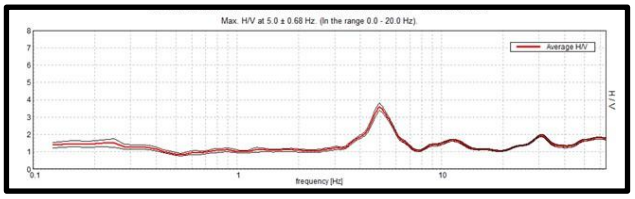
INDUCED POLARIZATION - IP.

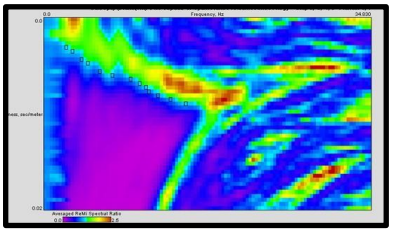


Map of chargeability anomalies (pollutions) within an industrial site.

SURFACE WAVES ANALYSIS







Active and passive seismic analysis:

MASW, **ESAC**, **MAAM**, **HS, REMI, HVSR, RLS technique** for the definition of the equivalent VS, the fundamental resonance frequency and the local seismic response.

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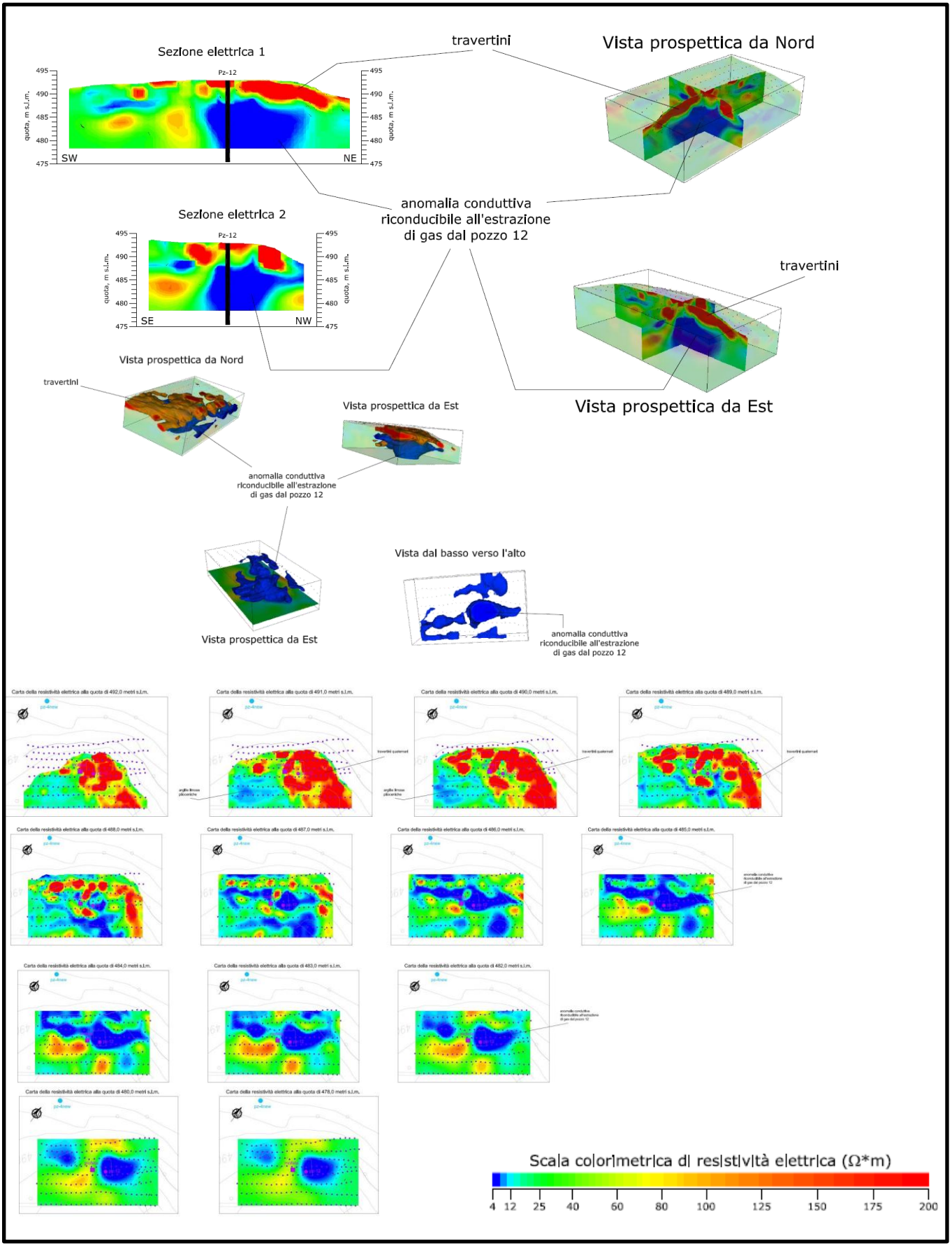
3D GEOELECTRIC TOMOGRAPHY SURVEY IN A GEOTHERMAL SITE



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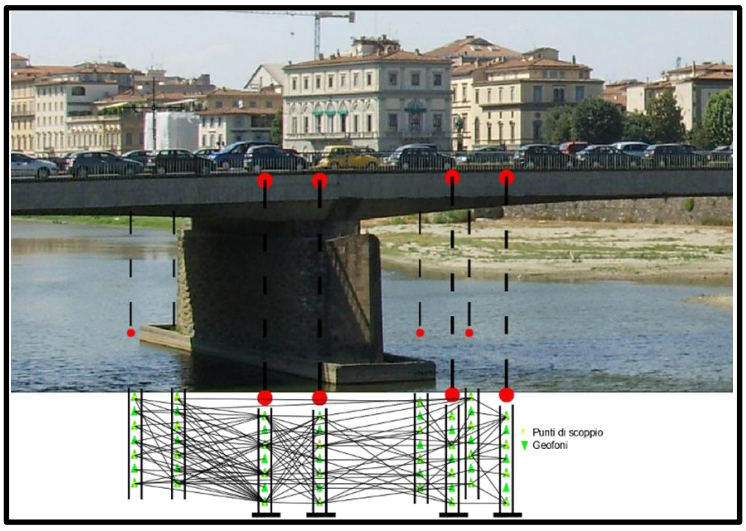
SEISMIC SURVEY INTO HOLE



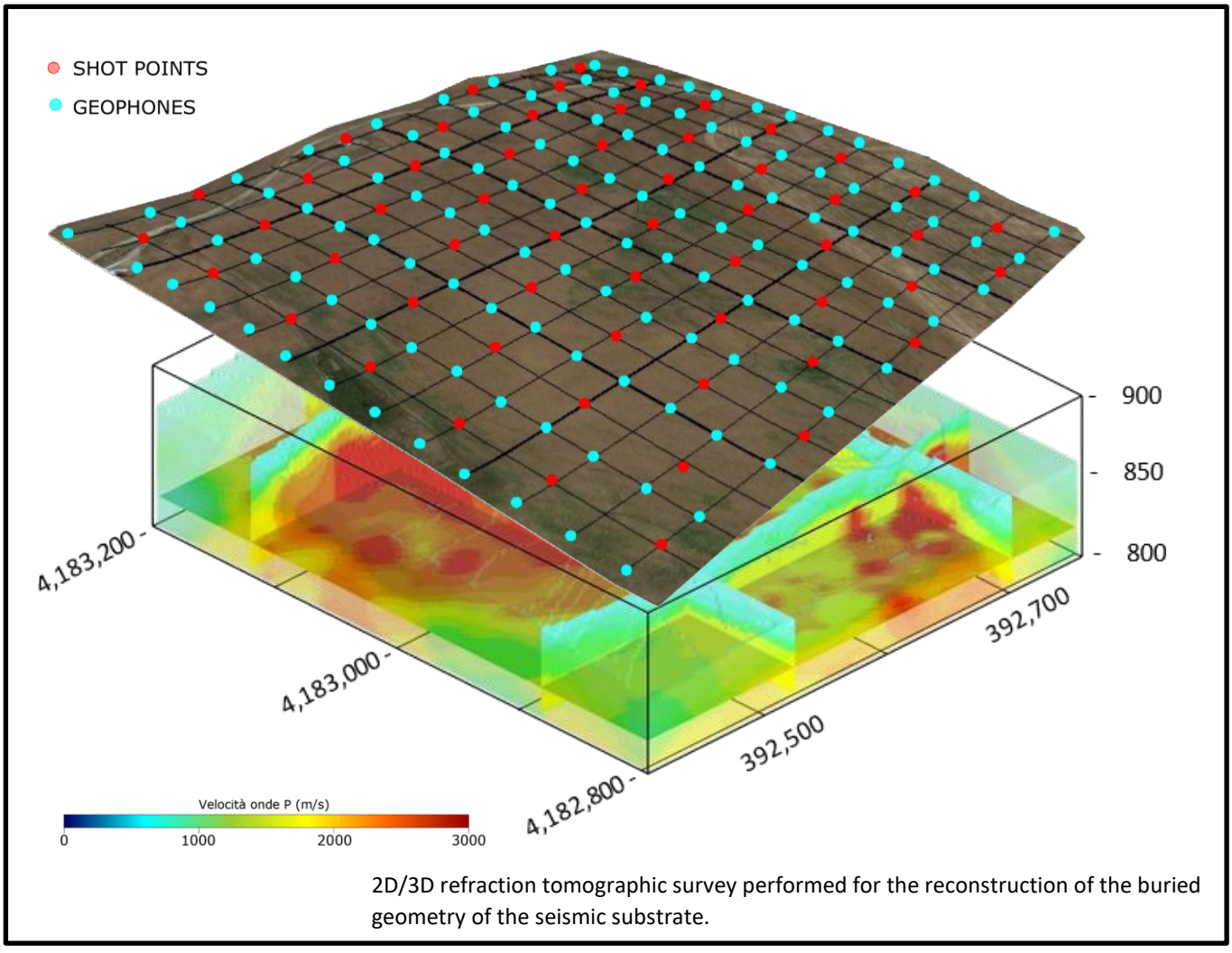
DOWN HOLE SEISMIC SURVEY

CROSS HOLE TESTING SURVEY

2D/3D/4D TOMOGRAPHYC CROSS HOLE

SONIC CROSS HOLE

3D SEISMIC REFRACTION TOMOGRAPHY



2D/3D refraction tomographic survey performed for the reconstruction of the buried geometry of the seismic substrate.

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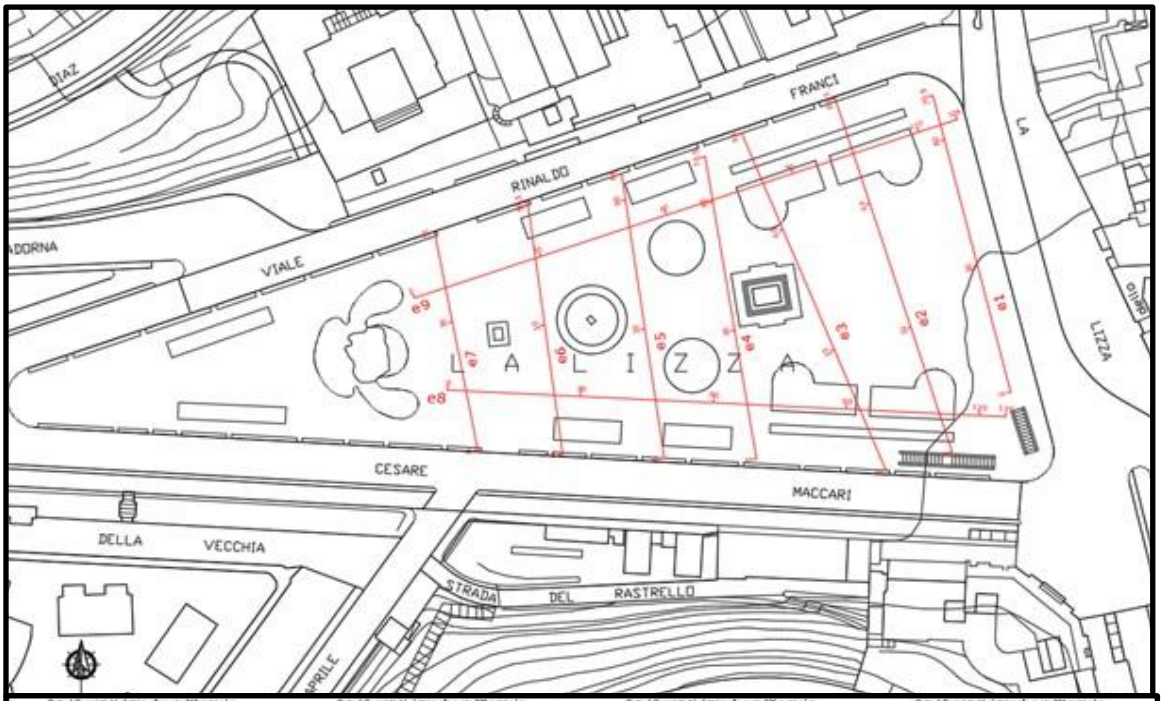
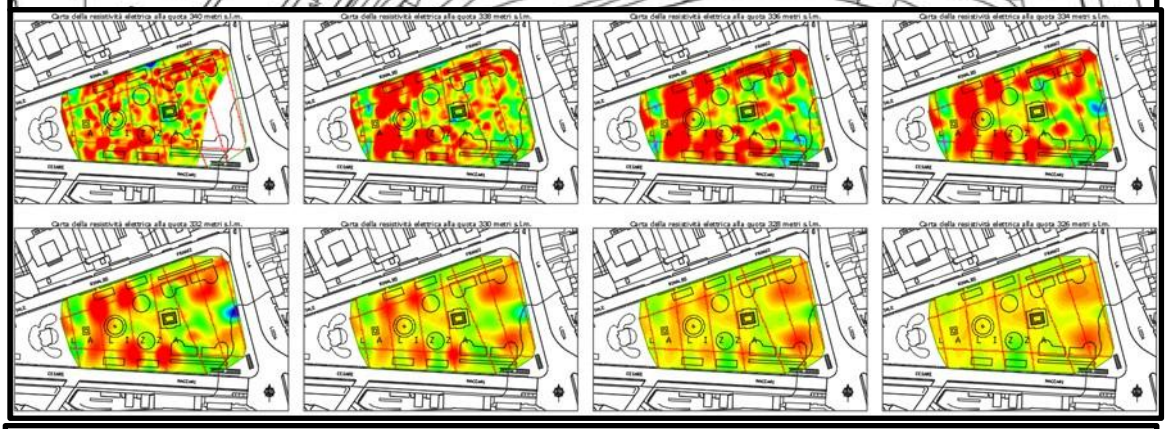
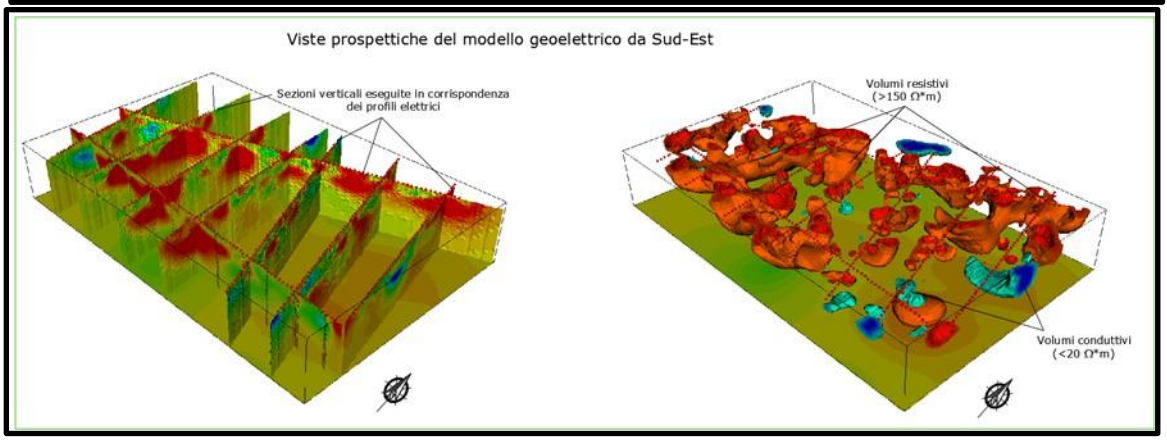
3D GEOELECTRIC TOMOGRAPHY SURVEY.







2D/3D geoelectric survey carried out for archaeological research.

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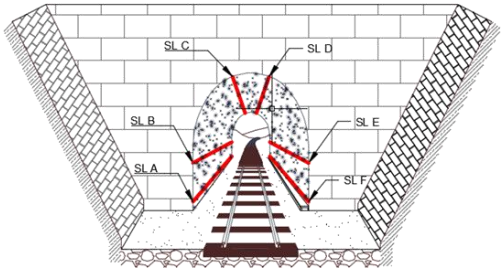
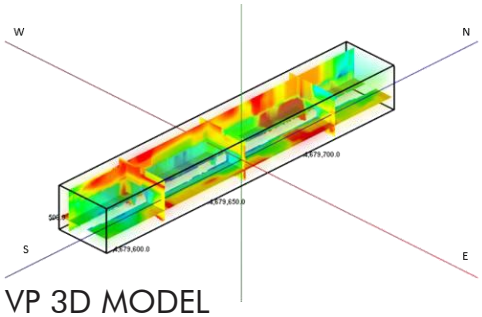
3D P & S WAVES SEISMIC REFRACTION TOMOGRAPHY SURVEY

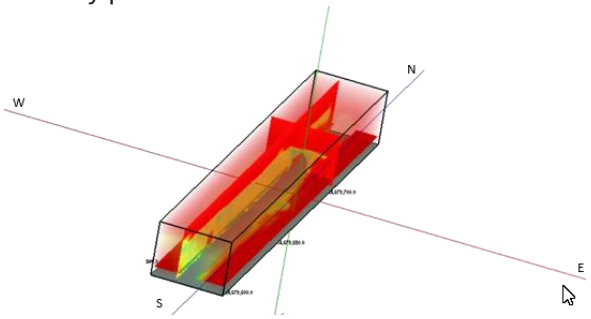
Field data acquisition



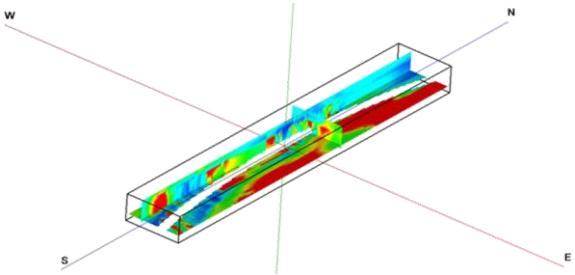
Schematic layout about the seismic survey performed into tunnel



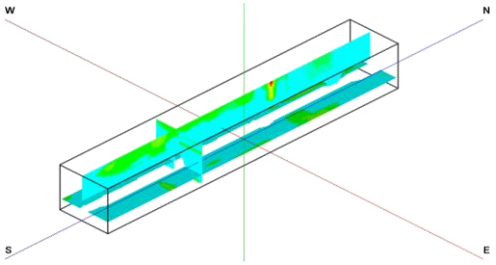
VP 3D MODEL



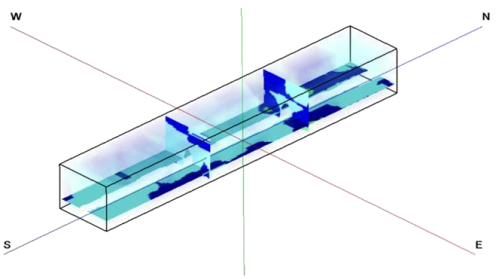
VS 3D MODEL



POISSON RATIO 3D MODEL

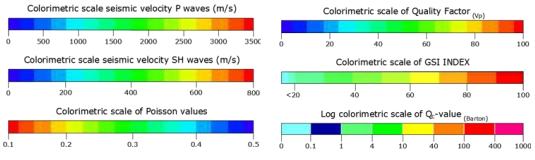


GSI INDEX 3D MODEL



Q_C VALUE 3D MODEL

2D/3D seismic refraction tomographic survey performed inside railway tunnels for the characterization of rock masses. Each tunnel was analyzed with 3D models of the following parameters: VP & VSH seismic velocity, Poisson ratio, quality factor (inelastic attenuation), Barton Qc value and GSI Index.



Colorimetric scales of 3D geophysical models

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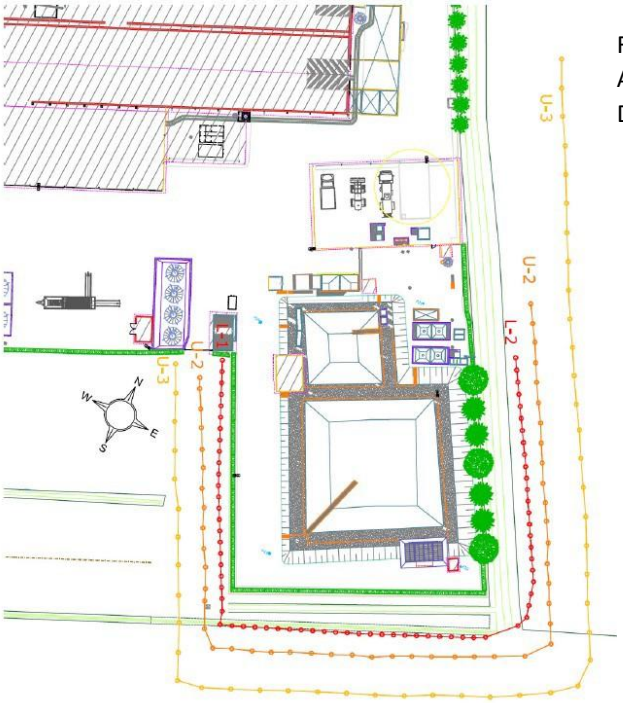
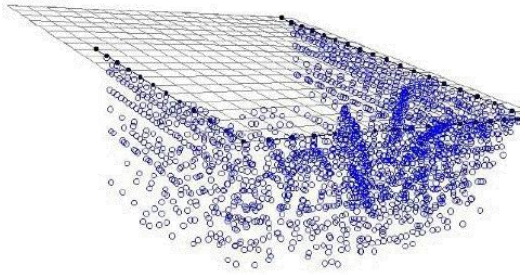
3D GEOELECTRIC TOMOGRAPHY SURVEY

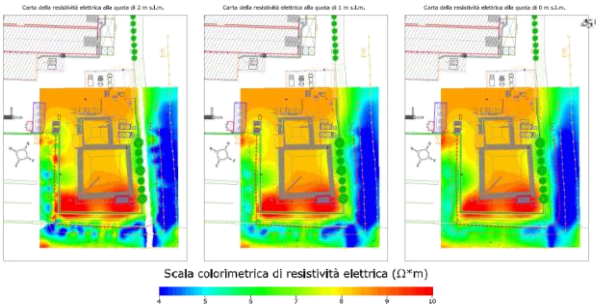


Floor plan of the 3D geoelectric arrays. Acquisitions POLO-DIPOLE and DIPOLE-DIPOLE "L-shape" and "U-shape".

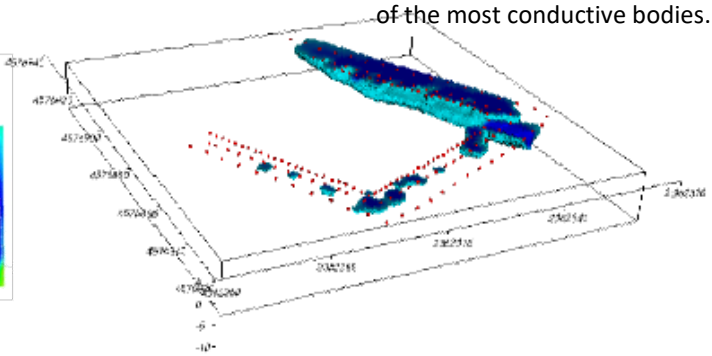
Experimental measuring point cloud



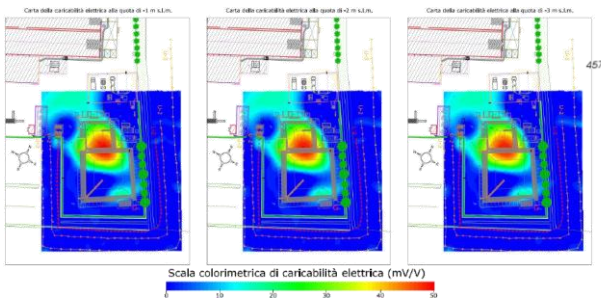
Electrical resistivity maps



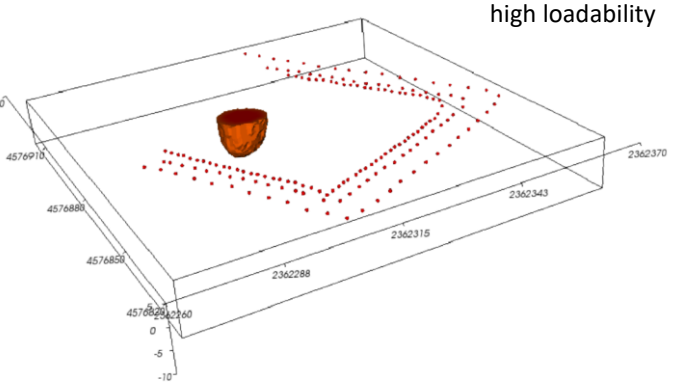
Planimetric and volumetric distribution of the most conductive bodies.



Electrical Chargeability Maps



Perspective view of the land volume high loadability



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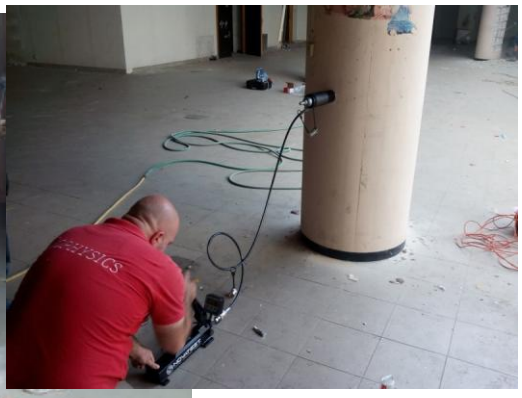
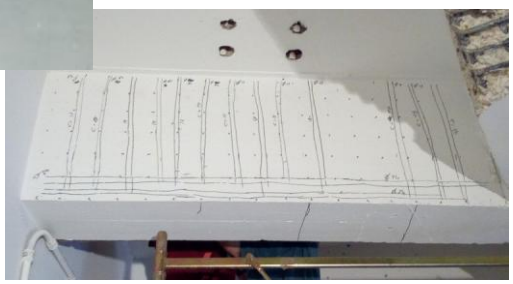
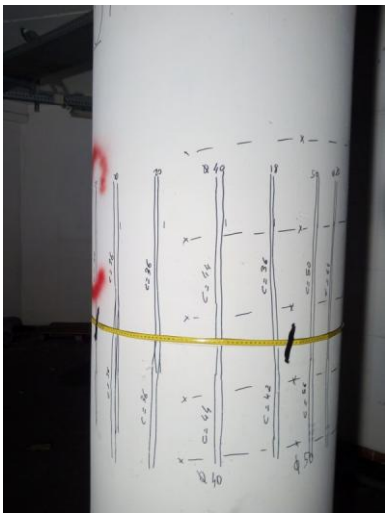
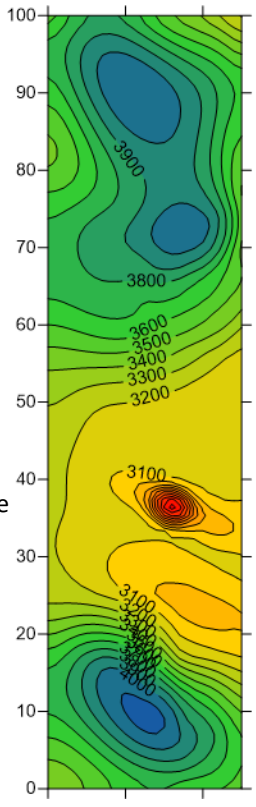
NDT – NON DESTRUCTIVE TESTING

ELECTROMAGNETIC surveys, SONREB measurements, PULL-OUT tests on reinforced concrete structural elements



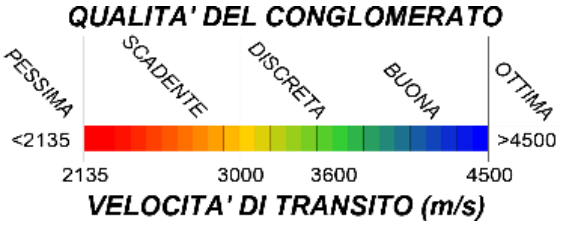






Ultrasonic Survey

Tomographic section of a concrete column



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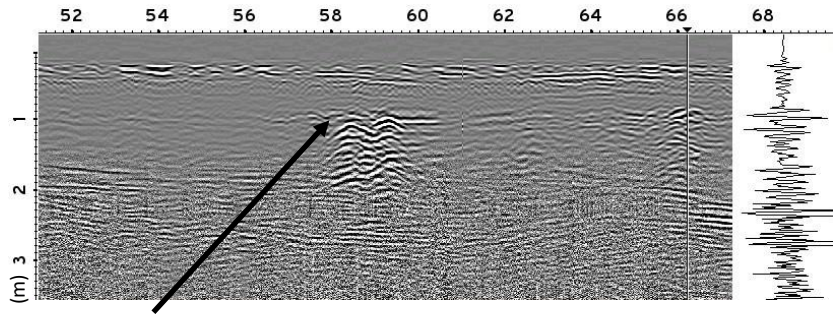
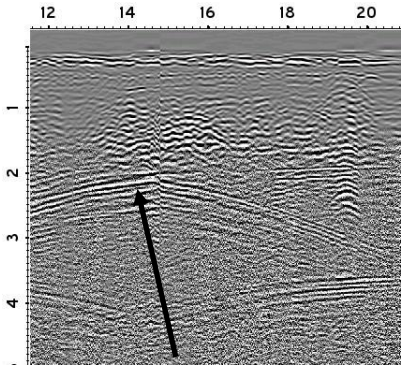
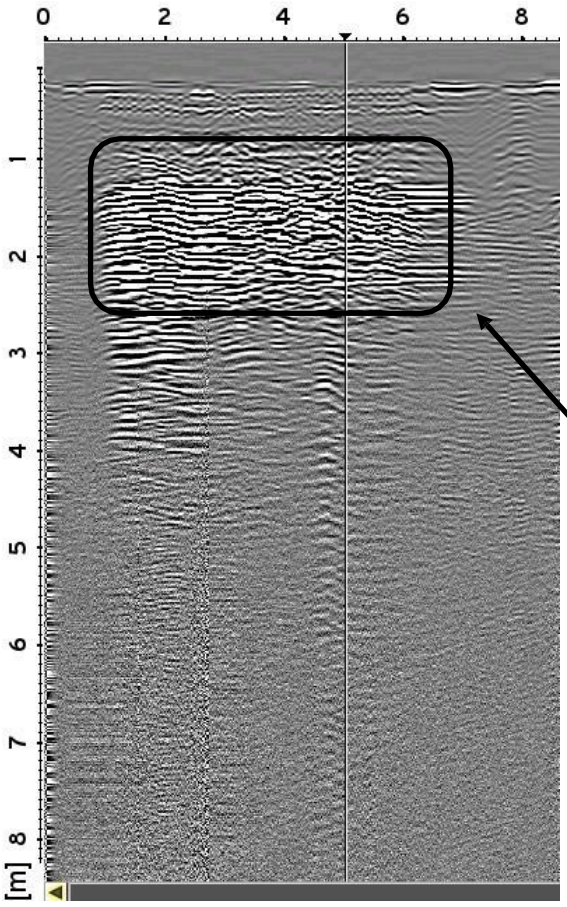
GEORADAR INVESTIGATION



Ricerca di sottoservizi



Buried cistern



Cavity search

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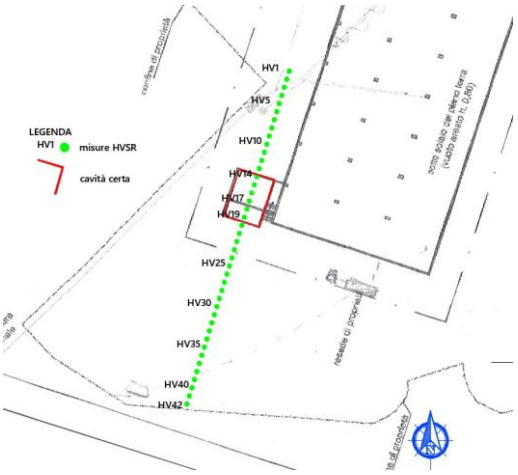
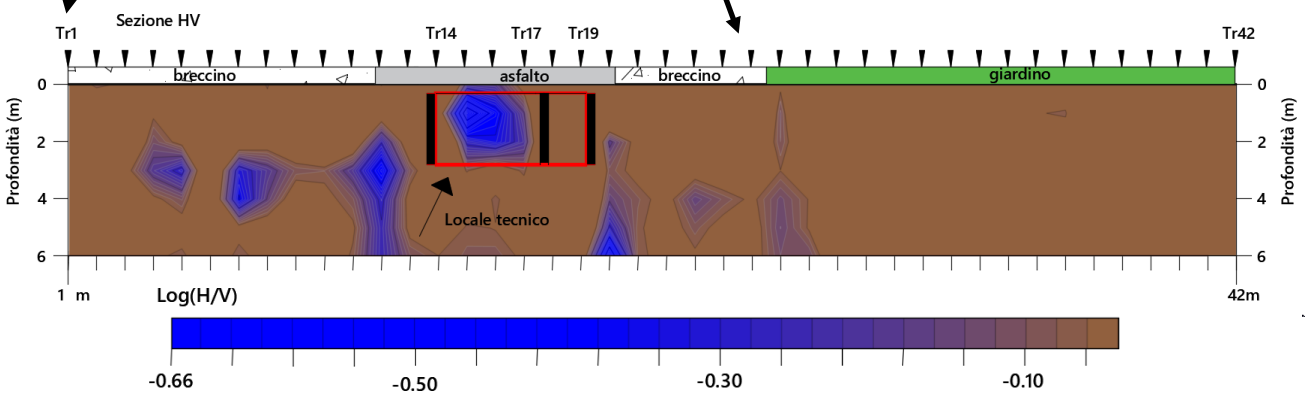
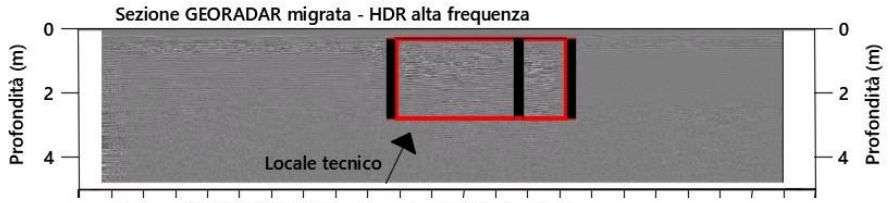
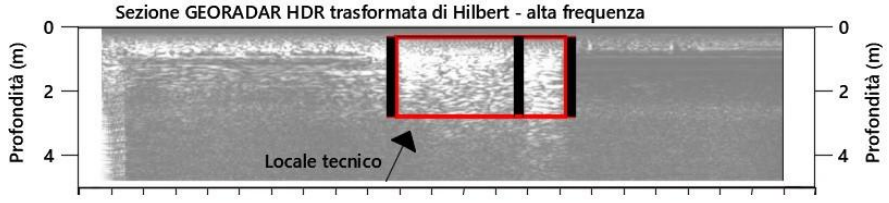
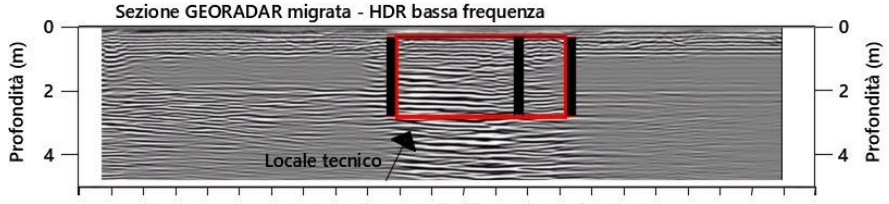
Cavity search with HVSR and GPR

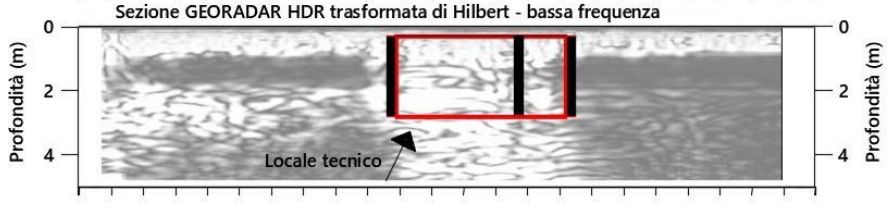












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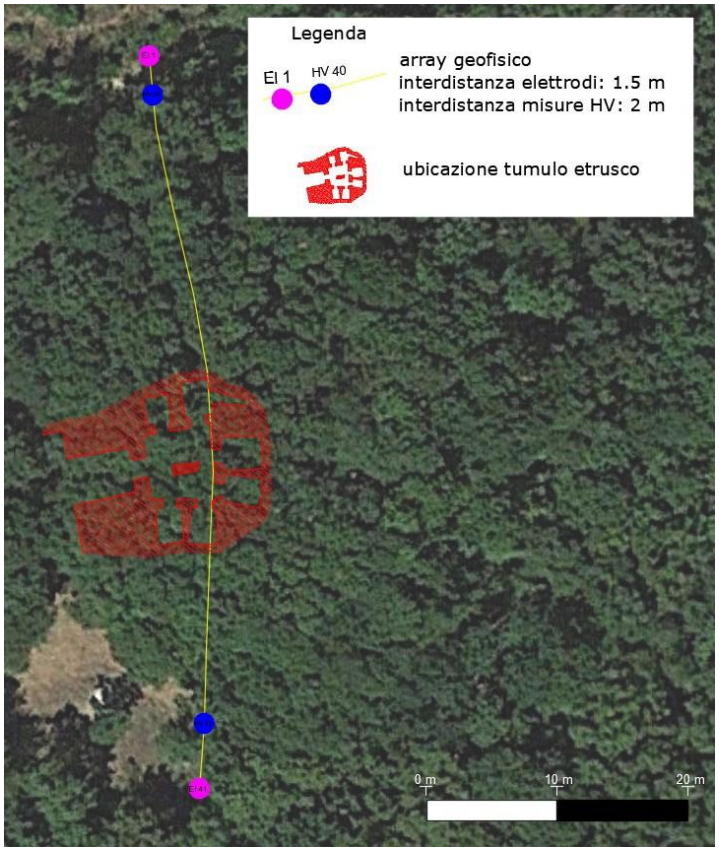
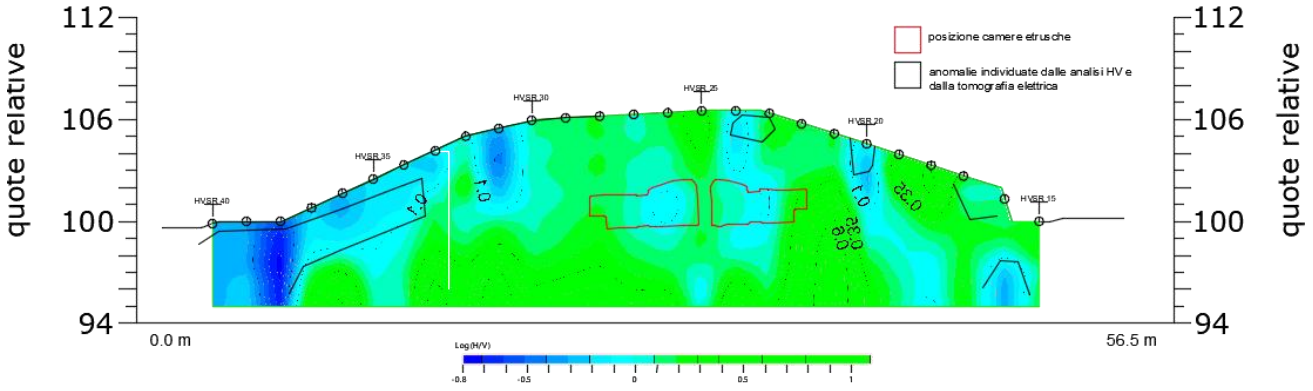
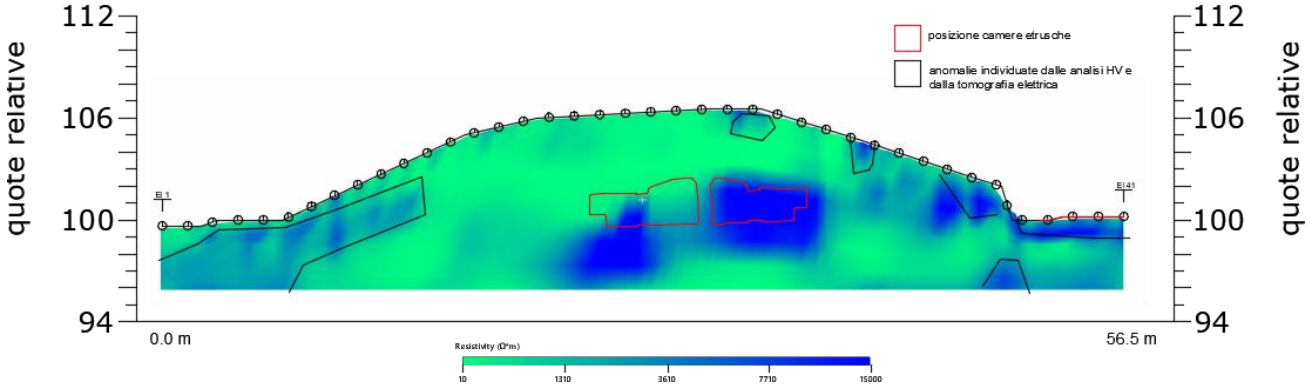
Search for cavities with the HVSR and GEOELECTRIC TOMOGRAPHIC method



Sezione HV



Sezione geoelettrica tomografica



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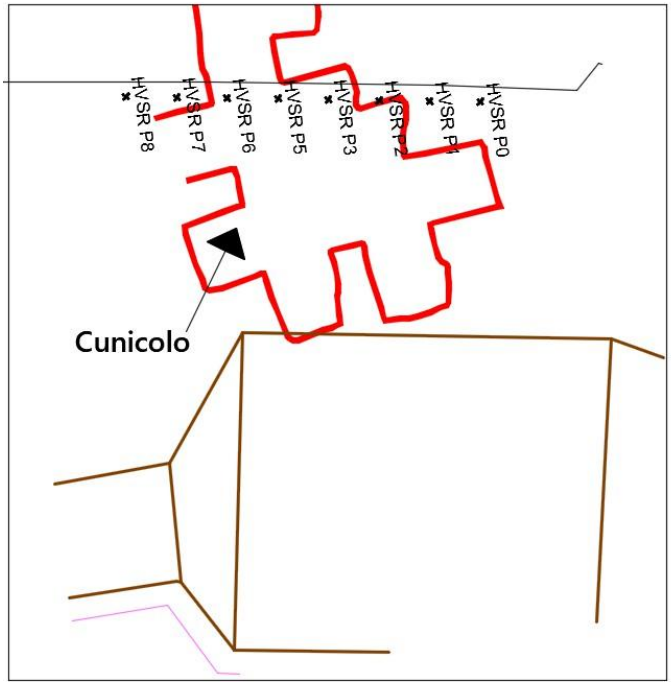
Cavity search with the HVSR method

Planimetria



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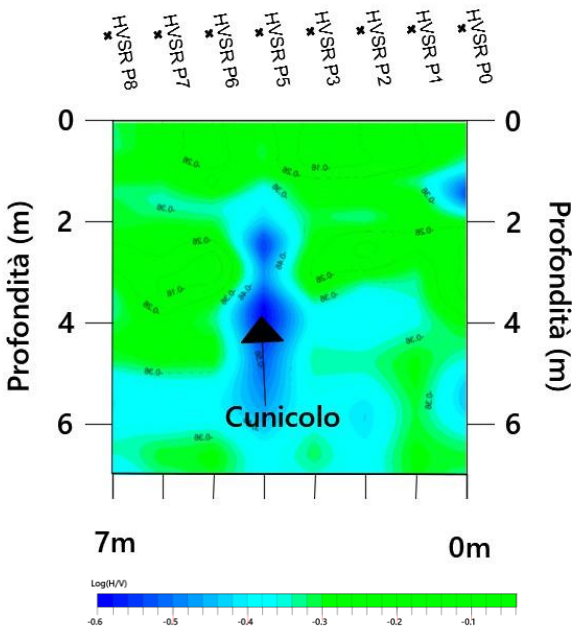

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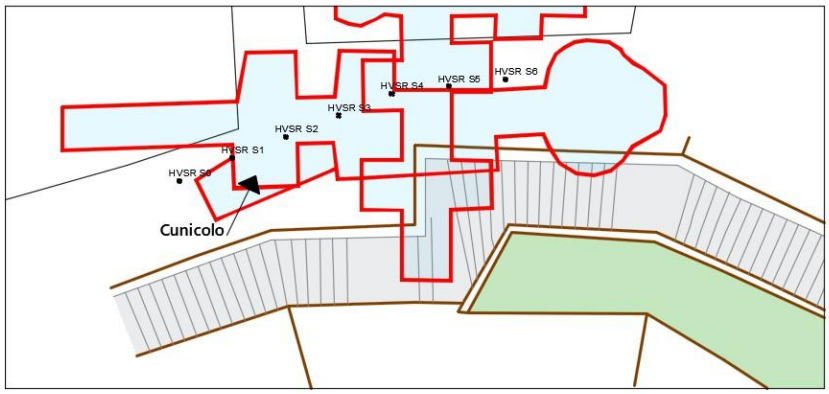
Cavity search with the HVSR method

Planimetria



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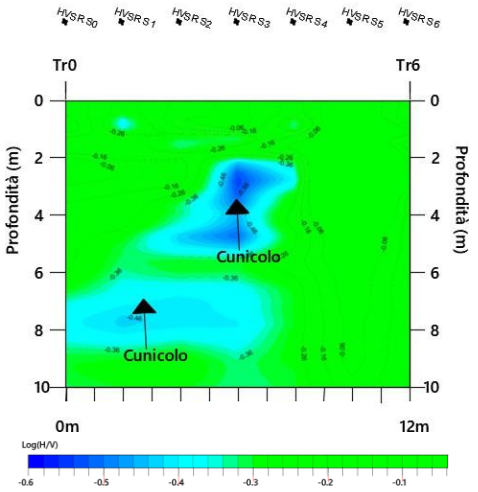

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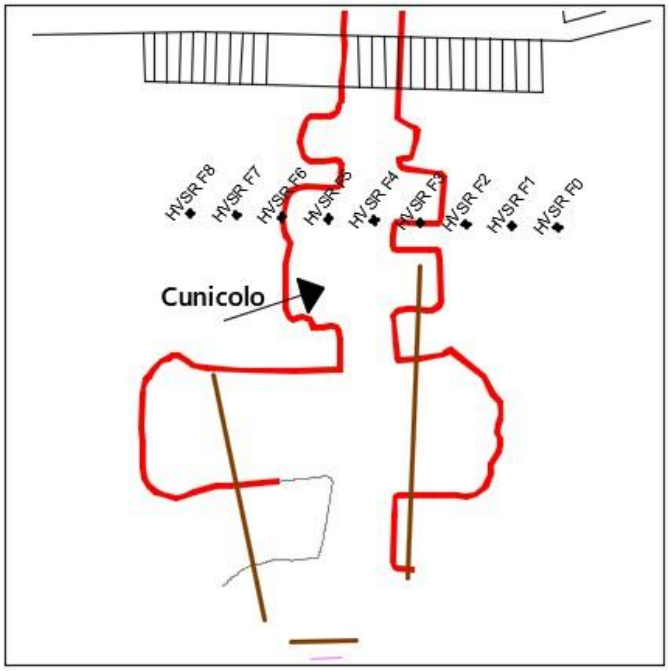

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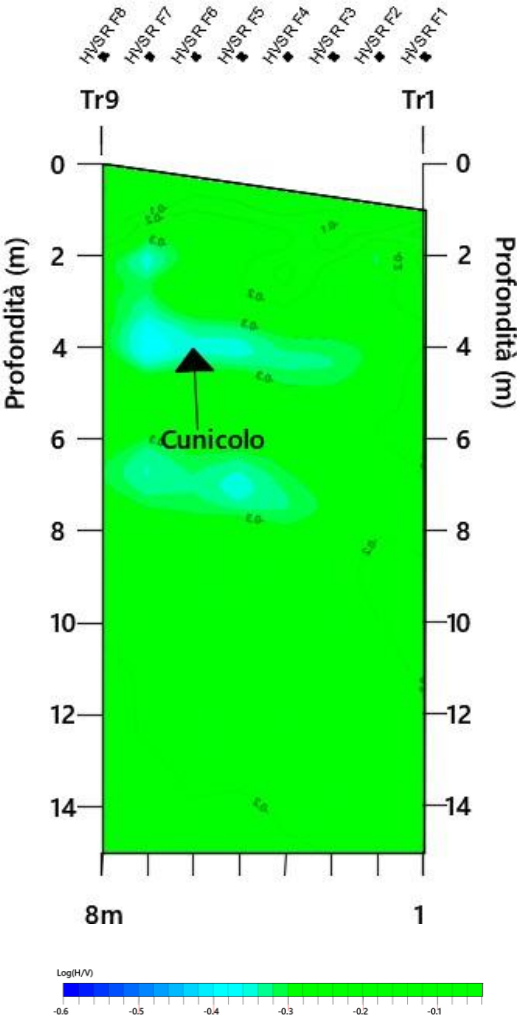

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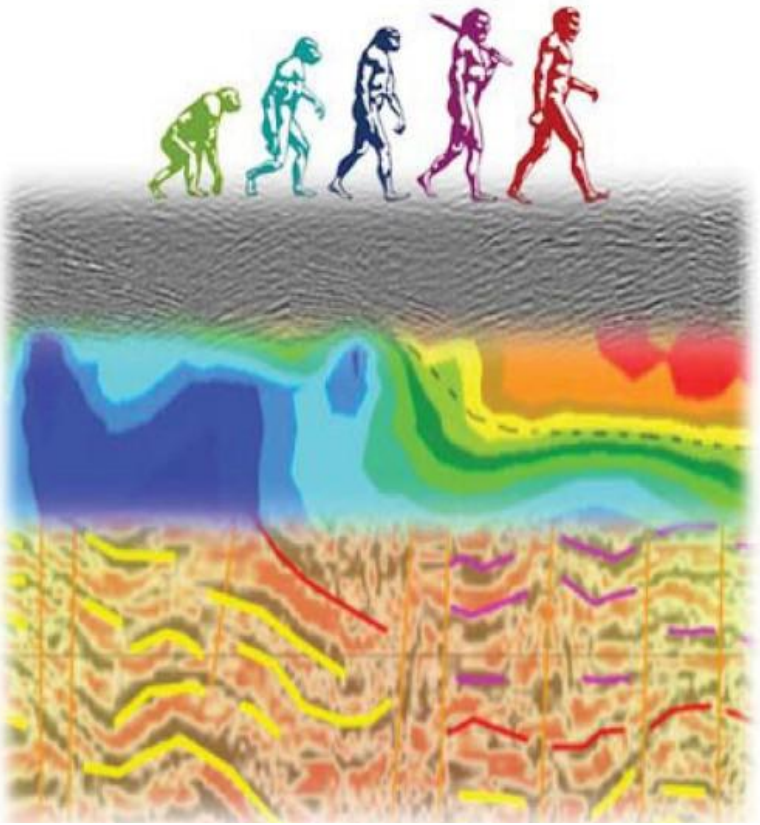
DISCOVERING THE DEEP



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ISO 9001

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