

LATEST EXPERIENCES OF IDROGEO SERVICE AND CNR FLORENCE IN THE FIELD OF GEOTHERMAL RESEARCH

COMPANY PROFILE

The company was established in 2001 out of the need to make available to customers a series of services in the fields of hydrogeology, geology, geotechnics, the earth's internal heat and geothermal energy, environmental geology and decontamination of polluted sites.

Behind the creation of IdroGeo Service Srl there are many years of professional and business experiences of the founding partners.

The activity of IdroGeo Service Srl is developed starting from specific consulting to support professionals who take care of the various administrative and technical procedures for private individuals, businesses and public authorities with the purpose of providing a complete and integrated service of the works or projects-forecasts that have an interaction with the soil, the subsurface and natural resources, up to reaching the design and complete development of complex works that interact with the environment.

The operational part of the work is carried out with the aid of the most appropriate methods of survey, analysis and study according to the problem to be solved through:

- Geognostic surveys;
- Geophysical surveys;
- Land laboratory tests;
- Water and soil laboratory tests;
- Topographic surveys;
- Environmental surveys;
- Photogrammetry;
- Hydrogeological surveys;
- Studies and surveys on the earth's internal heat and geothermal energy

The data from the above-mentioned surveys are assessed and validated by the Company's structure with the aid of professionals qualified in the single subjects.

Working in this way we can provide data, studies, specific advice and complete projects in the various operating sectors in which we are skilled.

The several fields of geology in which we operate to give a global service to private and public customers are:

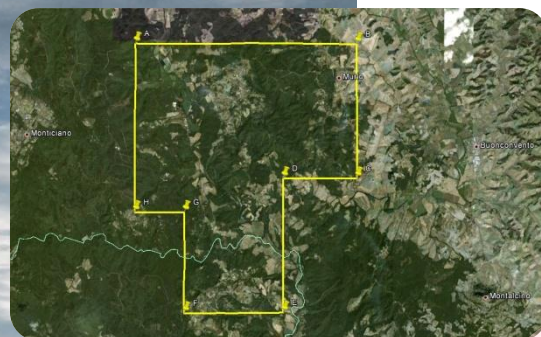
- Hydrogeological and geological valuations for works of superficial picking up (dams etc.)
- Hydrogeological studies and surveys at basin level
- Researches, studies and surveys of fractures
- Water budgets
- Researches, studies and surveys for thermalism
- Hydrogeochemical and isotopic analyses of water courses
- Photo interpretation of alluvial plains
- Researches, studies and surveys of porous aquifers
- Valuation of renewable sources of hydrogeological systems
- Acquisition and interpretation of data from geophysical methods (geoelectrics, seismic refraction and reflection, gravimetry, georadar)
- Surveys for picking up works in superficial and deep aquifers
- Assistance during perforations for drinking water and thermal works
- Log services in holes and cameras for boreholes
- Flow meter tests on superficial and deep boreholes
- Modellings and simulations of the groundwater table and of eventual contaminants with the following programs: Groundwater Vistas, Winflow, Wintran
- Extensive researches and studies on big areas to individuate new drinking waters
- Acquisition of authorizations and files to realize research and exploitation projects (boreholes and other picking up works)
- Acquisition of authorizations and files to realize research projects of drinking and thermal waters
- Geothermal studies and surveys for power generation
- Geognostic surveys for geotechnics (borings, penetrometries, lab analysis etc.)
- Consulting in geotechnic's problems
- Extensive studies on large areas for mitigation works of hydraulic risk
- Applied geology to the city planning
- Geological surveys for mining activities
- Surveys for environmental reclamations
- Valuation of environmental impact
- Surveys to recover and reclaim deteriorated areas
- Project of quarry and escavation activity

Organization and Staff

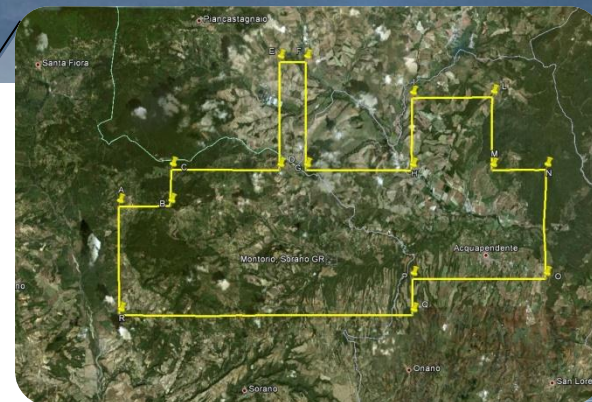
Mr. Simone Fiaschi (Senior Hydrogeologist) – Chairman
Mr. Alessandro Murratzu (Senior Hydrogeologist Groundwater modeler) - Vice Chairman

Ms. Elena Parri (Geologist) – Coordinator
Ms. Laila Taddei (Geologist and Geochemical) – Coordinator
Ms. Elena Pellegrini (Geologist)
Mr. Francesco Simi (Hydrogeologist)
Mr. Alessio Calvetti (Geologist, GIS supervisor and Groundwater modeler)

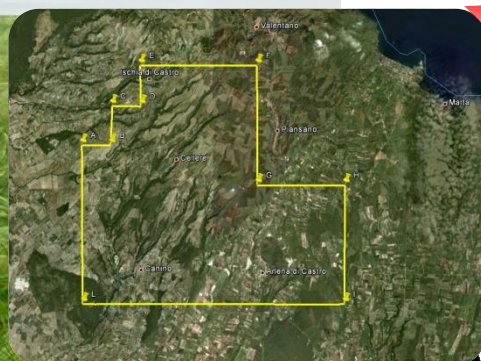
Ms. Valeria Useli Bacchitta – Administrative Office



MURLO

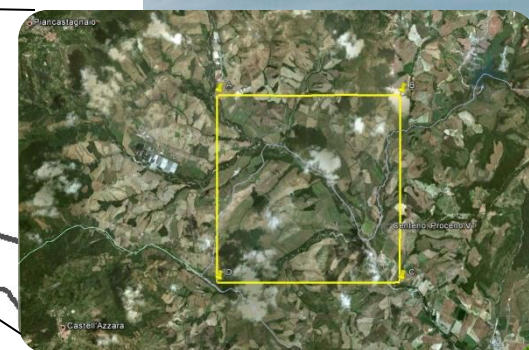


MONTORIO



CELLERE

CENTENO



MONTEVIRGINIO



PROGRAM OF WORKS (MURLO EXAMPLE)

Capture, setting and elaboration of existing geological, gravimetric, stratigraphic, geochemical and geothermal dates

Detailed hydrogeological and geochemical study of research authorization area.

Collecting of superficial water samples from available wells and spring for isotopic and geochemical analysis

Compilation of executive project with the list of necessary geophysical surveys and setting of paperworks for their carrying out (art. 15 D.P.R. 395/1991)

Carrying out of geophysical surveys (magnetotelluric, gravimetric and seismic surveys), rendition of dates and compilation of close report with prompt of most favorable location for explorative well

Compilation of executive project for the explorative drilling, setting of paperworks for its carrying out (plus V.I.A. and possible incidence evaluation) (art. 16 D.P.R. 395/1991)

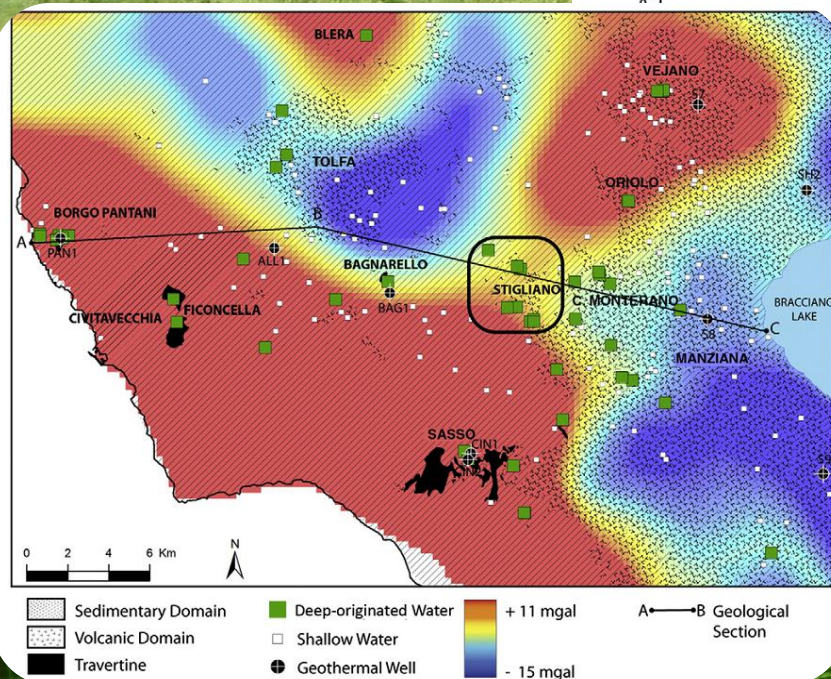
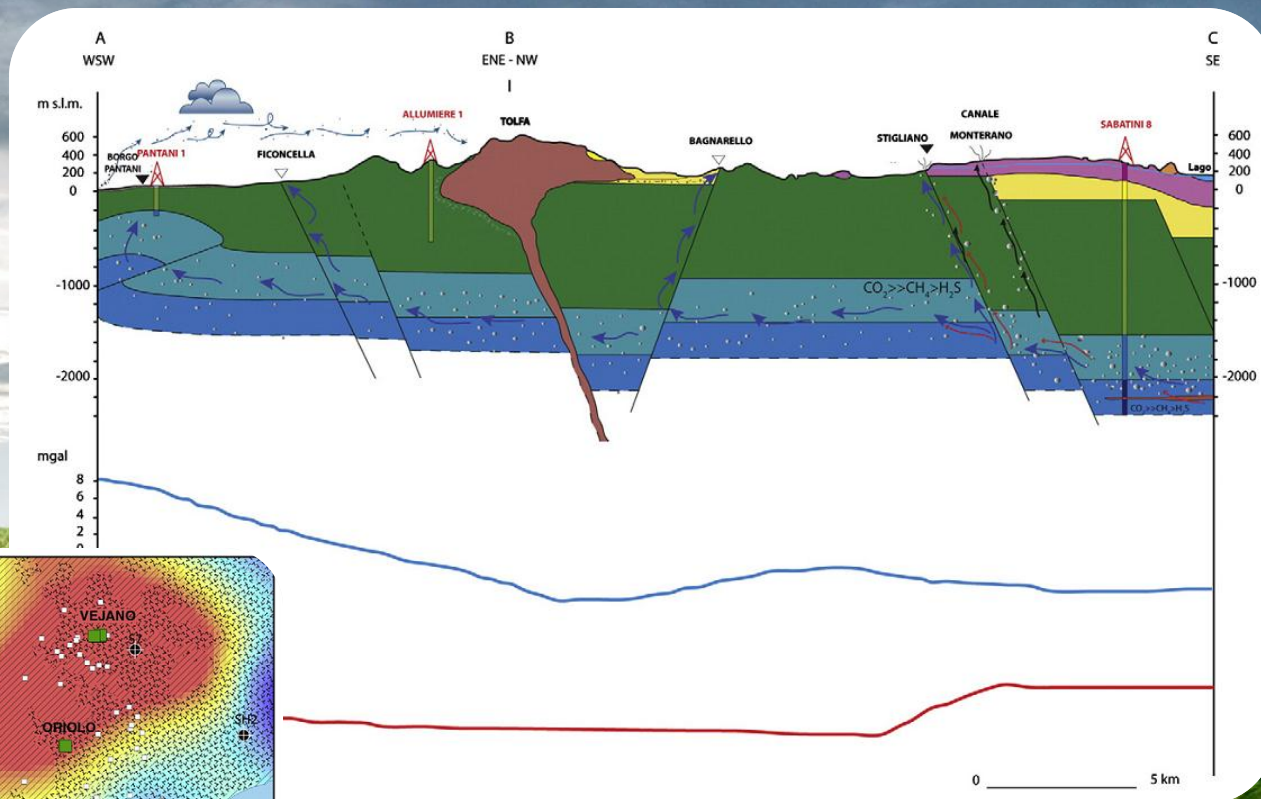
Make arrangements with holding owners

Carrying out of explorative drilling, running of geophysical logs and geothermal fluid analysis

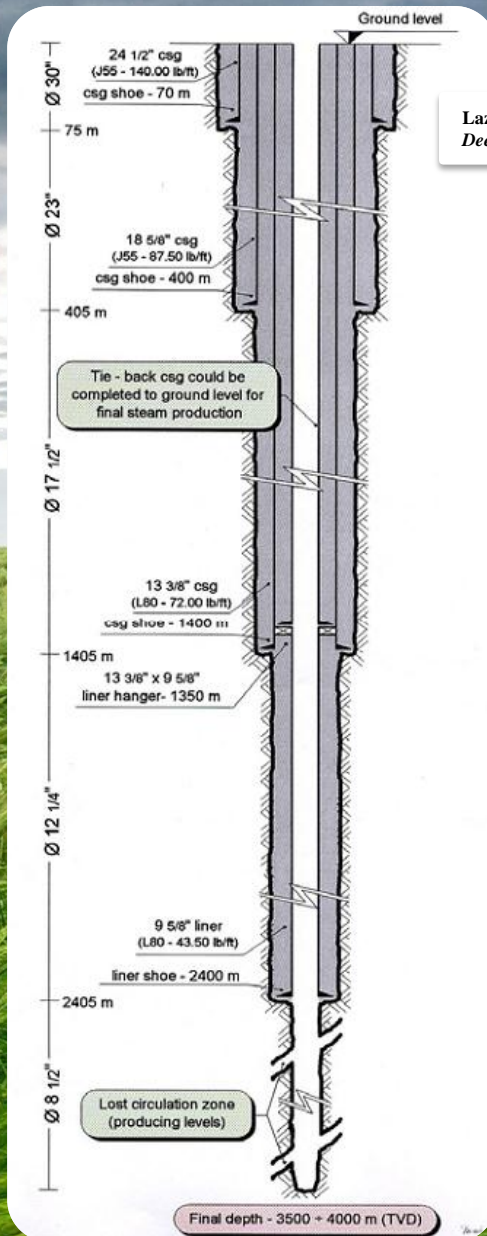
Compilation of close report (in addition of four-monthly reports)

GEOLOGICAL SECTIONS

Cinti D., Procesi M., Tassi F., Montegrossi G., Sciarra A., Vaselli O., Quattrocchi: *Fluid geochemistry and geothermometry in the western sector of the Sabatini Volcanic District and the Tolfa Mountains* (2011)

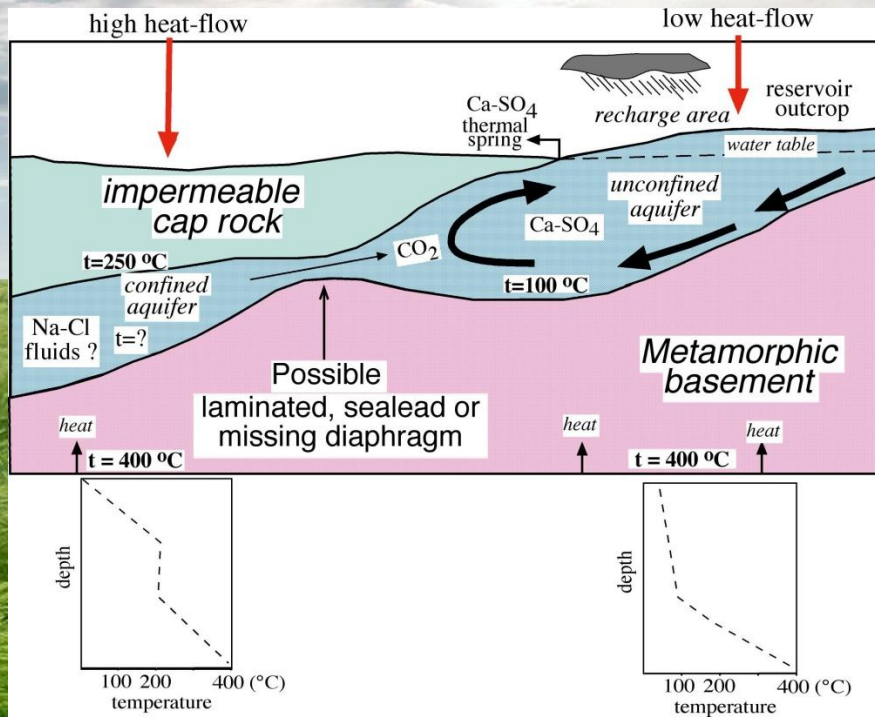


WELL PATTERN



Lazzarotto A.; Sabatelli F.: *Technological Developments in Deep Drilling in the Larderello Area* (2005)

CONCEPTUAL MODEL OF CIRCOLATING FLOW INTO CENTRAL ITALY MESOZOIC CARBONATE SEQUENCE



Minissale A., Duchi V. (1988)

STREAMLINED MODEL OF ORC BINARY CYCLE

