

ROCCASTRADA: GEOTHERMAL EARLY STAGE ASSETS

- ✓ **South-Western Tuscany, South of Larderello**
- ✓ **27,190 hectares**
- ✓ **Hot spring and hydrothermal fluids**
- ✓ **Recent magmatic events**
- ✓ **Overlies a large inferred heat source**
- ✓ **Potential reservoir expected within 3000 m depth**

The Roccastrada lease is located in the south-west part of Tuscany, in the district of Grosseto. It is made up of one exploration concession of 27,190 hectares. The area is centered 25 km north from Grosseto, the closest city (80.000 inhabitants), and 40 km south of Larderello geothermal town. Access to the area is by Pisa-Grosseto highway or Siena-Grosseto Regional roads, and others local roads.

Roccastrada exploration lease is characterized by the presence of high heat flow (> 150 MW/m²) and hot springs that are the expression of a hydrothermal circulation similar to that of Monte Amiata. Geological, geochemical and geophysical data (regional gravity and thermal gradient holes surveys) were collected in the mid 1970's. Chemical analysis of trace elements and isotopic values of the thermal waters indicate water rock interaction at high temperature, but at unknown depths. An exploratory well was drilled at 1000 m depth in the 1970's and temperatures up to 100 °C have been measured at the top of shallow reservoir which is outcropping in the surrounding area. No well measurements nor core samples are available.

In the 1980's and 1990's several geophysical surveys, mainly deep reflection seismic, have been executed across Roccastrada by Italian and European universities to image the earth's crust and in particular the crust-mantle transition.

Our exploration program is focused on the detection and assessment of high enthalpy densely fractured reservoirs at about 3000 m depth, within the metamorphic complex in correspondence extensional faults and/or surrounding magmatic intrusions.

The geothermal reservoir is expected to be liquid dominated at temperature ranging between 200° and 250°C. Geological geophysical and geochemical prospecting will be carried out to build the most reliable geological model of the geothermal system and to define the location and target of the exploration wells to be drilled in the following phase.

