



Country

France

Client

Commune de Les Salles

Date

2008-2009

Cost of works

€25,000 before tax

Sogreah's services

- ▶ Summary of geological and hydrogeological data
- ▶ Selection of borehole drilling sites
- ▶ Geophysical prospecting
- ▶ Supervision of drilling works and pumping tests

Background

The village of Les Salles is located in the granitic Forez massif, and has a population of 430.

Its drinking water supplies come from 15 springs scattered throughout its territory. These springs have a low flow rate and arise in superficial granite sand.

In view of the vulnerability of these resources and their low flow rate, the village council wished to instigate a study to investigate new water resources in order to achieve a flow rate of 5 m³/h.

The borehole drilling sites had to make allowance for the stringent topographical constraints of the

region and take into account the presence of the mains water supply network with its springs, pipes and reservoirs.

Content of the services

Phase 1: geological, hydrogeological and structural analysis.

This led to the preselection of 15 suitable borehole drilling sites and choice of three sites to be investigated in greater detail.

Phase 2: EM 34 electromagnetic geophysical prospecting campaign, i.e. 2000 m of lines on nine profiles. The data were used to locate three sites to be drilled.

Phase 3: down-the-hole hammer drilling of three boreholes

between 49 m and 94 m deep, two of which were equipped as production wells and tested through pumping at different flow rate stages.

Phase 4: long pumping tests

 lasting eight days per borehole and complete water analyses.

The study led to the drilling of two boreholes fitted with PVC casings, providing Les Salles with a flow rate of approx. 8 m³/h.