

F France

- F 1 Veaux near Malaucene
- F 2 Murs
- F 3 Gordes, valley of Largue
- F 4 Valley of Largue
- F 5 Mourre de la Cabane
- F 6 Vigne du Cade
- F 7 Cennes-Monesties
- F 8 Mur-de-Barrez, Bellevue
- F 9 Commercy

- F 10 La Petite-Garenne
- F 11 Les Martins
- F 12 Grand Pressigny
- F 13 Lumbres
- F 14 Champignolles
- F 15 Auchy-la-Montagne
- F 16 Fourquerolles
- F 17 Frocourt
- F 18 Jamericourt

(Desfossés, Masson and Vallin 1990). Many polished flint axes, without context, have been discovered by fieldwalking in the area but the flint is always atypical, spread all over the country without significant characteristics.

The red deer antlers will be submitted to radiocarbon dating.

We must remember that only two probable flint “mines” were previously known in the Nord — Pas-de-Calais area: Lumbres (Middle Neolithic II), where flint-pits (dug in chalk) were excavated forty years ago (Prévost 1962) and Etaples — les Sablins (Middle Neolithic I), where a shaft in a gravel-terrace has been explained as a flint-extraction structure (Piningre, Bostyn and Couppé 1991). Both sites were however probably settlements. Fampoux seems to be only a working-area.

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F 52 SERBONNES “LE REVERS DE BROSSARD”, YONNE DISTRICT

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The site at Serbonnes lies on the western edge of the Sénonais area about 80 km south-east of Paris, between Montereau (Seine-et-Marne) and Sens (Yonne), on the right bank of the Yonne valley (Fig. 1). This mine was discovered and excavated in the course of rescue work carried out before the construction of the A5 motorway.

The site extends on both sides of a small dry valley, orientated NE-SW, leading down to the alluvial plain of the Yonne less than 2 km away.

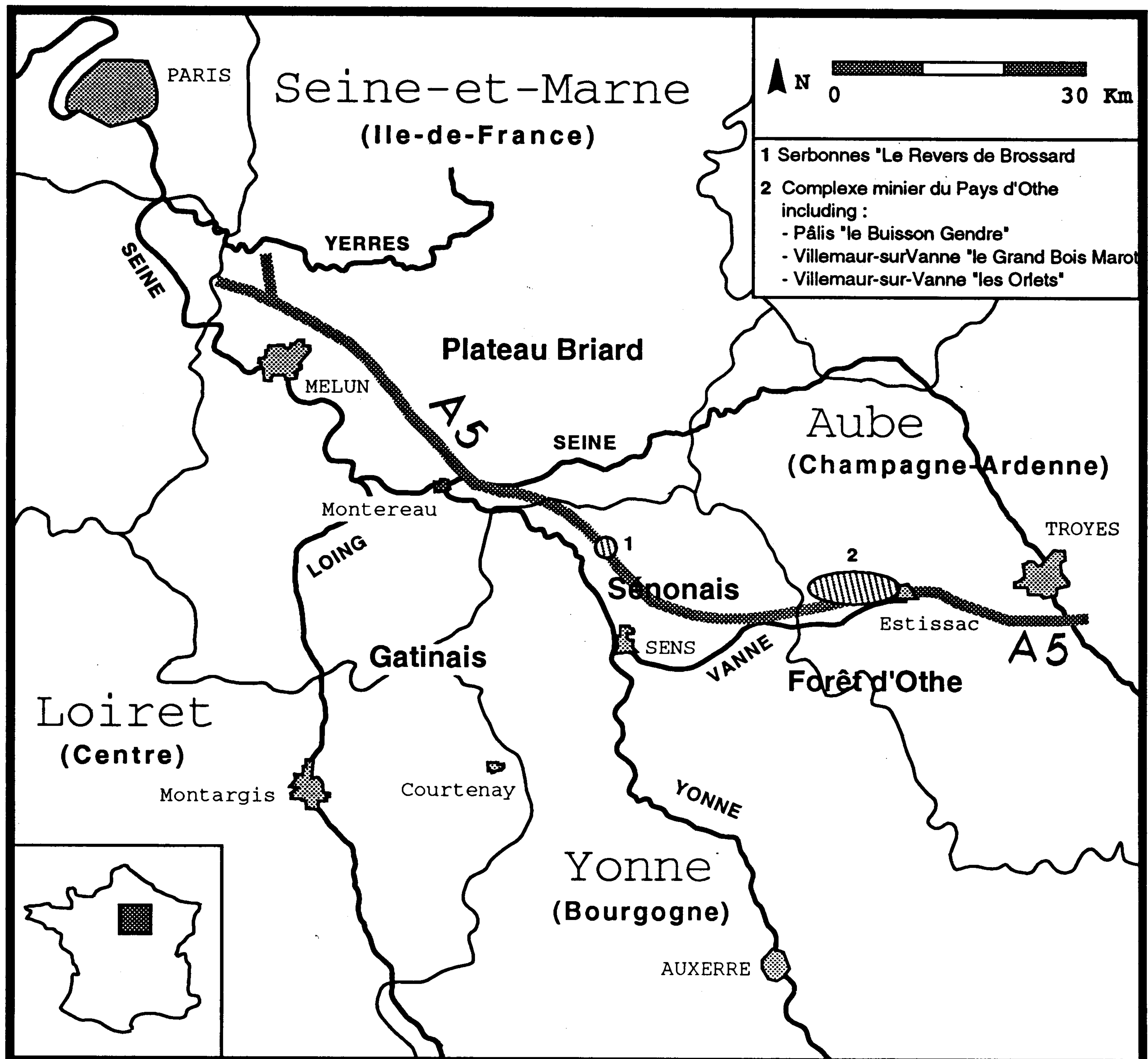


Fig. 1. Map showing the A5 motorway. (After Hascoët, Labriffe and Mendoza 1993).

Despite permanent activity of many aerial prospectors over this area, this flint mine remained unknown for a long time. At the beginning of the century, the numerous prospectors in the region never mentioned anything corresponding to flint-mining remains (chipping floors, roughouts, *etc.*). However, Hure (1921) mentions a small site believed to be from the final Neolithic (3rd millennium BC) and probably situated a few hundred metres away from the mining site. Prospection undertaken before the excavations resulted in the collection of about 60 flint pieces. Soon afterwards, a flight over the site revealed circular spots as well as a larger oval one. We first became aware of the existence of the extraction site after the discovery of shafts during the first mechanical trenching.

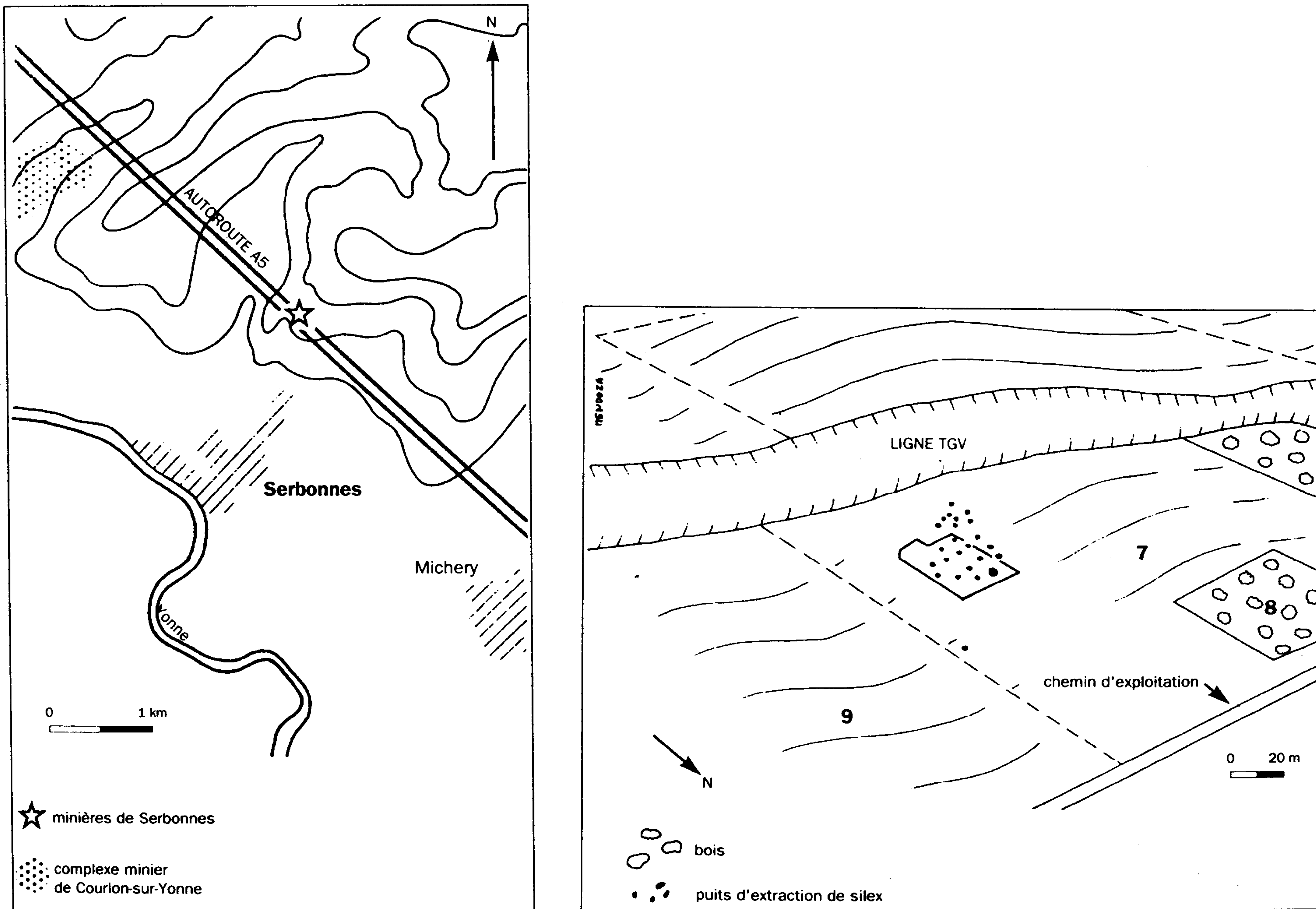


Fig. 2. F 52 Serbonnes “le Revers de Brossard”. Location of the mine and plan of the shafts seen on the aerial photographs (After Hascoët, Labriffe and Mendoza 1993).

On the southern edge of the Senonais, the Campanian layers are the only ones to outcrop, but they are sometimes capped by a few residues from the Tertiary. Chalk does not outcrop on the site as it is covered by chalky silts that get thinner while spreading aside from the valley-bottom. Traces of flint extraction are concentrated on the flanks of the valley. At Serbonnes, the raw material is to be found in layers from the early Campanian (C4-6h). Three flint-seams were exploited in the western part of the valley-bottom. They consist of relatively small-sized flint nodules (30–80 cm²).

The flint mine was excavated by a five-person team working for four months under the direction of M. Mendoza. Topsoil scraping trenches were dug on both hillsides as far as shafts were found. A 2.5 ha area was thus prospected, corresponding to the soil removal over 3,900 m². Some extraction structures were manually excavated, then a long trench was dug perpendicularly to the slope (100 m long, 5 m wide and 3.5 m deep). The general profile of the mine as well as the filling of the structures were drawn. In addition, more than 30 stratigraphic sequences of shaft fillings were drawn, while 26 profiles of the sides were drawn. About sixty shafts were documented. Some shafts were partially excavated by hand.

We think we have identified at least three boundaries of the site (the northern, eastern and western). The southern boundary could not be reached because of technical problems (the proximity of a railway did not allow work with digging machines). The mine covers 8,000 m² at least.

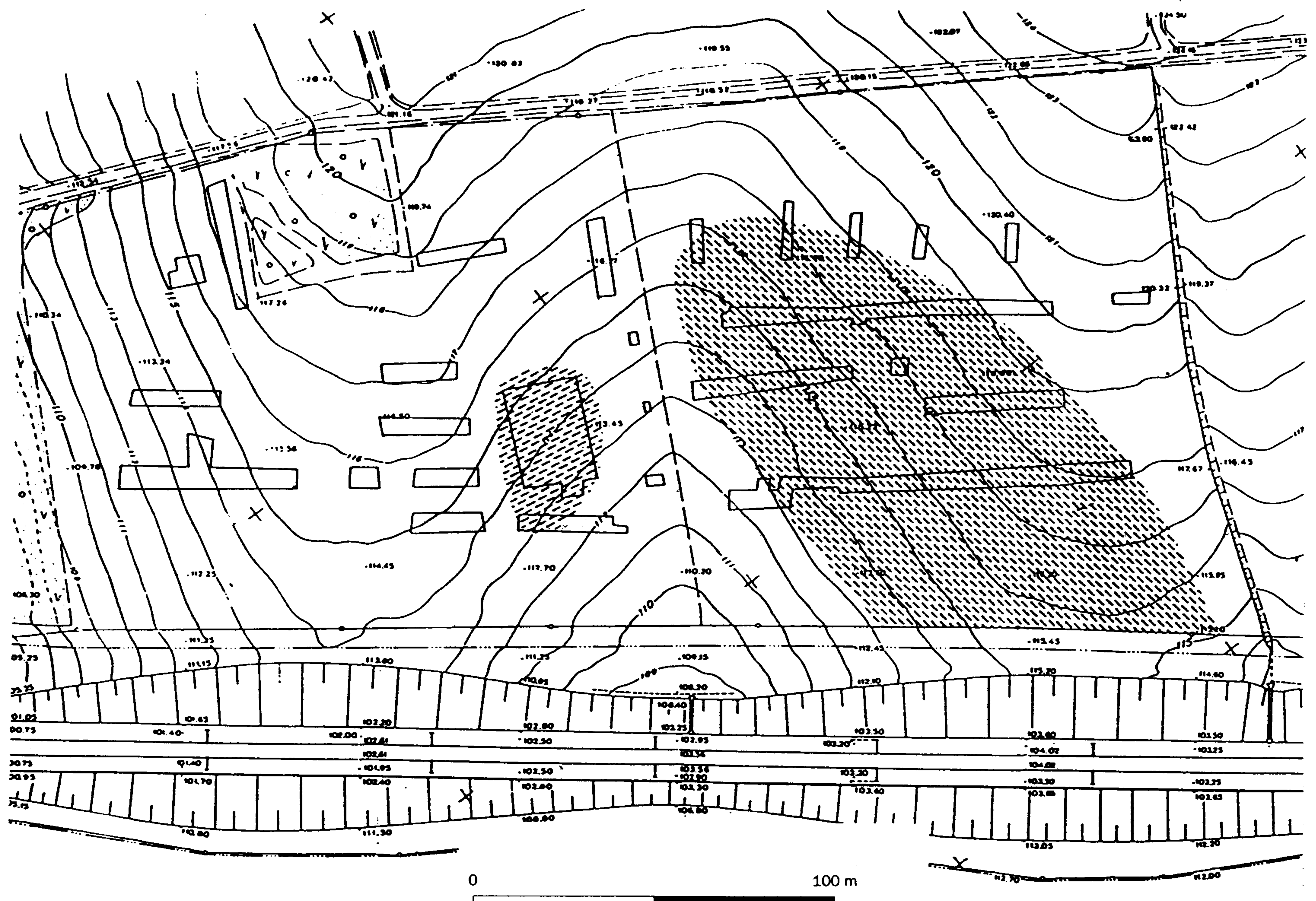


Fig. 3. F 52 Serbonnes "le Revers de Brossard". General plan of the site, showing the location of the trenches and the supposed limits of the mine (After Hascoët, Labriffe and Mendoza 1993).

Two distinct areas were located on both sides of the valley-bottom. The western sector was not exploited intensively by the Neolithic miners. All the shafts, 24 structures altogether, can be seen on the aerial photographs.

On the opposite hillside, where aerial prospection had not produced any evidence, trenching revealed more than 100 shafts. Although we did not manage to scrape the topsoil from the whole area, we may suppose that there were about 300 shafts sunk in this sector.

The mining took place in shafts with a depth varying between 1 to 3.5 m. M. Mendoza and J. Hascoët, responsible for the excavation and the study of the site, identified 4 types of shafts: 1. "bell-shaped"; 2. with funnel-shaped entrance and radiating exploitation; 3. with galleries; 4. with two or three levels of exploitation.

Only a limited quantity of artefacts produced in reduction processes were found: 20 axe rough-outs were collected in the filling of the shafts and 17 were found on the surface, in the humus. There is no preserved workshop in Serbonnes. Nevertheless, 300 flakes (still to be studied) coming from a small dump were collected in the upper part of a shaft.

The rest of the implements, although poor in quantity, is relatively varied and consists of hammers (8), flake-cores (16), and a dozen tools (scrapers, *racloir* and 2 pointed arrow-heads).

No structure was found which could be connected with any kind of household activity. However, it has to be pointed out that a small number of bovid bones were found in some shafts. Settlement areas are probably to be sought a hundred metres away in the alluvial area.

The site yielded a limited quantity of finds made of red-deer antlers. They consist of 81 artefacts, including 46 tools, 18 manufacturing process products, and 17 splinters. These artefacts were distributed among 25 shafts (3 pieces per shaft on average), 39 picks were used to dig the shafts. Moreover, completing the inventory of flint-mining tools we found a small perforated sledge-hammer, a piece with scars of head-on compression that evokes a ram, another one shows a rubbed area and might have been used to gather rubble.

Other tools refer to the flint-shaping process: a hammer first used as a pick, then converted; a retoucher that might have been used as a carving support; a square-shaped lever used to free flint-nodules.

The limited quantity of antler implements probably relates to the variability of the character of natural rock. The chalk, sometimes plain, sometimes pelitic or bedded, allows the use of tools made of other materials. In this way, some stone implements also belong among the range of extracting tools (Mendoza and Hascot 1992).

The analysis of the functional scars shows that antlers might have been used to work in plain chalk. Two methods were identified:

- digging the shaft from a working face;
- cutting away the chalky mass in order to disengage nodules.

In Serbonnes, a distinctive feature of the picks is that 35 of them are made of complete antler segments: the lower part including the beam, the burr and the brow antler. The size of the antler seems to be the criterium for selection with preference for bigger sizes. The high percentage of reduction process products (28%) induces the on-spot manufacturing of a significant amount of tools. Manufacturing techniques (particularly cutting the antlers) were laborious.

Currently there are no available radiocarbon dates. However, the few fragments of pottery as well as the antler tools could date this mine to the middle Neolithic — *groupe de Noyen* (according to the French chronology).

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F 53 PÂLIS „LE BUISSON GENDRE”, AUBE DISTRICT

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The site lies within the Senonais area, in a small region of chalky hills called the Pays d'Othe, 30 km west of Troyes (Aube), *ca.* 40 km east of Sens (Yonne) and 2 km to the north of the Vanne river (see catalogue entry F 52, fig. 1). It is located at the beginning of the Cosdon basin, on a steep hillside orientated to the north/west. Like the two mines in Villemaur-sur-Vanne, this site belongs to Pays d'Othe mining complex.

This mine was found during the reconnaissance phase of the A5 motorway project between Sens and Troyes. Aerial photographs taken by A. Heurteaux and R. Goguey showed, about 200 m from the motorway route, circular and square enclosures belonging to a protohistorical necropolis. The same photographs showed numerous circular spots, suggesting that there was also a mine here. Fieldwalking along the motorway route had only resulted in collecting a limited quantity of flaked artefacts, among which were a pick and some flakes. In addition, all these objects bore scars of plough strokes. The site was discovered nearly accidentally after a mechanical trial trenching campaign. Indeed, as three funerary enclosures were situated to the east on the motorway route and a Gallo-Roman settlement to the west, trial trenching between these two sites revealed a Medieval graveyard and the flint mine at a place where no evidence could have augured the discovery of such sites (Fig. 1).

As it is orientated to the north-west, the hillside has suffered from erosion, so that none of the superficial formations has been preserved. Thus, one immediately reaches the Coniacian chalk deposits lying under a thin layer of humus (*ca.* 30 cm). Seven flint-seams were exploited there.