

A gunflint production centre at Masnuy-Saint-Jean (Jurbise, prov. Hainaut, Belgium)

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Abstract

One of the huge workshop complexes for gunflint manufacture in the Mons basin was established by the French 'caillouteur' Annet Bigaud, during the 1820s, at Masnuy-Saint-Jean. The quality of the flint there made this place one of the largest quarries currently known in the environs of Mons.

In 2013, the opportunity was taken to rediscover those workshops, which are located in privately-owned land. Evidence of quarrying and knapping was observed. As Jacques Breuer wrote (1955), the quarry features are now a pond, but heaps of cores and of débitage remain. These are several metres wide and high, and contain hundreds of thousands of typical blade remnants and cores. It is obvious that blanks were prepared there, while the gunflints themselves were finished elsewhere, customarily at home.

Keywords: Mons basin, Turonian flint, gunflints, 19th century industrial manufacture.

Résumé

L'un des plus importants témoignages de la production de pierres à fusil dans le bassin montois remonte aux années 1820. Il s'agit des ateliers établis par un « caillouteur » français Annet Bigaud à Masnuy-Saint-Jean. La qualité de la matière première en fait la zone d'extraction et de production la plus importante actuellement connue dans la région de Mons.

En 2013, l'opportunité de redécouvrir ces vestiges, situés dans une propriété privée, mit en évidence l'étendue des vestiges d'extraction et de taille. Comme l'écrivait Jacques Breuer (1955), les structures d'extraction ont été transformées en étang. Par contre les rejets de taille, nucléus et produits de débitage subsistent sous la forme de tas imposants de plusieurs mètres de hauteur. Ces rejets attestent le débitage des supports laminaires sur place, alors que les pierres à fusil étaient produites ailleurs, selon les pratiques en usage.

Mots-clés : bassin de Mons, silex turonien, pierres à fusil, manufacture industrielle du 19^{ème} siècle.

1. INTRODUCTION

The complex of workshops is located 5 km NNW of the city of Mons, close to the southern border of the district of Jurbise, province of Hainaut (Fig. 1). This, one of the huge gunflint production centres in Belgium, was established by the French 'caillouteur' Annet Bigaud, during the 1820s, at Masnuy-Saint-Jean. The country of Belgium was at that time part of the kingdom of the Netherlands.

2. HISTORY OF EXPLOITATION

Virtually no information exists about A. Bigaud. He presented himself as a French officer of the artillery or as an extractor of flint, depending on to whom he spoke or wrote.

In 1819 A. Bigaud described himself to the authorities in the Netherlands as 'quarryman' from a quarry belonging to the Count of Glymes, and proposed to prove that the quality of the flint

than between 1833 and 1845. It seems that the exploitation at Masnuy-Saint-Jean ceased in 1833.

The rediscovery of these workshops can be dated to the early 1950s when Jacques Breuer, curator at the Royal Belgian Museum of Art and History (Brussels), was in contact with Jean Servais, the owner of the site at that time. For J. Breuer it was the opportunity to undertake a study of these forgotten workshops and to write a detailed paper about them. Most of the information presented here comes from this work (BREUER, 1955).

In 2013, the opportunity was taken to rediscover those workshops once more. They are located on privately-owned land. The present owner gave us authorisation to investigate the site. The various features seem not to have changed since they were described by J. Breuer.

3. LANDSCAPE EVIDENCE

As the workshop complex is located on private land, and in order to respect the wishes of the present owner, its exact location is not given here. As it is also considered to be part

of the region's industrial past, well preserved and virtually untouched, it would be worth considering its inclusion on the Cultural Heritage list of the Walloon Region, thereby protecting it for the future.

In the wooded private park, numerous heaps of flakes and debitage are still clearly visible. The estimated surface area of the production site is about one hectare, based on the LIDAR image of the area (Fig. 2). The heaps are several metres wide and high, containing hundreds of thousands of typical waste products: cortical blades or flakes, irregular blades, proximal parts of blanks, exhausted cores. Depressions situated between those heaps could be considered as shallow extraction pits (Fig. 3), although the vegetation cover of all the area makes this hypothesis hard to corroborate. Indeed, if these had been shallow quarry pits, this would be contradict Breuer's suggestion that only the lowest flint seams were good enough to be exploited. An alternative proposal could be that these were the knapping places for blank production.

According to J. Breuer (1955), the present-day pond near the house corresponds to

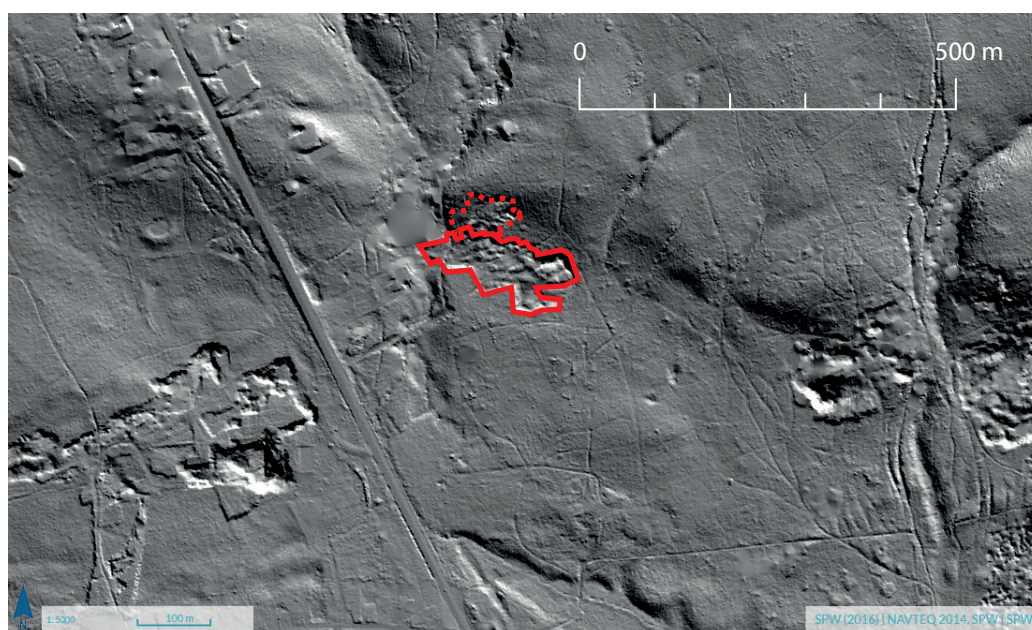


Fig. 2 – Exploited area with the 'Pingenbauten' relief (red limits) clearly visible in the LIDAR view, and matching our field observations. LIDAR © Navteq 2014 SPW (<http://geoportail.wallonie.be/WalOnMap/>).



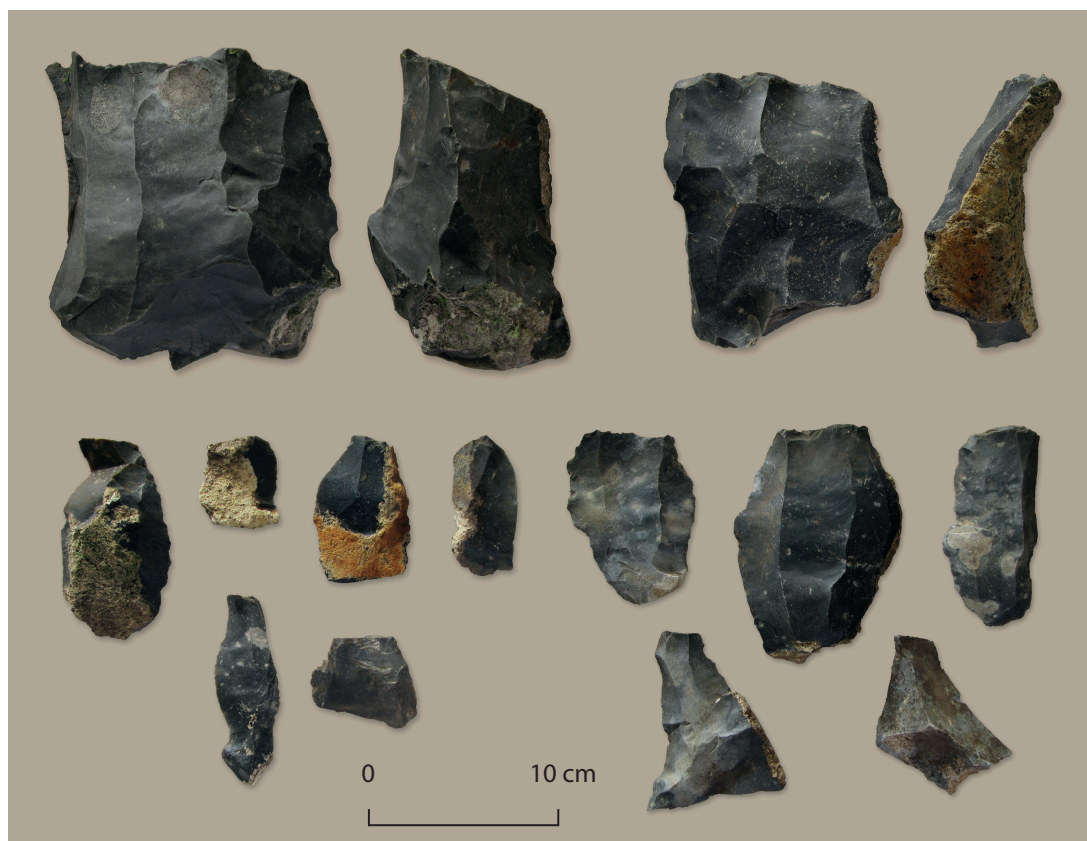
Fig. 3 – Typical 'Pingenbauten' landscape at Masnuy-Saint-Jean, December 2013. Picture: A. Hauzeur.

a quarry. Nobody has checked this idea, however. On the opposite side of the main road from Nimy to Ath a street called '*rue des Carrières*' (Quarries street) could refer to flint quarries for gunflint production and also for earthenware production – as is the case at Ciply and Spiennes at the end of the 19th century.

4. COLLECTED MATERIAL

Some samples were collected *in situ* with the agreement of the present owner. They confirm the descriptions made by J. Breuer (1955) and by L. Letocart (1957). Evidence of gunflint preparation lies everywhere in the area near the pond: short blade cores, flakes and short blades. But neither sized blade segments nor finished products have been found during our first examination.

The collected cores are characterised by a single flat striking platform. All, or virtually all have cortical spots at the back (Fig. 4). Overhangs are prominent, and hinges are systematically visible, indicating core exhaustion. The collected



geological age	Cretaceous (Turonian)		
color acc. to Munsell	N3 Dark Gray - N2 Grayish Black - N6 Medium Light Gray		
material type	spiculitic flint		
natural surface	subprimary - residual		
averaged inclusion abundance according to Stevenson (2012): 1 very scarce (1-5%); 2 infrequent (5-10%); 3 frequent (10-50%); 4 abundant (>50%)			
fossil inclusions	microscleres (sponge spicules)	monaxons	4
		triaxons, tetraxons	1
	peloids		1
	marine detritus (POM)		3
	opaque organic phases		2
	calcspheres		1
	intraclasts		3
non-fossil inclusions	Fe-oxides		1
	Fe-sulfides		1
	chalcedony (cleft filling mineral)		2

Fig. 5 – Visual and stereomicroscopic characterisation of raw material from Masnuy-Saint-Jean.

blades and flakes are irregular and not standardised (Fig. 4). Cortical or not, they all belong to the preparation phases. The last removed scars indicate that blade blanks could be around 15 cm long and up to 5 cm width. Sometimes the impact of an iron hammer head is visible on the plain platform remnant with a very prominent bulb.

Blanks were obviously prepared here, while the gunflints themselves were finished elsewhere. At the northern border of the ownership a street is labelled '*rue des Pierres à Fusil*' (Gunflints street). It obviously refers to the finished products, which may have been made at that place in (one of) the workers' cottages in the hamlet. According to custom, the French '*caillouteurs*' ('stone workers') normally brought the nodules home to prepare them, and knapped the blade blanks and

transformed them into gunflints there (EMY, 1978, p. 79-80). But sometimes they produced the first stages of debitage in the vicinity of the quarry before bringing the blanks back home.

As the factory was established by a French worker with other workers coming from the Berry region, the French tradition of making gunflints was followed. But until now none of the typical finished products has been discovered. Maybe an excavation will provide more information.

5. RAW MATERIAL AND MICROSCOPIC ANALYSES

For raw material characterisation, macroscopic (visual) and microscopic investigations were conducted on freshly cut specimens (see results in Fig. 5). Typically, the material from Masnuy-Saint-Jean appears darker than that from Nouvelles and Spiennes, between blackish grey to greyish black with characteristic whitish dots. This fits with

Fig. 4 – (opposite page) Characteristic cores and waste of gunflint blank production collected at Masnuy-Saint-Jean. Picture: A. Hauzeur.

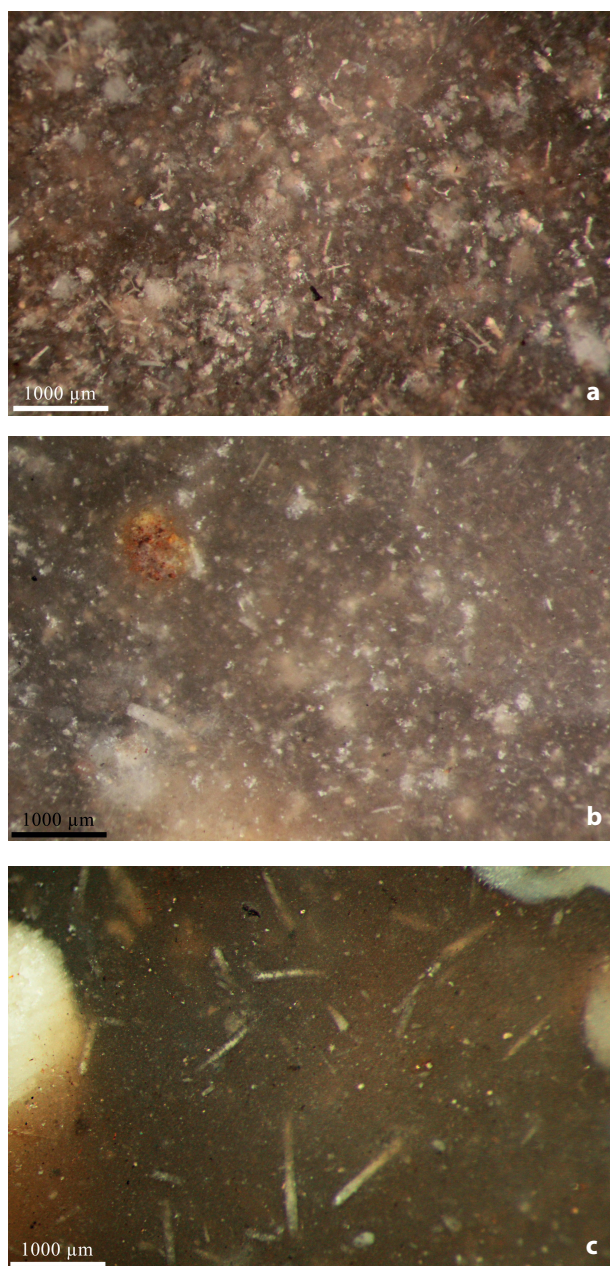


Fig. 6 – a. Masnuy-Saint-Jean archaeological sample, produced on a freshly cut rock surface (unpolished) at 40x magnification and under water immersion (M. Brandl);
 b. Spiennes geological sample (MOREAU *et al.*, 2016);
 c. Nouvelles geological sample (M. Brandl).

Breuer's description. According to him, the raw material was extracted from the lower seams, the only ones suitable for gunflint knapping.

Microscopically, the dominant features of samples from Masnuy-Saint-Jean are abundant microscleres from marine demospongiae, predominantly monaxons (Fig. 6: a). Additionally, particulate organic matter (POM), intraclasts responsible for the white dots macroscopically visible in the flint matrix, and chalcedony present as a cleft-filling mineral are characteristic for this kind of flint.

Visually and microscopically, the material from Masnuy-Saint-Jean shows no similarities with flints from the Spiennes and the Nouvelles formations, even though all of them are of marine origin. Comparative geological samples (Fig. 6: b, c) illustrate that sponge spicules are also present in both the Spiennes and Nouvelles material (Campanian), but not in the same amounts as in the Masnuy-Saint-Jean archaeological sample (STEVENSON, 2012). Given the current state of research and with all due caution, the Masnuy-Saint-Jean sample can most likely be assigned to alterite layers of Turonian origin according to the geological map.

It is planned to test this preliminary assignment through geochemical analyses using LA-ICP-MS and to compare it with previously analysed geological samples, accompanied by new field sampling campaigns.

6. CONCLUSION

The quality of the flint made this place one of the biggest gunflint production centres in the Mons area. The gunflints were mostly exported and sold to the Netherlands, then to the new Kingdom of Belgium. Nevertheless this production was of short duration, lasting only two to three decades, and employed few workers.

Acknowledgments

We especially thank Mrs Françoise Servais, daughter of Jean Servais, who welcomed us the first time on the site.

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