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Early Neolithic Settlement Brunn am Gebirge, Wolfholz, in Lower Austria
Volume 2

Early Neolithic Settlement Brunn am Gebirge, Wolfholz, Site 3 in Lower Austria and the Milanovce Phase of the Linear Pottery Culture (LPC)

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by

Peter Stadler and Nadezhda Kotova

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Foreword by Volume Editor

We had our first contact with Brunn am Gebirge, site 3 in 1989. In this month, a public motorway project was started, which had been planned for decades. The Viennese 'Außenring Autobahn A21'(also 'Alland Autobahn') is a motorway in eastern Austria and part of Europastraße 60. It connects the 'West-Autobahn A1' at traffic junction Steinhäusl with the 'Süd-Autobahn A2' at the junction of Vösendorf, where it joins into the 'Wiener Außenring Schnellstraße S1'. The former 'Brunner Feldstraße', also called 'S12', was redirected so that the bypass around the Theresienau farm, a part of the Brenner-Felsach estate, could enable a considerably wider roadway than the former one, which led over the farm. During the realisation of this building project, I first took note of the excavation work that started with a caterpillar in the northern area of Brunn am Gebirge, Wolfholz at the beginning of September 1989.

At first, I found the remains of Brunn site 1, some weeks later the findings from site 3 and further on in the road construction process, a few hundred metres to the south, site 2. The main part of site 3 was excavated very carefully only much later in 1999. The construction of a gas station enabled us to document a planned excavation. In total, twelve houses or parts of houses could be investigated in 1989 and 1999. A large part of Brunn am Gebirge, site 3, according to magnetic investigations, is still preserved, waiting for further explorations. The magnetic prospection showed us about 150 houses including all houses already excavated. Considering all areas, which could not yet be studied, it would be possible that the number of longhouses exceeds 200 or maybe even 250.

The chronological frame for Brunn is fixed with the sequence 2, 3, 4, (5), 1 and 6, with an absolute chronology from 5650 to 5050 calBC. Site 3 gave us the best-preserved longhouses from all areas of Brunn Wolfholz. Because its surface is completely flat, erosion did not destroy as much as on other sites at Brunn. Site 3 belongs to the Milanovce phase of the Linear Pottery culture (LPC).

From 2007 onward, Nadezhda Kotova assisted me with the evaluation of ceramics, which had been accumulated from 1989 – 2005 during numerous excavation campaigns. I owe her many thanks in regard to us finally also finishing this second volume now for the Brunn 3 site. We also thank all other mentioned sponsors named in our acknowledgements for their indispensable help.

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Chapter 1. Magnetic Prospection 2013 & 2019 at Brunn am Gebirge, Wolfholz

Peter Stadler, Alexander Minnich, Ralf Totschnig

During the years 1993 – 1995, several parts of a large and still undeveloped area of Brunn am Gebirge were surveyed using geomagnetics.[1] After the excavations of 1989 to 2005, further magnetic surveys took place in 2013 and 2019. These were documented by Ralf Totschnig in two reports from 2013 and 2019.[2]

To give an overview of these activities, we will discuss the following figures in detail.

The magnetic investigation in 2013 was ordered by the Federal Monuments Authority and thus these measurements were interpreted without the knowledge that previously excavated materials from 1999 were placed on top of the fields as shown in Figure 1.1. This was initiated by Walter Gabmeyer from the Brenner Felsach estate management, going against our recommendations for future prospections. We can only estimate that 20 to 50 cm of excavated materials were deposited above the surface.

In Figure 1.2 the complete magnetic prospection is shown with interpretation. The number of newly found interpreted long houses in this area (see red number 1) is three to four, but there could be many more that are not visible under the overlay of deposited humus. On the southern edge of site 3 there is a row of houses consisting of the two houses 34 (west) and 35 (east)[3]. Unfortunately, house 35 could only be partially excavated; the eastern half of the house is currently still under a fill that forms the southern boundary of a gas station. This is also the reason why the findings in this area cannot be seen on the geophysical prospection map. Findings that lie at an average of about 65 metres east of house 35 show that this row of houses extends into this area.

These consist of three postholes and two larger pits, which could only be partially excavated.

These findings are oriented in a similar way to the findings of houses 34 and 35, so that there is a reason to suspect that this is an additional house in this row of houses. The whole magnetic measurement is disturbed by large bomb craters from World War II, and small iron remains are equally distributed over the whole field. Targeted geophysical measurements in this area must be used to determine whether there are other houses in the southern part of the prospected area. Since the findings in the northern adjoining area move from west to east, it is very likely that additional house rows can also be found here, since the house rows of sites 2a and 2b extend into the vicinity of the B12 federal road. This is also confirmed by the discovery of an LPC pit at the southeast end of the dirt road that separates the two measurement areas.

Figure 1.3 shows the measured field together with a field in the north, that was investigated earlier. There is only a recent drainage system that is apparent in the map.

In Figure 1.4 we can see the magnetogram (left) compared to the interpretation (right) which shows earlier measurements alongside the newer prospection from 2013.

The left side of Figure 1.5 gives a detailed magnetogram, showing both the earlier longhouses and those found in 2013, as well as the longhouses from site 3. The right side of Figure 1.5 shows the interpretation.

The left side of Figure 1.6 gives a detailed magnetogram showing both the earlier longhouses and those found in 2013, as well as the longhouses from site 3. The right side of Figure 1.5 shows the interpretation and the longhouses from the 1999 excavation of site 3. The long houses from the magnetic investigation before 1999 almost perfectly match the houses from the excavation.

1 See Stadler 2019Ch05; Neubauer 1993; Neubauer 1994, Neubauer 1995.
2 Totschnig 2013; Totschnig 2018.
3 Minnich 2021, in preparation.

In total, four rows of houses are likely to extend west of the already excavated site 3 into the area south of the dirt road. The southernmost row of houses with the fully excavated house 34 and the neighbouring house 35 to the east, which was only partially excavated, has already been described above. This row could have contained up to five houses.

To the north we find house 37, which along with house 45 was only partially excavated[4]. The distance between the two houses is 95 metres. Of house 45, only two posts and the eastern material pit were excavated. Due to the orientation of the longitudinal pit, an orientation similar to that of house 37 can be assumed but must be confirmed by further investigations. This row of houses may also have extended into the area of the dirt road, as similarly oriented findings east of house 45 show. This row of houses could have contained up to five houses.

To the north there is another row with up to seven houses, two of which have already been excavated. These are houses 38 (west) and 39 (east) of site 3. Although the findings east of the two houses are disrupted by bomb craters and the dirt road, up to five houses can be interpreted in this area. These houses have the preliminary house numbers 63, 62, 47, 48 and 49 (from west to east). The northernmost row of houses may also contain up to seven houses, of which only one (house 42) was excavated. This house is the northernmost house of site 3. Although bomb craters disrupt the area directly next to site 3, the house results can be clearly seen on the magnetogram (Figure 1.5). The houses in this row have the preliminary numbers 61, 50, 51, 52, 55 and 53 (from west to east). The two houses 61 and 53 lie slightly to the north and could have formed an independent row of houses. It must be assumed that there are up to 18 other houses east of site 3.

In Figure 1.7, the triangulation points for the magnetic prospection of 2013 are shown.

Figure 1.8 is the aerial photo from the magnetic prospection of 2013.

In Figure 1.9 we can see the magnetic prospection of the whole field plot number 1314/1. In the southwest you can see the two northern house rows, which have already been described above. The northern row of houses consists of houses 50, 51, 52, 55 and 53 (from west to east). From the southern row of houses, only the two houses 48 and 49 (from west to east) can be seen, while the other houses are located under the dirt road and extend southwest into the area of site 3. Here we can see bomb craters (big circles in blue) from World War 2, the drainage system in the south, about 40 longhouses, with the longest being about 45 m, shown in light green. In the northeast lies an area where excavated material was deposited which disturbs the magnetic investigation, shown here in dark green. It is apparent that longhouses partially disappear below the deposit. The interpretation of longhouses is provisional. In the north there are many overlapping longhouses, which require additional investigation.

Figure 1.10 shows the complete magnetogram from measurements in 1997, 1999, 2013 and 2018. The longest longhouse is visible.

Figure 1.11 shows the complete interpretation from measurements in 1997, 1999, 2013 and 2018. The longest longhouse is visible.

In Figure 1.12, the interpretation shows only the longhouses and their outlines.

In Figure 1.13 we can see a detailed version of the magnetogram with the longest longhouse. The longitudinal pits accompanying the house are clearly visible, especially on the west side of the house, where the pits seem to be mostly continuous. In the area of the middle section there are strongly magnetic pits on both sides of the house. These could be ovens that are built into the pits which can be clearly seen due to the large amount of burnt clay. An excavation in this area should determine whether these really are ovens, although ovens in the longitudinal pits are not uncommon, as the results of the excavation have already shown[5]. Due to the size of the house, this is most likely a 'Großbau' type house.

Figure 1.14 shows the archaeological interpretation of the longest longhouse (about 45 m in length) and its surroundings.

4 Minnich 2021, in preparation.

5 Minnich 2019Ch10.

Figure 1.15 shows an overlay of the magnetics and the archaeological interpretation of the longest longhouse and its surroundings.

In Figure 1.16, the northern group of houses with overlaps are presented. It is a pity that in the southern part of the figure a bomb crater disturbs the picture.

Figure 1.17 is the archaeological interpretation of Figure 1.16. In addition to a large number of houses with a northeast–southwest orientation, there are also houses with a north–south orientation and a northwest-southeast orientation. It is questionable whether there are houses with northwest–southeast orientations in this area of the settlement, since the houses with such orientations were previously only documented in sites 2a and 2b. However, these two sites are located more than 500 metres southwest, so it is questionable whether houses with north-west orientations can also be found in this area. If so, these houses would belong to the oldest phase of the LPC. There seems to be a massive development in this area, which is rather rare for LPC settlements. Since several settlement findings of the Baden culture were documented in the neighbouring site 1, these could also be LPC findings as well as findings of the Baden culture, which cover the older findings. However, this can only be clarified by an archaeological excavation in this area.

In Figure 1.18 we can see the houses that extend under the deposit from 1999 in a magnetogram.

Figure 1.19 is the archaeological interpretation of Figure 1.18, with the overlapping deposit marked in dark green. On this map you can see how the interpreted house findings disappear under the embankment. It must be assumed that there may be additional house findings north of the fill. A first clue could be an LPC stone axe, which was found west of the landfill during a prospection[6].

In Figure 1.20, the triangulation map of plot number 1314/1 is shown.

In Figure 1.21, the triangulation map of plot number 1314/1 is shown.

We will now try to estimate the total number of houses, including those which were destroyed, excavated, or detected with magnetics.

There are 125 – 135 houses constructed from about 5650 to 5050 BC. Figure 1.22 shows the number of houses as a work in progress. The houses that are not visible under the overlay of deposited humus in the northern field are not included in that number. Also, on site 5 there might be additional as of yet undiscovered houses. If we take all those into account, there might be up to 150 houses, thus making Brunn am Gebirge Wolfholz by far the largest settlement of the LPC beginning in the Formative phase.

6 Minnich, in this volume, chapter 14.

Figure 1.1: Partially complete result of the archaeological-geophysical survey at Brunn am Gebirge from the 2013 and 2018 campaign. The red rectangles show excavation materials from site 03, that in 1999, were deposited on top of the fields in at least 2 places, one in the north, another in the south (© Ralf Totschnig, ZAMG).

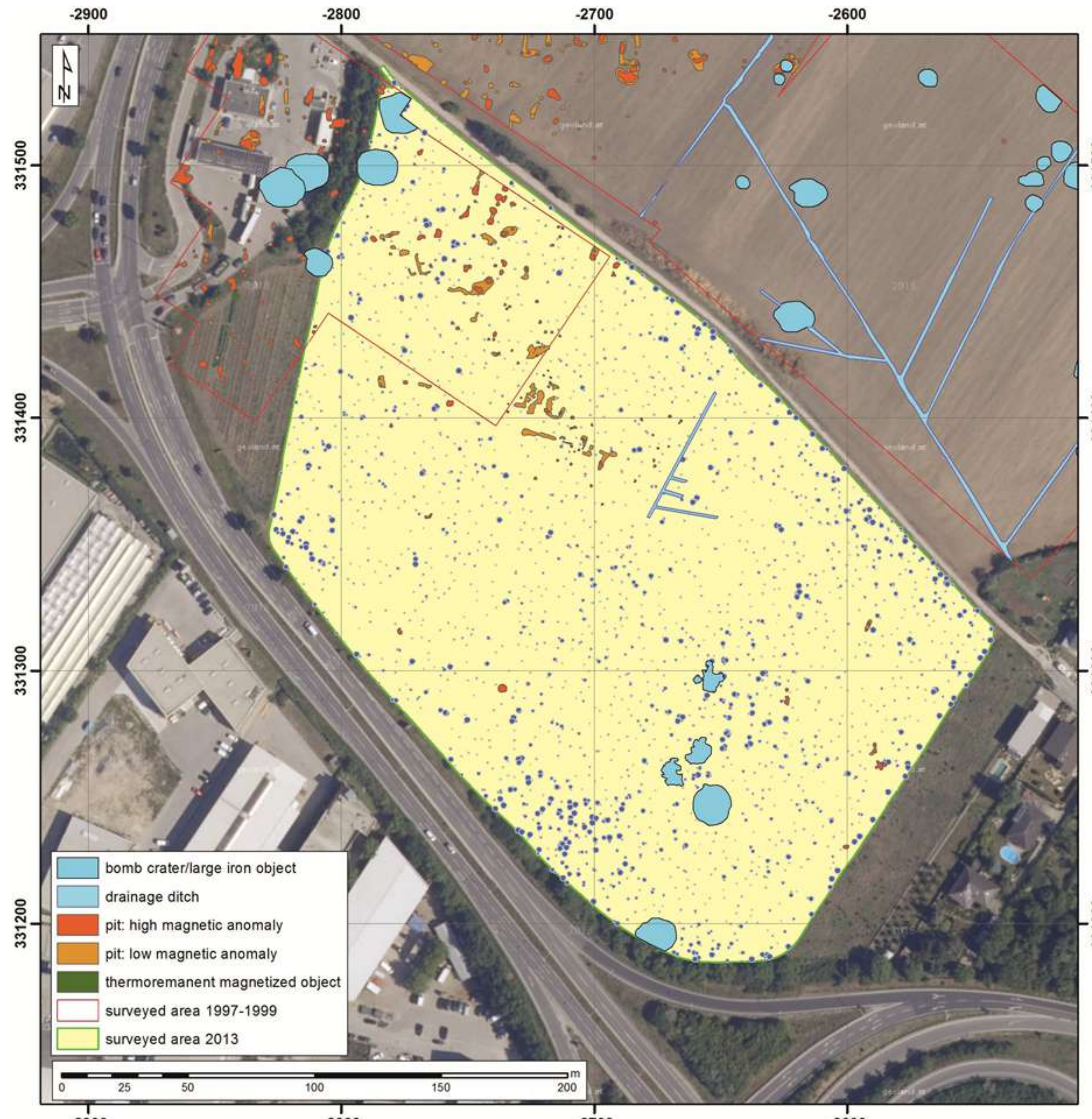

Figure 1.2: Overall archaeological interpretation of the archaeological-geophysical survey at Brunn am Gebirge from the 2013 campaign (© Ralf Totschnig, ZAMG).

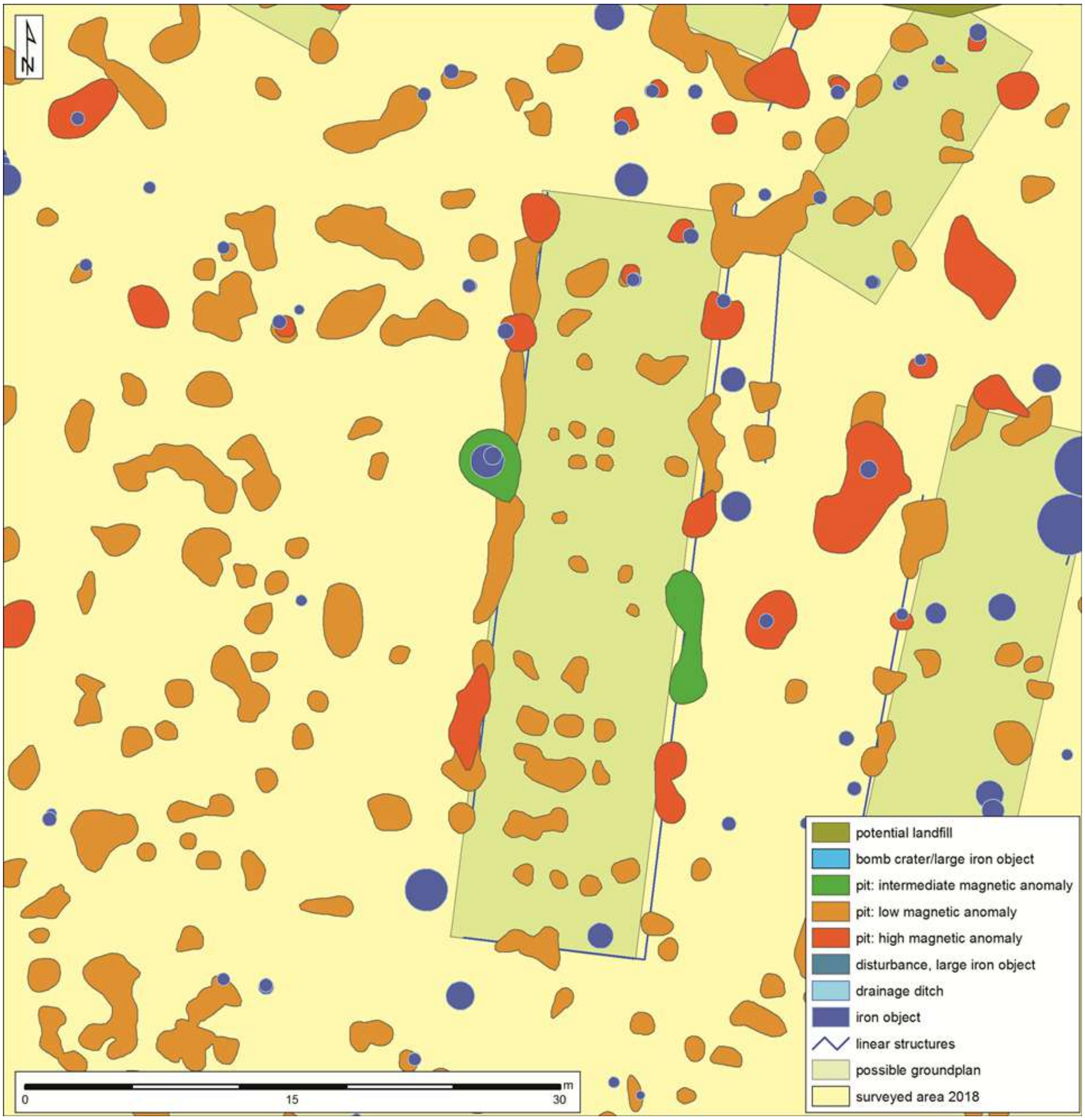

Figure 1.14: Archaeological interpretation of the area of the visible house floor plan (© Ralf Totschnig, ZAMG).

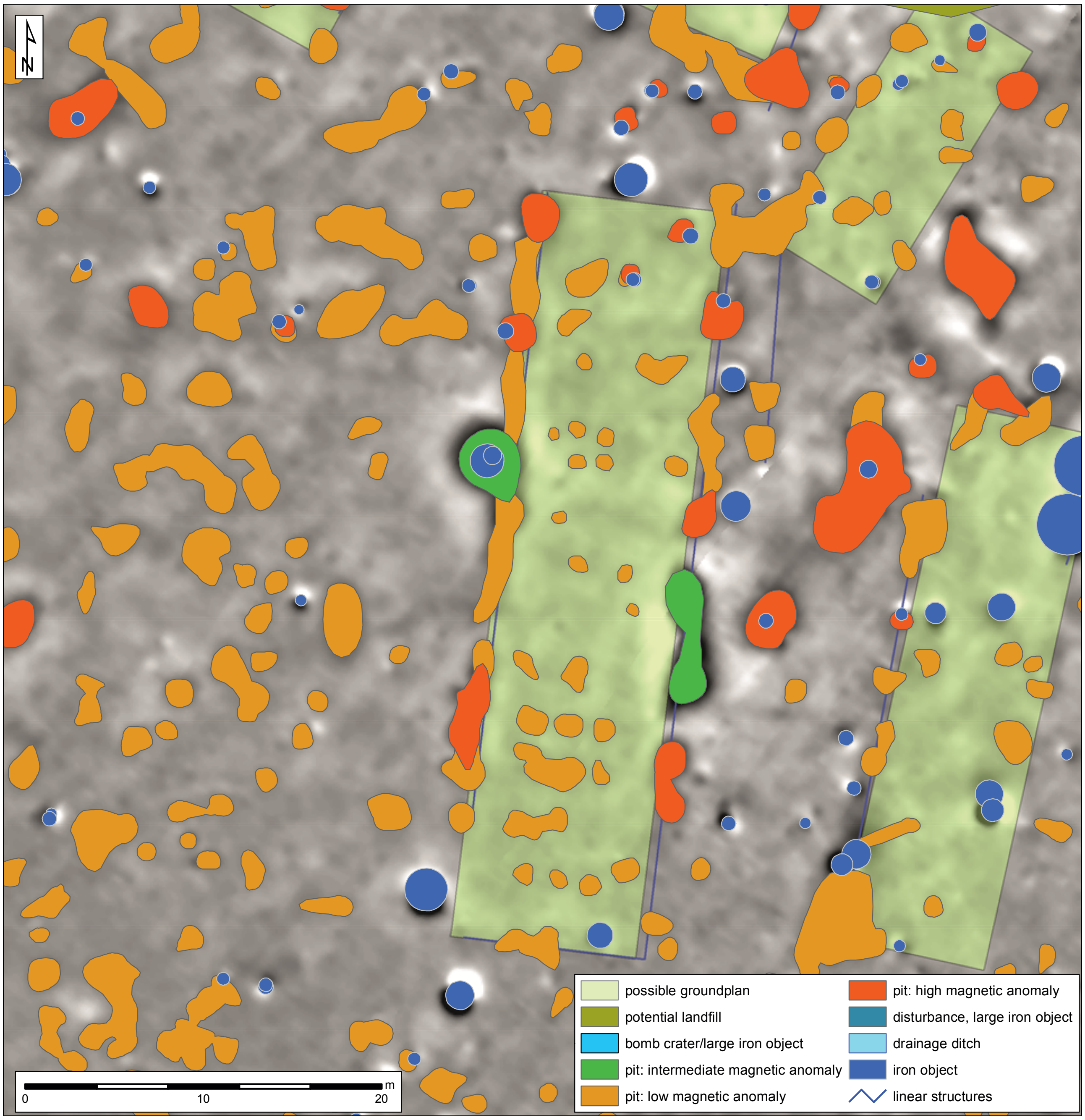

Figure 1.15: Archaeological interpretation of the area of the visible house floor plan (© Ralf Totschnig, ZAMG).

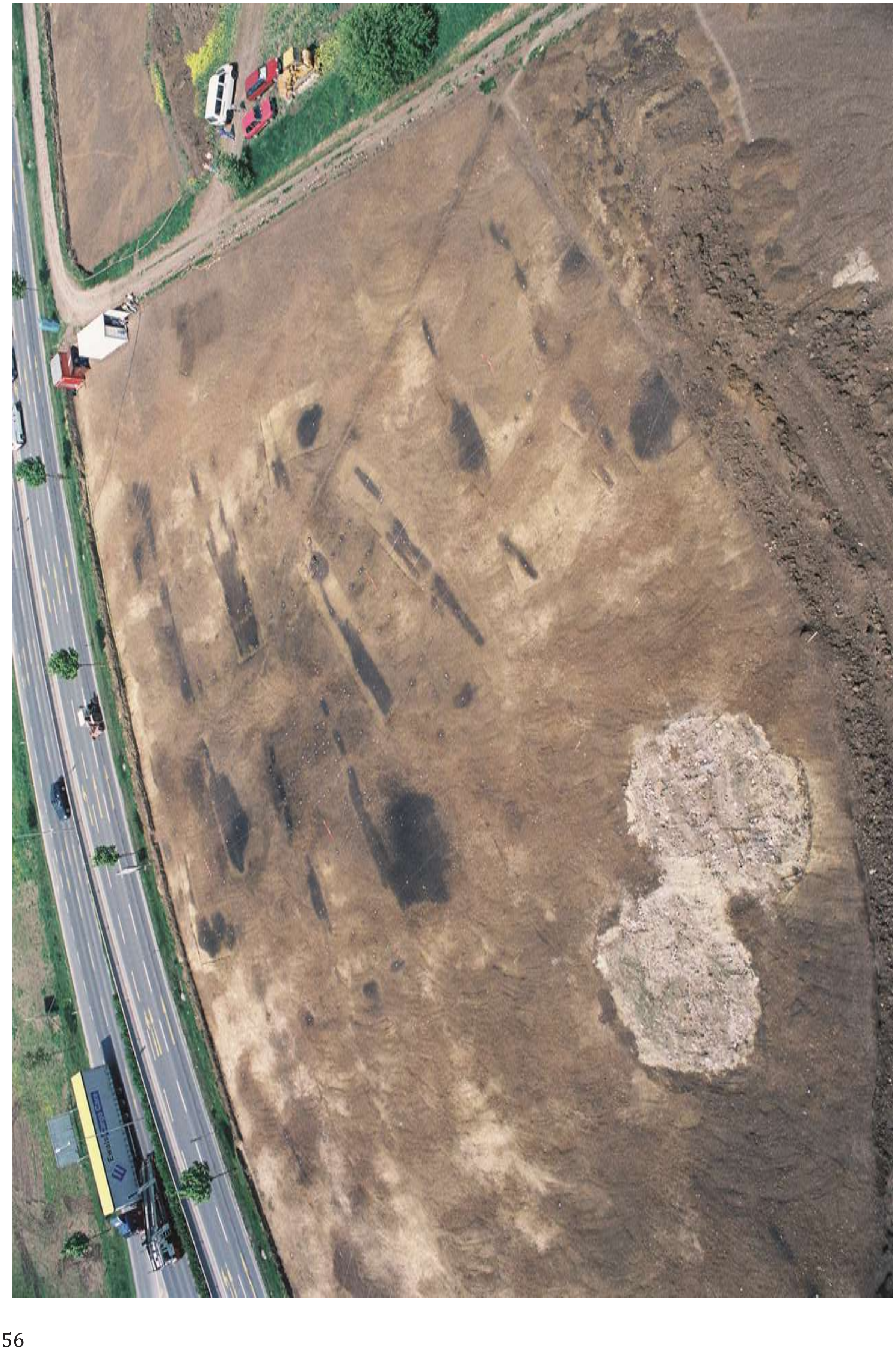

Figure 2.24: Helicopter flight, Brunn am Gebirge, Wolfholz, site 3; overview. © NHM, Photo by Stadler.

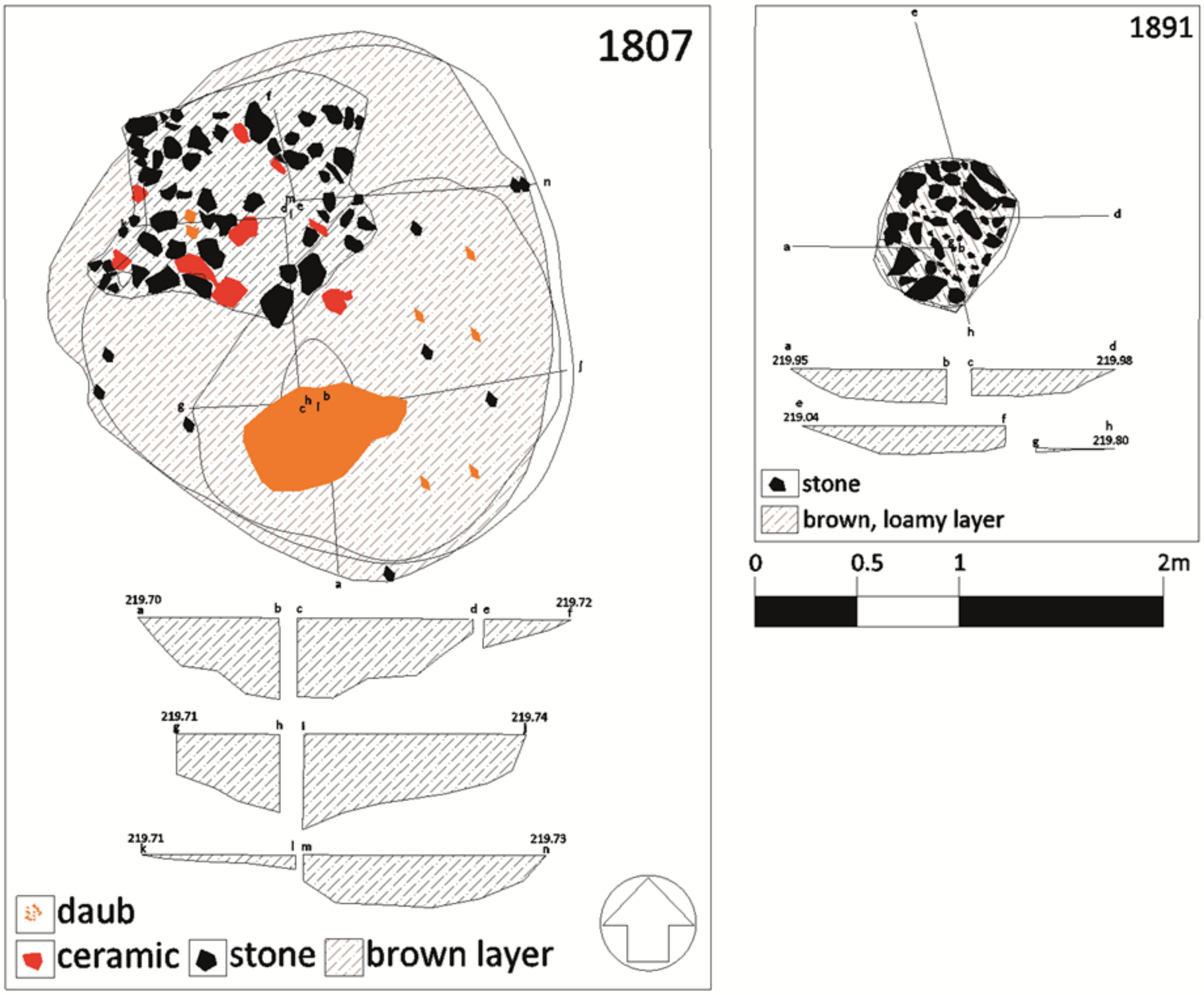

Figure 3.24: Oven 27 and 26 (© NHM, Drawing: Minnich).

Figure 3.25: The rectangular stone pavement of oven 27. On the northern border lies a layer of burnt clay (© NHM, Photo: Stadler).

The eastern part of round pit 1807 in particular differed from this layer. In the eastern part, a homogeneous, black layer was documented, which had a high carbon content. This was evidently a large amount of burnt material from an oven. The actual function could not be clarified for certain, since the upper layer was disturbed except for the stone layer.

Plate 223 Pottery of the Brunn 3 site: 1 – obj. 1773, Inv.#49-1; 2 – obj. 1786, Inv.#15772 (© NHM Wien, Photos: Alice Schumacher).

Plate 32: Excavation: 1) Object 1713, 341_002, 23.06.1999; 2) Object 1713, 341_003, 23.06.1999; 3) Site 03, Friedl Loicht, 357_001, 23.06.1999; 4) Object 1713, 341_004, 23.06.1999; 5) Object 1786, House 37, 345_018, 26.06.1999 (© NHM Wien).