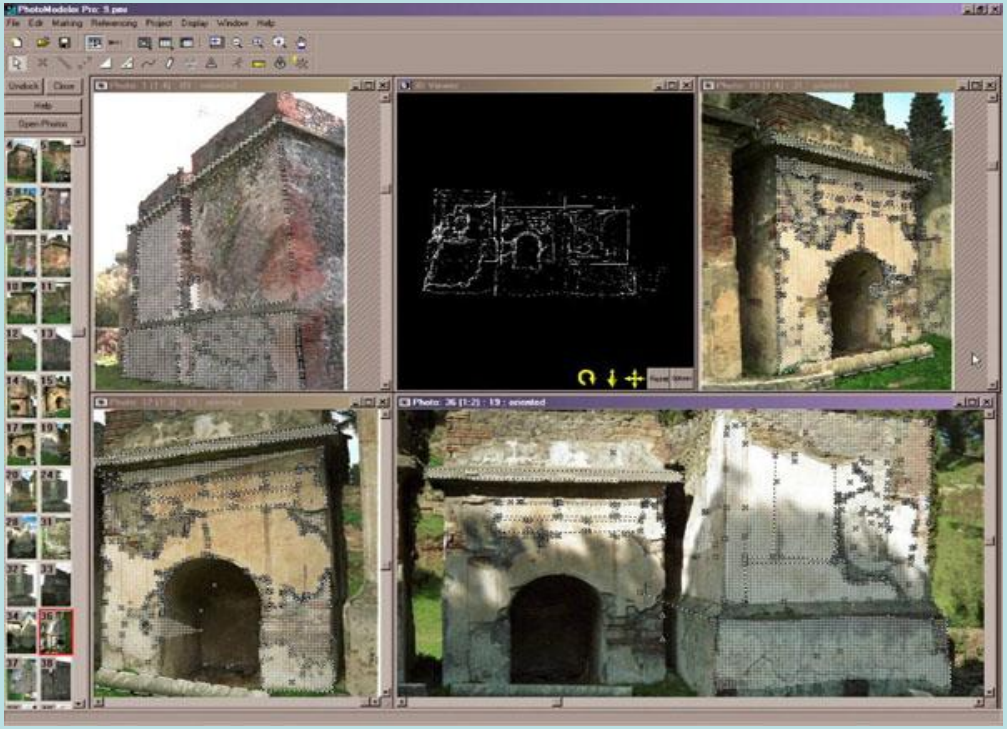
MODERN METHODS FOR ARCHEOLOGICAL RESEARCH AND DATING

ROSIA MONTANA CASE STUDY



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Knowing the absolute chronology, namely the ability to perceive absolute dates (in calendar, solar, radiocarbon years) has represented (and continues to represent) a great challenge for archeologists and, at the same time, it is a mirage for those who study the ancient epochs of human history.

The carbon 14 method (radiocarbon, C14) – is the most frequently used dating method. The main principle, which represents the starting point in this method, is related to certain natural materials' property to be radioactive, namely their capacity to emit radiations into the air (radioactive particles) with a certain intensity, whose value, namely its bisection period can be calculated with high precision. The method consists of measuring the carbon's radioactive isotopes from the carbonized remains of organic materials contained by the archeological deposits.

In order to establish a chronology of the mining works, five main periods were appointed as follows:

- ancient: before 300 AD;
- the migrations era/early Middle Age: 300 – 1100;
- middle Age: 1100 – 1500;
- late Middle Age/Modern;
- modern/contemporary: 1900 – up-to-date.

The mining archeological researches were carried out in the following massifs: Cetate, Cârnic, Cârnicel, Jig-Văidoaia, Coş, Orlea-Ţarina, Carpeni-Păru and Hăbad, detailed topographical ground surveys of these areas being carried out.

The access in the old perimeters was possible due to the network of modern/contemporary surface galleries.

Within the archeological research program, a digital database was created. Archeological data were recorded in this database, including the mobile archeological patrimony goods discovered.

For instance, we choosed the Circular Funeral Monument.

The Circular Funeral Monument

Inside the monument two cremation graves were discovered, displaying the traces of cremation contained by brick chambers M2 and M3.

M2 is placed inside the funeral enclosure in its western half and M3 in its eastern half.

Outside the monument were discovered other two cremation graves M1 and M4.

Graves M1and M2

Graves M3

Regarding the chronology, two stages could be established. The first stage corresponds to a monument with stone girdle destined to the commemorations of a single defunct person. The second burial led to the re-dimensioning of the funeral space and the construction of a funeral monument common to both deceased persons.

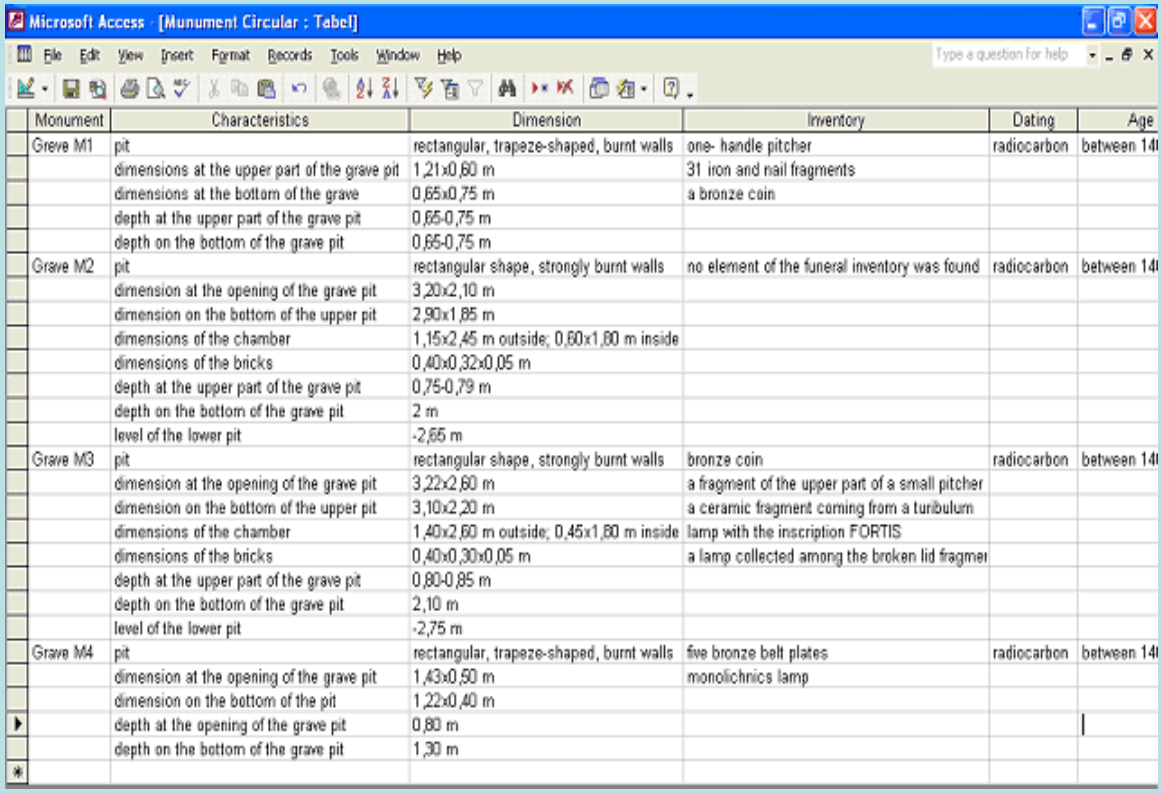
The graves that make the object of our analysis are exclusively cremation graves, dated in a period between 140-144 and the end of the 2nd century AD.

The funeral monument in the second stage is a combination between a classic provincial barrow and the models offered, starting with the 1st century AD, by the monument circular graves in the Italian cultural sphere, the whole combination being adapted to the local resources and possibilities.

The pottery indicates a chronological interval within the 2nd century AD, even if some shapes and constitutive particularities evidenced by this ceramic material were also used at the beginning of the 3rd century.

The fits funeral could have taken place in years 140-143/144 AD.

A digital database was created in Microsoft Access. The digital database include the characteristics of the graves, the objects which were found inside the graves, the dating method, the approximate age and the destination for the objects which were found.



Microsoft Access - [Munument Circular : Tabel]

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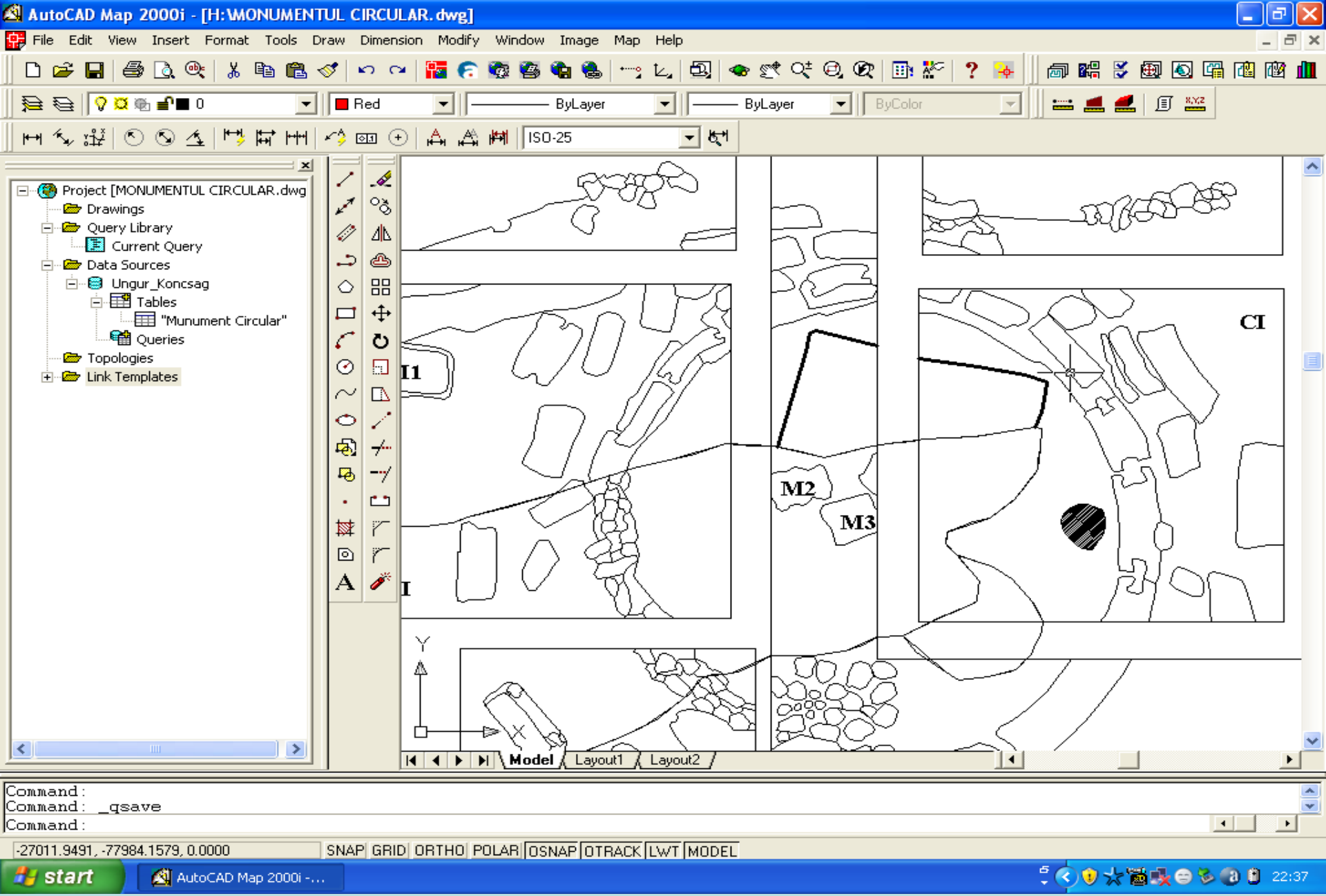
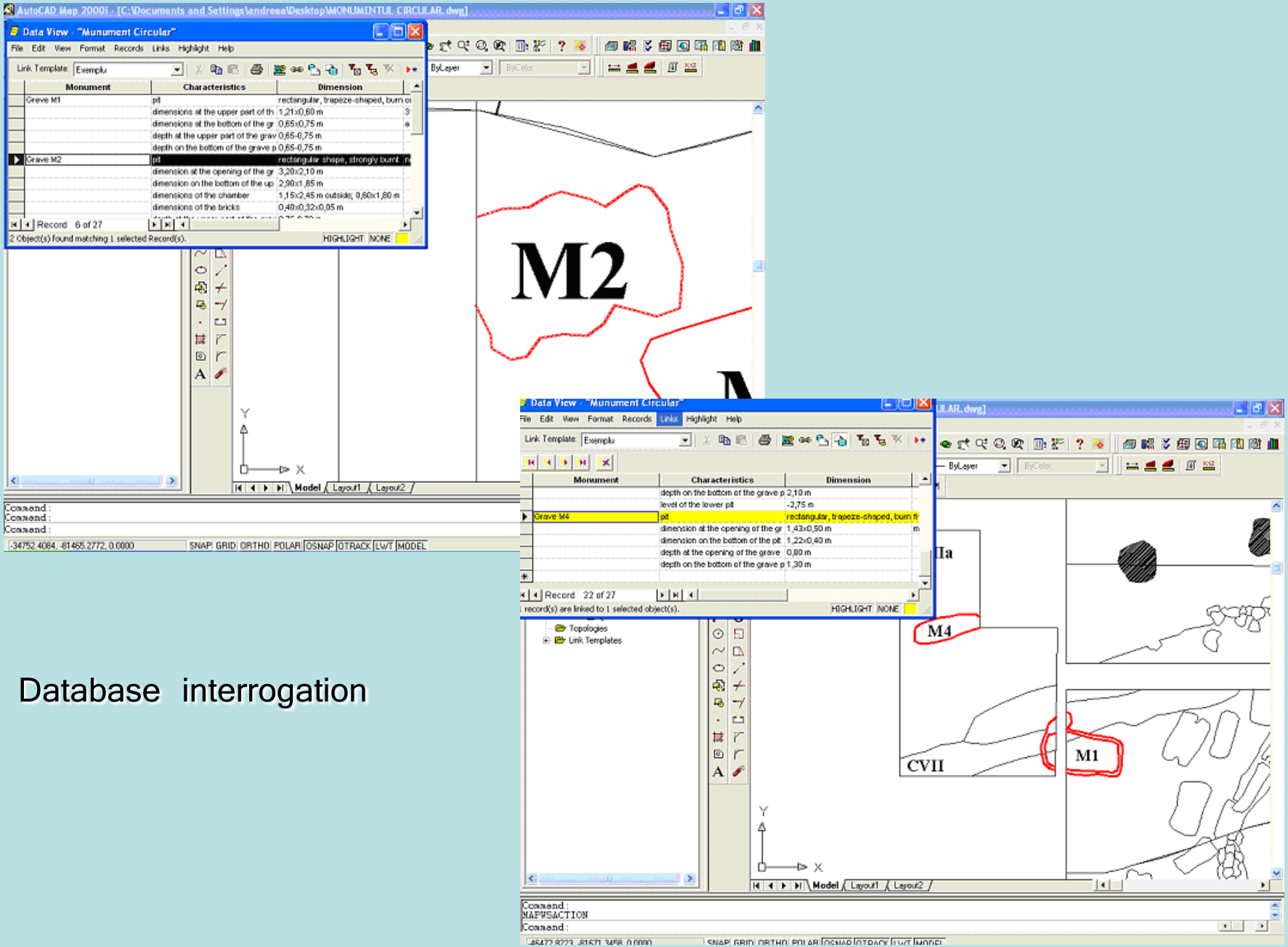
Monument	Characteristics	Dimension	Inventory	Dating	Age
Greve M1	pit	rectangular, trapeze-shaped, burnt walls	one- handle pitcher	radiocarbon	between 14
	dimensions at the upper part of the grave pit	1,21x0,60 m	31 iron and nail fragments		
	dimensions at the bottom of the grave	0,65x0,75 m	a bronze coin		
	depth at the upper part of the grave pit	0,65-0,75 m			
	depth on the bottom of the grave pit	0,65-0,75 m			
Grave M2	pit	rectangular shape, strongly burnt walls	no element of the funeral inventory was found	radiocarbon	between 14
	dimension at the opening of the grave pit	3,20x2,10 m			
	dimension on the bottom of the upper pit	2,90x1,85 m			
	dimensions of the chamber	1,15x2,45 m outside; 0,60x1,80 m inside			
	dimensions of the bricks	0,40x0,32x0,05 m			
	depth at the upper part of the grave pit	0,75-0,79 m			
	depth on the bottom of the grave pit	2 m			
	level of the lower pit	-2,65 m			
Grave M3	pit	rectangular shape, strongly burnt walls	bronze coin	radiocarbon	between 14
	dimension at the opening of the grave pit	3,22x2,60 m	a fragment of the upper part of a small pitcher		
	dimension on the bottom of the upper pit	3,10x2,20 m	a ceramic fragment coming from a turibulum		
	dimensions of the chamber	1,40x2,60 m outside; 0,45x1,80 m inside	lamp with the inscription FORTIS		
	dimensions of the bricks	0,40x0,30x0,05 m	a lamp collected among the broken lid fragmer		
	depth at the upper part of the grave pit	0,80-0,85 m			
	depth on the bottom of the grave pit	2,10 m			
	level of the lower pit	-2,75 m			
Grave M4	pit	rectangular, trapeze-shaped, burnt walls	five bronze belt plates	radiocarbon	between 14
	dimension at the opening of the grave pit	1,43x0,50 m	monolichnics lamp		
	dimension on the bottom of the pit	1,22x0,40 m			
	depth at the opening of the grave pit	0,80 m			
	depth on the bottom of the grave pit	1,30 m			

The database contents



Database attaching



Database interrogation

References:

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3. Simion M., Apostol V., Vleja D. - Alburnus Maior II, Bucharest, 2004

4. Veres I. -

THANK YOU FOR YOUR ATTENTION !