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# Study of a New Archaeological Discovery - Roman Cistern at Albano Lake in Castel Gandolfo, Rome, Italy

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## ABSTRACT

*This study is the result of the joint work between the archaeological superintendency of Rome and the research and investigation work of the Arco di Diana APS Association concerning the discovery of a Roman cistern, located at Lake Albano, Rome, Italy, in the municipality of Castel Gandolfo, Rome, Italy. Officials of the Superintendency for the metropolitan area of Rome carried out the first inspections at this cistern located near the Doric Nymphaeum at Lake Albano, in Castel Gandolfo, Rome, Italy. Reported by volunteers from the Arco di Diana APS Association, (Marco Tudini, Daniele Cataldi, Giancarlo Valle, Riccardo Bellucci, Settimio Tersigni, Roberto Pennacchi and Gaspare Russo).*

**Keywords: Ancient Roman Cistern, Archaeological Discovery, Albano Lake, Italy, Ancient Roman Era, Castel Gandolfo City.**

## 1.0 – INTRODUCTION

Not mentioned in the works of the archaeologist Giuseppe Lugli [**4**], to whom we owe the still more complete reconnaissance of the areas around Lake Albano, the cistern was found in 1983, by Riccardo Bellucci, Angelo Capri, Carlo Salvagno [**1**] [**5**] [**6**] [**7**] [**8**] as also notified to the Civic Museum of Albano Laziale, Rome, Italy [**2**]. The joint inspection revealed some interesting details that confirm the importance of the site from a historical-monumental point of view and in the context in which it is inserted [**3**]. The cistern is located near Via Antonio Gramsci. The entrance to the underground chamber is raised by about 22 meters above the water level of Lake Albano and is separated from the road surface by a short walkway about two meters long. The quadrangular-shaped environment is 21 meters deep, 11 wide and 15 meters high, it collapses because it is exposed to water flows, as evidenced by the detection of large quantities of calcium carbonate on the walls. On the morning of February 15, 2021 at 11:00 in agreement with Dr. Carosi Simona of the Archaeological Superintendence of Rome, Italy, Riccardo Bellucci, Giancarlo Valle, Marco Todini and Settimio Tersigni accompanied the ASSO and EGERE associations on a visit / evaluation of the Roman cistern. The heads of the two associations, Mario Mazzoli dell'ASSO, Carlo Germani dell'EGERE and all their staff, are fascinated and enthusiastic because of the size and historical importance of the site. The Superintendency, together with the Arco di Diana APS and Asso Association, is working (from 20 February 2021) on the survey of the large cistern with the possibility of creating a three-dimensional model, to better evaluate its size, orientation and position with respect to the context. A synergy that will offer interesting prospects for knowledge and, as a preliminary, also work on the future use of the site in complete safety. Meanwhile, this study will present the preliminary results of the research and exploration works carried out by the Arco di Diana APS Association, which were able to document most of the characteristics of the underground structure. In this regard, the purpose of this study is to document for the first time ever the

results of this work and present these results to the international scientific world..

## 2.0 DATA ANALYSIS

The research data developed by the Arco di Diana APS Association have been divided according to the type of surveys performed. As scheduled by the Arco di Diana APS Association, on May 16, 2021, Riccardo Bellucci and Settimio Tersigni went to the Roman Cistern to remove the staircase inside it and placed there clandestinely to access the higher area of the underground chamber, to place an electro-welded mesh 130 x 90 cm at the entrance, designed to prevent the passage of people, so as to avoid probable accidents, as per agreements made with Dr. Carosi Simona (Superintendence of Rome) on 13 May 2021.

## 2.1 Access to the Roman Cistern

Access to the tank took place on February 12, 2021, together with Mr. Riccardo Bellucci, Mr. Settimio Tersigni and Dr. Daniele Cataldi, around 08:30 local time. The purpose of this inspection was scientifically correct, in order to obtain preliminary information of the underground area under observation before carrying out more in-depth studies of the cavity. The location of the access was as follows: GPS position (Global Positioning System): 41.753208, 12.650267.

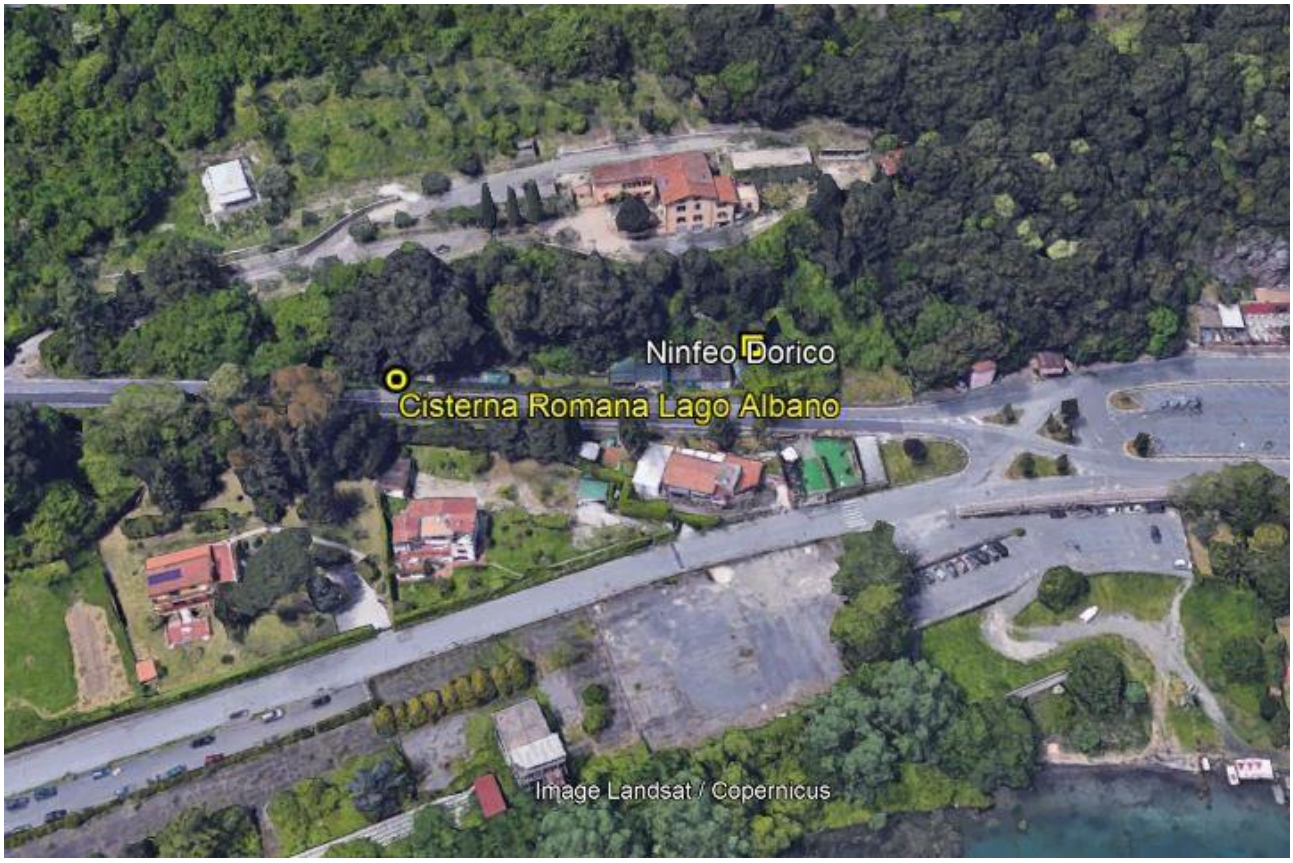



**Fig. 1 - Location of access to the underground area, in a three-dimensional satellite photo, referring to the Cistern of ancient origin. Credits: Google Maps, Daniele Cataldi.**


**Fig. 2 - Location of access to the underground area, and the distance between it and the lake mirror. Credits: Google Maps, Daniele Cataldi.**

In **Fig. 1**, the location of the entrance to the underground structure associated with the Cistern of ancient origin is observed. This is located near Via Antonio Gramsci, a short distance from the lake mirror of Lake Albano from which it is (linear distance) 133.88 meters, as shown in **Fig. 2**.

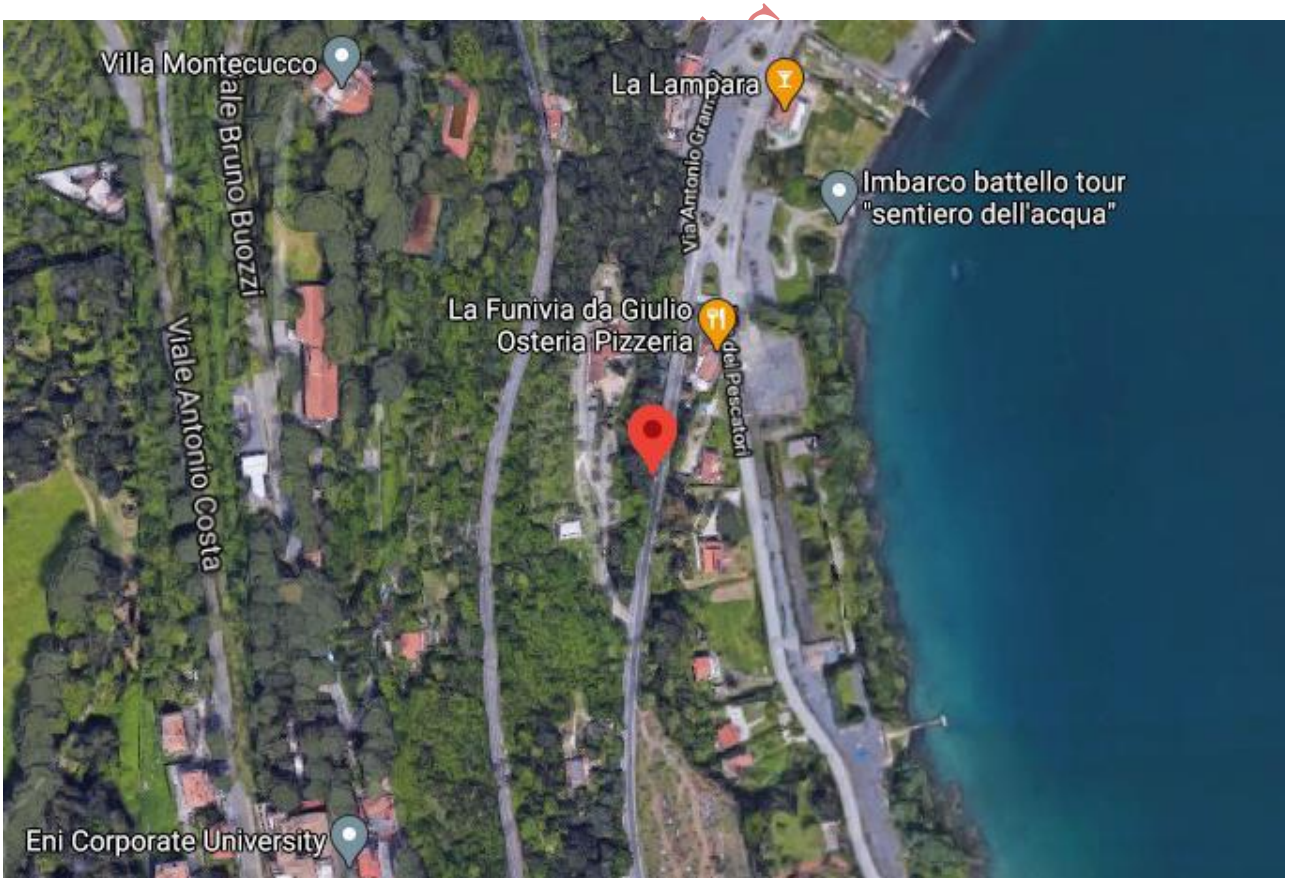



**Fig. 3 - Location of access to the underground area, in a three-dimensional satellite view. Credits: Google Maps. Daniele Cataldi.**

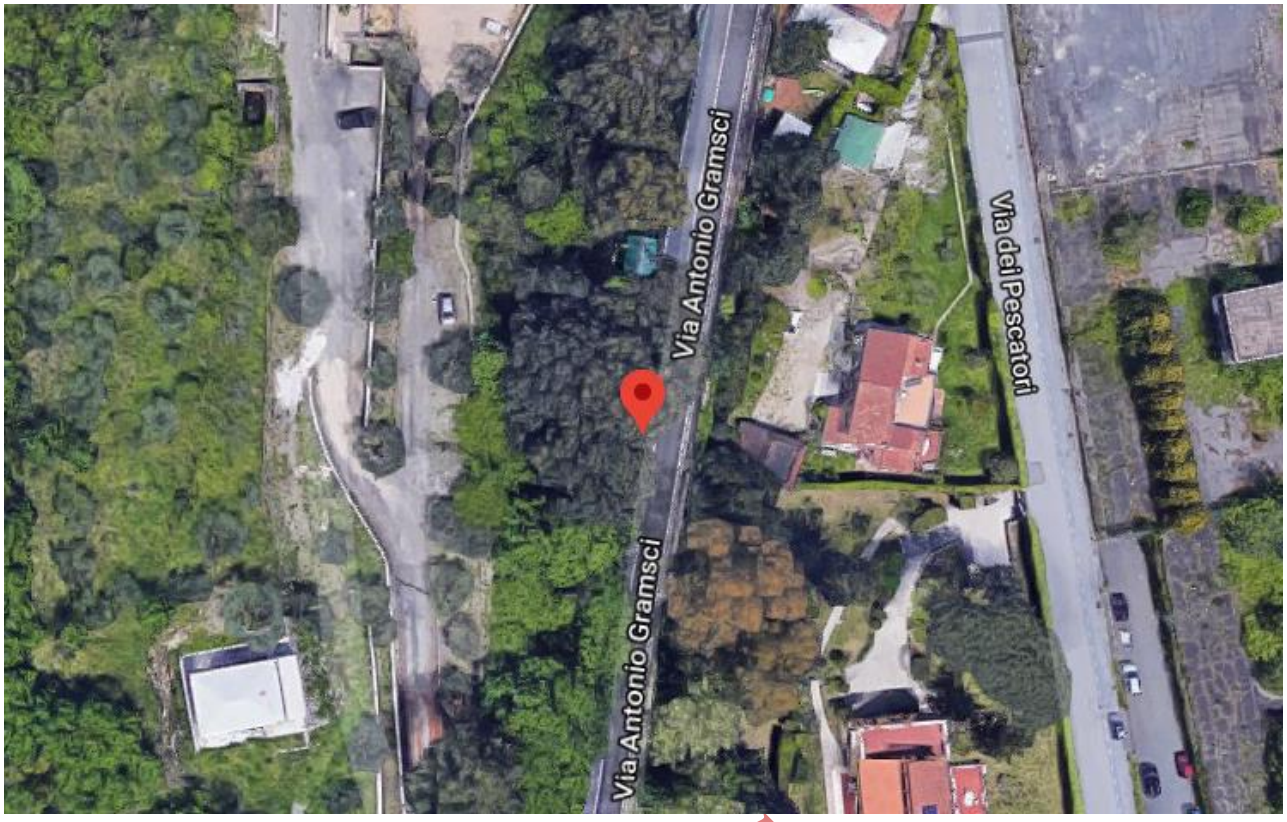



**Fig. 4 - Location of access to the underground area, in a three-dimensional satellite view and higher magnification. Credits: Google Maps, Daniele Cataldi.**


**Scheme A – Terrain elevation profile of the geographical area downstream from the access to the cistern. Note how the access is located at about 311 meters above sea level and that the level of the adjacent lake mirror (Lake Albano) is 291 meters above sea level, at a current height difference of 21 ~ 22 meters with respect to the access point of the cistern at a distance of about 149 meters. Credits: Google Earth Pro, Daniele Cataldi.**

The position of the access to the underground chamber is about 22 meters above the current

water level of the lake (Lake Albano, Rome, Italy), as shown in Diagram A.

Access is located in a small inaccessible, unsafe and restricted area, sloping down from the level of the ground and the adjacent road. The internal area (underground area) is separated from the road environment by a short walkway approximately 2 meters long, whose commitment is particularly difficult due to the mud and the high humidity of the soil. The height of the narrow passage that characterizes the access to the underground area is also particularly dangerous due to the presence of exposed stones and roots.

## 2.2 The underground environment explored

Once inside the underground environment, you are faced with a quadrangular area, dark and very humid, whose floor is uneven and muddy. The ceiling appears disconnected and dripping. The environment is unsafe for exploration (as shown in **Fig. 5**), precisely because of the disconnection of the floor which looks like a "burial", as reported on November 16, 1983, by Mr. Angelo Capri, by Mr. Carlo Salvagno and by Mr. Riccardo Bellucci.

According to what was reported by the documentation of November 16, 1983, the hypogeum area with a depth of 21 meters, a width of 11 meters and a height of 15 meters, would today result, thanks to the observation of satellite photos, partly incorporated beyond under a private property, and more precisely at number 17 of Via Antonio Gramsci, in the Municipality of Castel Gandolfo (RM).

The walls are characterized by a stone structure and signs of anthropization, also in this case there is a lot of humidity and collapses (**Fig. 8**), alterations and different types of masonry work (**Fig. 6** and **Fig. 7**).

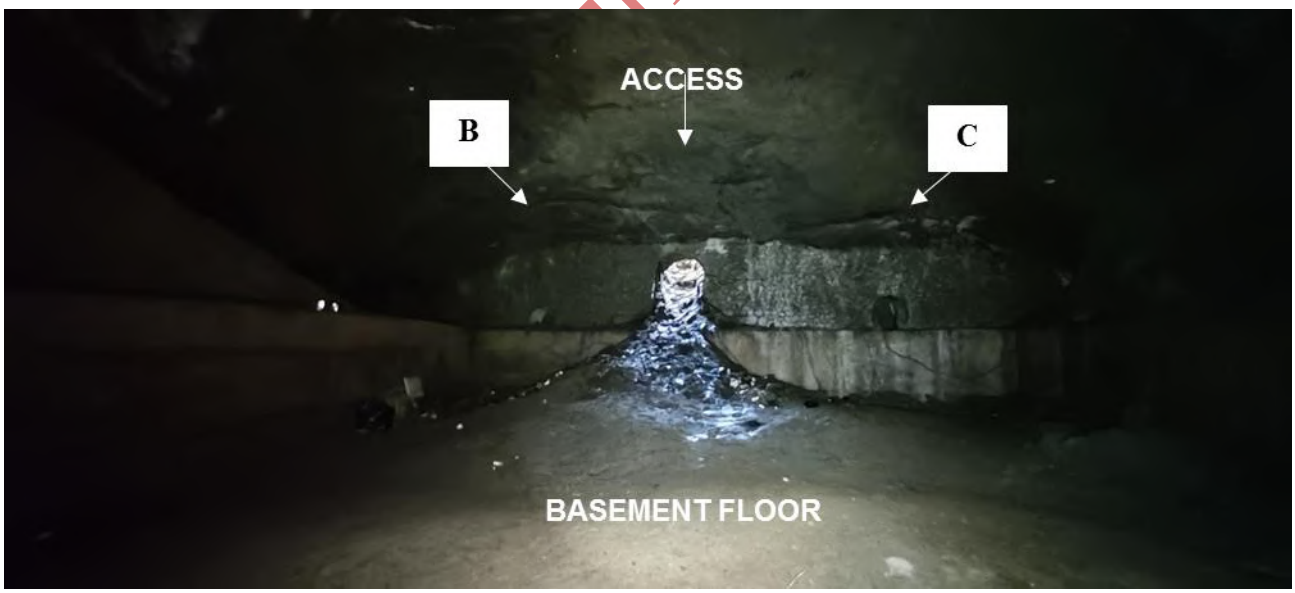



**Fig. 5 - Hypogeum environment. The ceiling and the floor of the cistern are highlighted, the first characterized by rock and fragments of crushed stone which are completely wet and dripping, while the floor is covered with wet earth, cracks, hollows and puddles of water. The water seems to seep from the ceiling of the underground structure. Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**


**Scheme B - Left side water mouth. Credits: Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**


**Scheme C - Right side water mouth. Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**

The presence of calcium carbonate indicates that the internal walls are subject to the continuous flow of water. The hypothesis is that this continuous flow, coming from the ceiling, can cause further destabilization of the perimeter structures (**Fig. 9**, **10** and **11**). In the center of the underground room, and in correspondence with the ceiling, it is also visible what appears to be a boulder not partly included in the lithic structure of the ceiling itself. On this question, further examinations by technicians and competent authorities are needed.

**Fig. 6 - Hypogeum Area - North Wall. An anthropized structure is highlighted. Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**

**Fig. 7 - Hypogeum Area - West Wall. An anthropized structure is highlighted. Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**

**Fig. 8 - Hypogeum Area - South Wall. Presence of different types of masonry work and collapses of part of the stone ceiling and of the wall itself. Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**

**Fig. 9 - Hypogeal area - N, S perimeter structure and part of the ceiling. A large concretion of calcium carbonate is observed. Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**

**Fig. 10 - Hypogeal Area - North perimeter structure. A large concretion of calcium carbonate is observed. Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**

**Fig. 11 - Hypogeal area - N and S perimeter structure. A large concretion of calcium carbonate is observed. Credits: Daniele Cataldi, Riccardo Bellucci, Settimio Tersigni, Marco Tudini.**

## 2.3 Thermographic Measurements

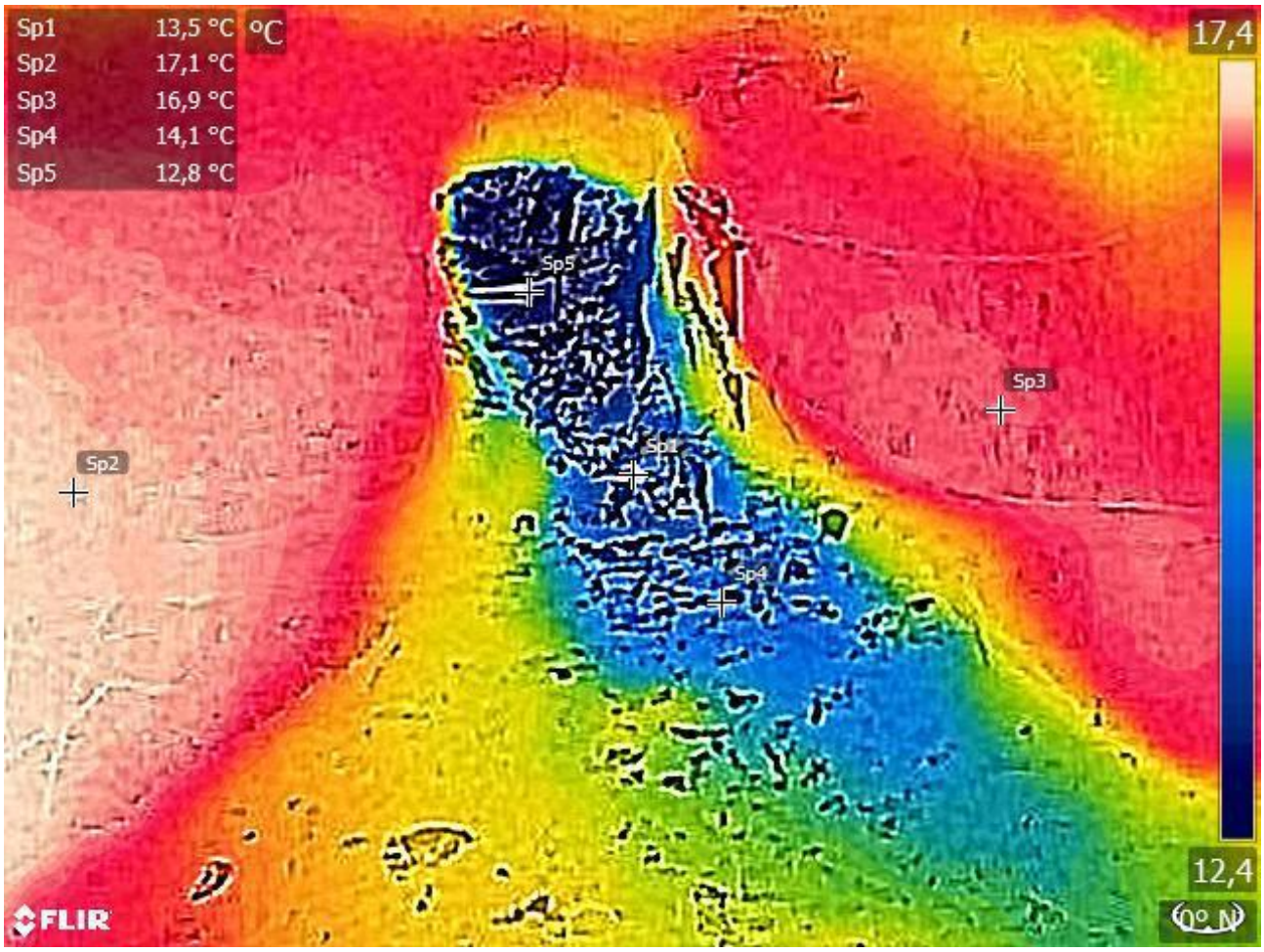



**Fig. 12 - Thermography of the access to the cistern of ancient origin. It highlights the temperature of the floor**

**(steep part) adjacent to the entrance hole in the hypogeal area (14.1°C), the eastern portion of the perimeter wall (17.1°C and 16.9°C). The GPS (Global Positioning System) position is not deductible due to the loss of the radio signal inside the camera itself. Credits: Daniele Cataldi.**

In order to obtain scientific measurements useful for evaluating the internal environment of the hypogeal area, it was essential to perform thermographic measurements in order to verify the presence of thermal variations that could suggest important modifications of the lithic structure supporting the entire vault. underground.

The thermographic evaluations were carried out by means of a Camera FLIR® (FLIR ONE first generation - **Scheme D**) whose results have been summarized below.

1. The perimeter walls of the underground area, and more precisely: East wall, North wall, West wall and South wall, have highlighted the presence of a homogeneous temperature, which means that these structures do not seem to be compromised in terms of stability, from water infiltrations or from the variation in the thickness of the wall itself, which could have also had fractures in the internal thickness.
2. Wall W, or the one above which the water decanting chamber is located, at this point, has a higher temperature than the rest of the underground chamber (as visible in **Fig. 13**).


**Scheme D - Image of the first generation FLIR ONE thermal imaging camera, used by the Arco di Diana APS Association for thermographic measurements inside the underground chamber of the Roman Cistern. Credits: FLIR®.**

The higher temperature recorded above the settling chamber could be determined by the following possible elements:

1. Lower thickness of the rock of the decantation chamber ceiling, the heat of which due to solar radiation would be able to permeate the entire rocky layer, and therefore allowing this heat to become visible.
2. The presence of hot air that from the lowest part of the underground structure would tend to overheat the ceiling of the water decantation chamber, where it could concentrate and remain in laminar flow.
3. Less humidity.

The temperature of this area is 19.5°C, while the rest of the underground chamber (cistern) has a temperature between 18.4 and 18.8°C. These measurements have a minimum resolution of 0.1°C (as shown in **Fig. 12**). This thermal

imaging camera is equipped with a double lens that allows you to detect, at a maximum distance of 30 meters, the different heat sources and use the real image (VGA resolution) to add details to what we are viewing, as if we were using a pencil to define the contours of objects (MSX technology). However, this technology is only available in an illuminated environment.

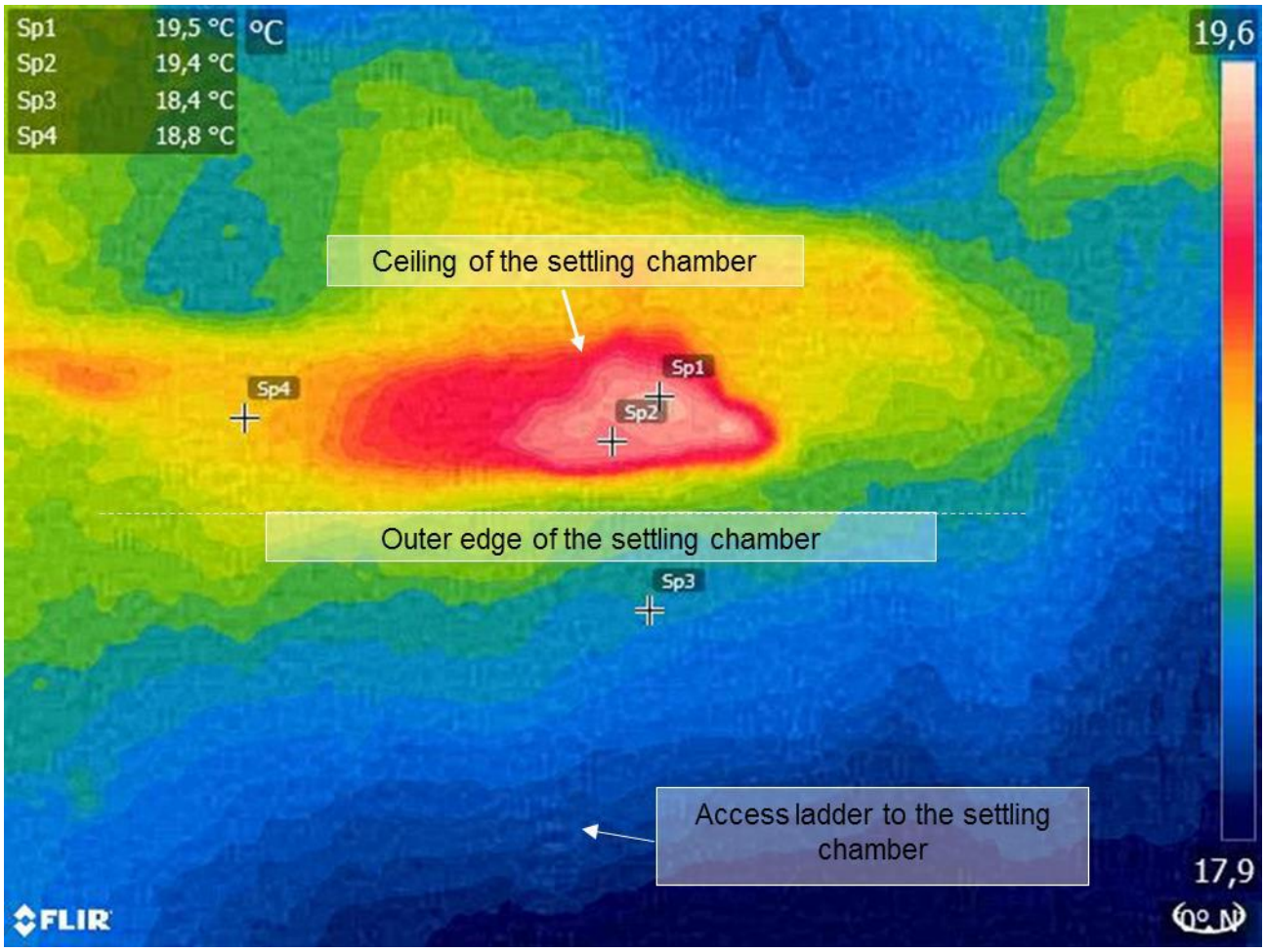



**Fig. 13 - Thermography of the access to the cistern of ancient origin. It highlights the temperature of the west perimeter wall (18.4°C), the temperature of the external wall, adjacent to the decanting chamber (18.8°C), and the temperature inside the room relating to the water decanting chamber (19.5°C and 19.4°C). The GPS (Global Positioning System) position is not deductible due to the loss of the radio signal inside the camera itself. Credits: Daniele Cataldi.**

The operating temperature of the thermal imager ranges from 0°C to 35°C, with an ability to detect the temperature of other subjects between -20°C and + 120°C, and to capture variations of the order of 0.1°C, as already mentioned. This tool is therefore useful for shooting in caves or in underground areas like this one.

## 2.4 Radioactivity of the underground environment

In an important exploratory context that was immediately considered in this study of the cistern, was that relating to the radioactive level within the underground structure. Too often the importance of the problem caused by the saturation of Radon Gas ($Rn\text{-}_{222}$) and its own decay particles, which represent a real and real danger to human health, is underestimated. The natural radioactivity background is composed of terrestrial radiation (radiation produced by

primordial nuclides or cosmogenic nuclides in radioactive decay) and cosmic (extraterrestrial) radiation. Fundamental component of terrestrial radiation is Radon ($Rn-_{222}$). It is a natural gas emanating from the earth, radioactive, odorless, tasteless, invisible and 7.5 times heavier than air. It spreads everywhere and its concentration varies from place to place.

**The natural radioactivity limit in microSievert/h (µSv/h) as it is calculated?**

- Internal radiation by inhalation of Radon and its derivatives:
  - average dose ~ 1.4 mSv/year (116 µSv x month - 3.88 µSv x day - 0.16 µSv/h). [**9**]

+

- External radiation due to cosmic radiation:
  - average dose ~ 1.0 mSv/year (83.3 µSv x month - 2.7 µSv x day - 0.11 µSv/h). [**9**]

**The total limit is therefore the following:**

- Total Average Effective Dose of the population due to the natural background:
  - 2.4 mSv/year (200 µSv x month - 6.6 µSv per day - 0.27 µSv/h).
  - ~ 1.0 mSv (external irr.) + 1.4 mSv (internal irr.). [**9**] [**10**]

The count of the maximum limit of natural radioactivity is therefore 0.27 µSv/h, of which 0.11 µSv/h are represented by the radiation of cosmic radiation (particles from space) and 0.16 µSv/h are those determined by the presence of Radon. [**9**] [**10**]

Inside the underground chamber, cosmic radiation penetrates with great difficulty, so much so that this radiation is totally dissipated at ground level. We would therefore expect a ratioactivity level of 0.11 µSv/h, that is the one generated by the Radon gas flow alone.

In fact, in the caves and underground cavities, cosmic radiations are not detectable, because they are shielded by the presence of the rock. It is therefore deductible to confirm that the radioactivity detected within the underground environment is totally that generated by the Radon gas, which accumulates massively there, being a cavity with a laminar and windless flow of air.

In this context, the measurement of radioactivity inside the underground chamber was carried out by positioning the Geiger counter, at a man's height, and lasted for the entire duration of the inspection.

The levels reached are the following.

- 0.43 ~ 0.45 µSv/h - this very high index compared to the natural background, was observed for many minutes inside the cavity.
- 0.33 ~ 0.34 µSv/h - this high radioactivity index appeared as the minimum index of the natural radioactive background within the hypogeal cavity.

It can be deduced that the environment inside the hypogeal cavity is not particularly safe for those who are inside it, having in fact a level of radioactivity higher than the level of the $Radon-_{222}$ component alone by 3.3 times (the limit is 0.11 µSv/h, compared to 0.45 µSv/h measured). This data confirms how the underground site should be ventilated to lower the density of $Radon-_{222}$ and thus bring it to levels acceptable for human health.

## 2.5 Three-Dimensional Reconstruction

The three-dimensional modeling was carried out following video and photographic shootings made on August 8, 2021, by the Arco di Diana APS Association, by Daniele Cataldi, Riccardo Bellucci, Marco Tudini and Settimio Tersigni, who reached the hypogeal area and placed high brightness illuminators, such as to make the entire underground area illuminated. The 3D

reconstruction work is based on SFM - Structure From Motion technology, a technology through which it is possible to obtain a three-dimensional rendering of any object or structure, starting from photographic and video footage, made with sufficient lighting and contrast. This technology, at a very low cost, has allowed the researchers of the Arco di Diana APS Association to be able to document the entire underground chamber in three dimensions.

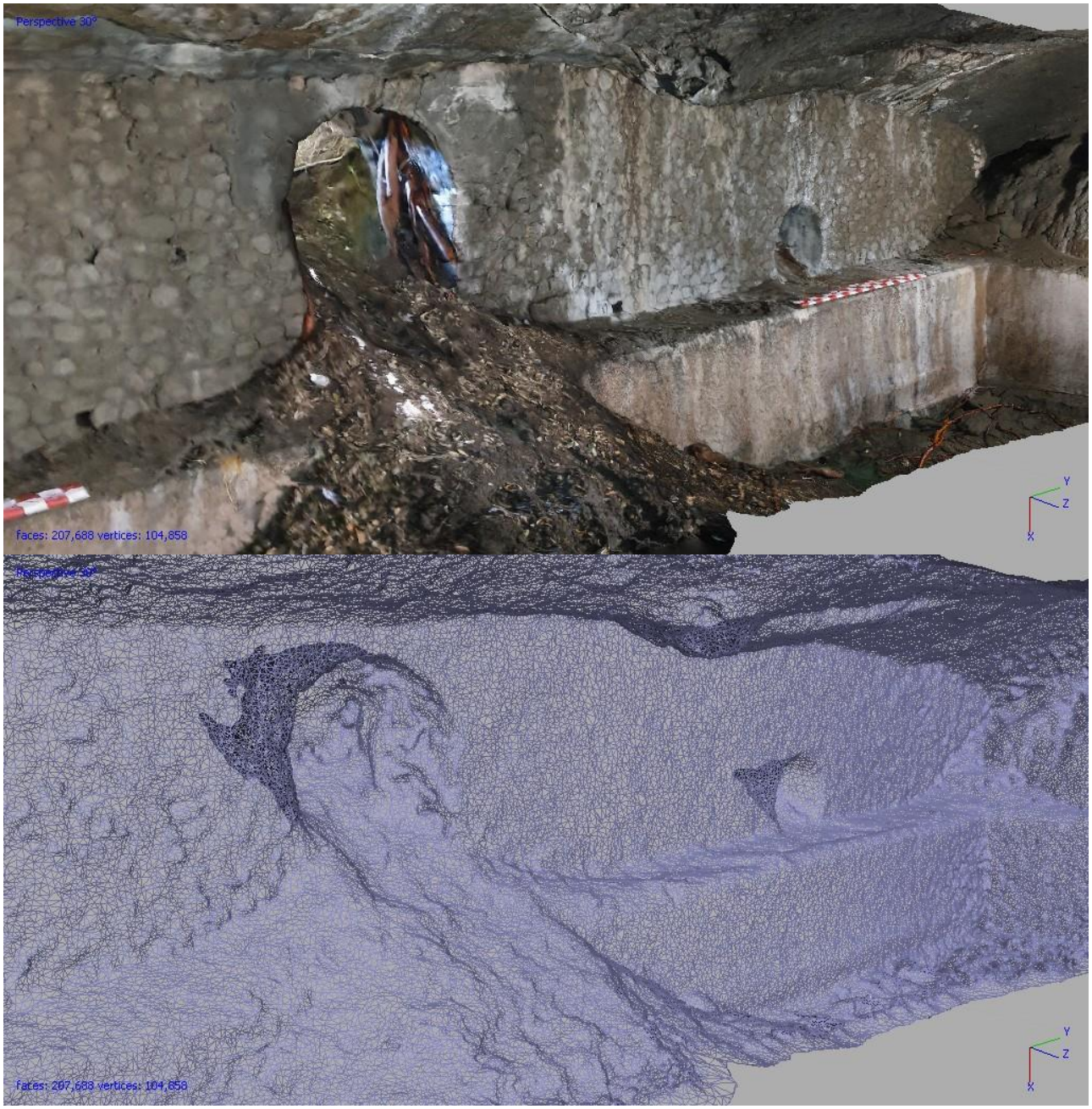



**Fig. 14 - Three-dimensional reconstruction of the interior of the underground chamber of the Roman Cistern. In this case, the access to the underground chamber observed in a 3D model with a photorealistic texture and in a transparent 3D mesh. Credits: Daniele Cataldi, Arco di Diana APS.**

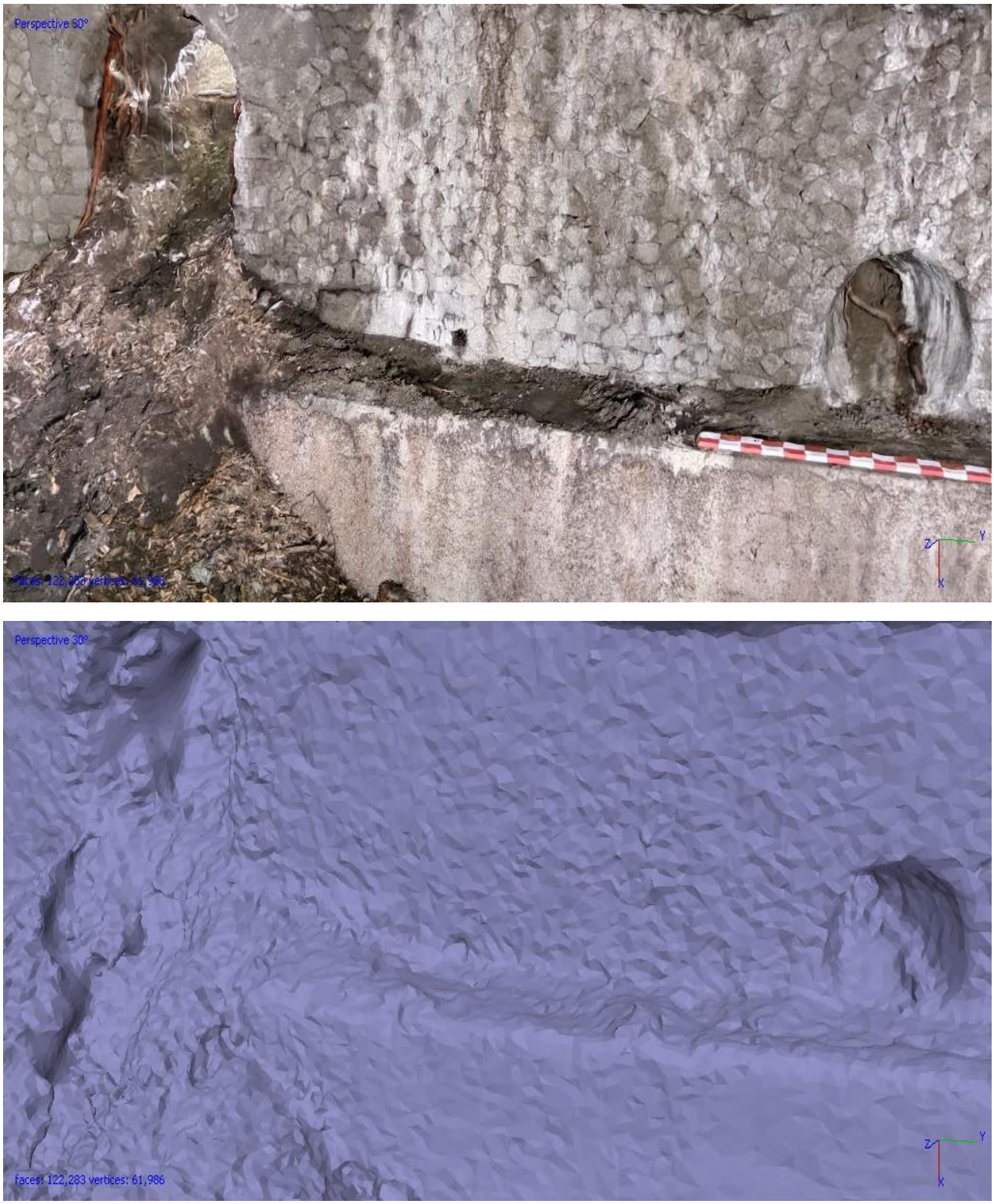



**Fig. 15 - Three-dimensional reconstruction of the interior of the underground chamber of the Roman Cistern. In this case, the access to the underground chamber observed in a 3D model with a photorealistic texture and in an opaque 3D mesh. Credits: Daniele Cataldi, Arco di Diana APS.**

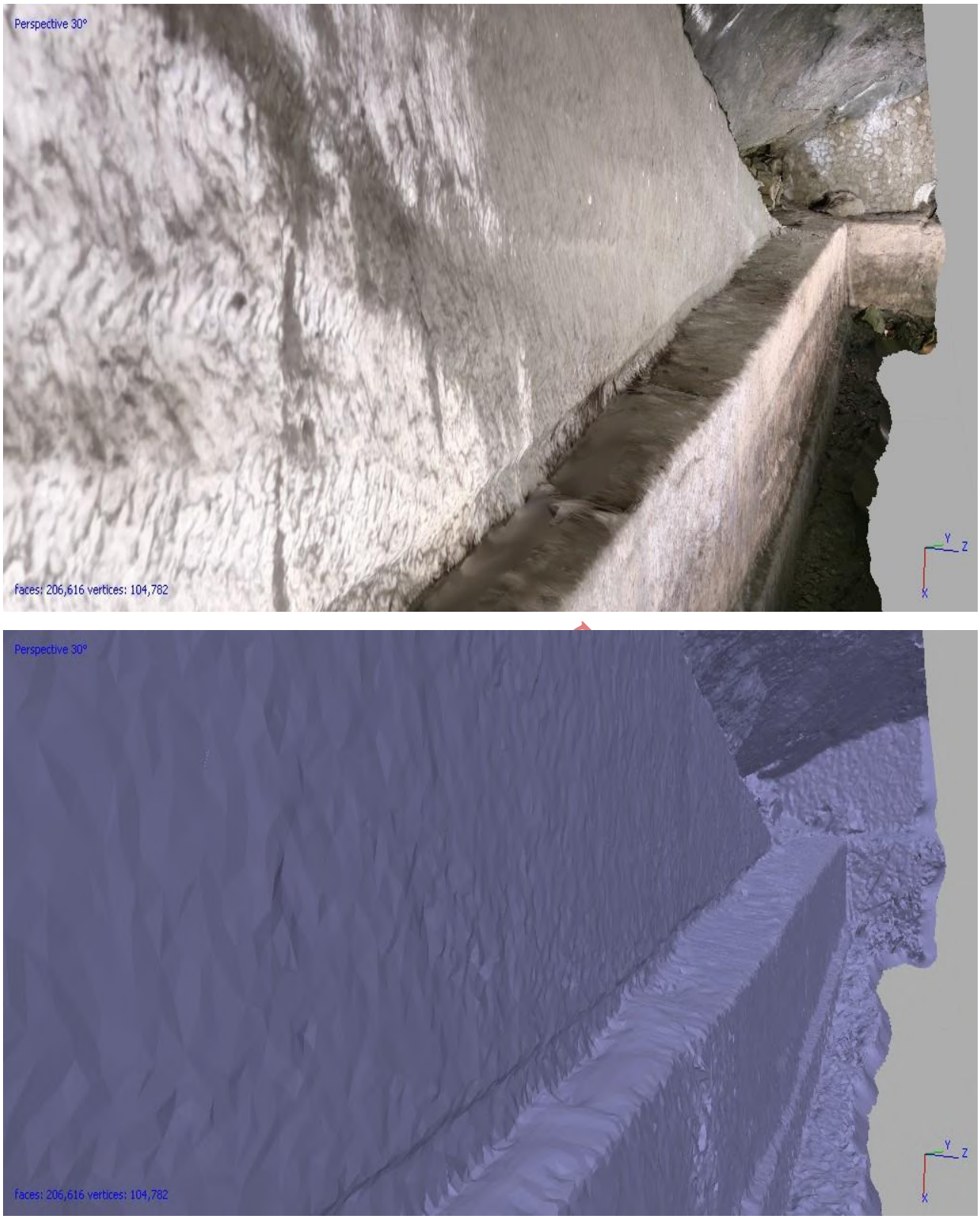



**Fig. 16 - Three-dimensional reconstruction of the interior of the underground chamber of the Roman Cistern. In this case the north side wall of the underground chamber observed in a 3D model with a photorealistic texture and in an opaque 3D mesh. Credits: Daniele Cataldi, Arco di Diana APS.**

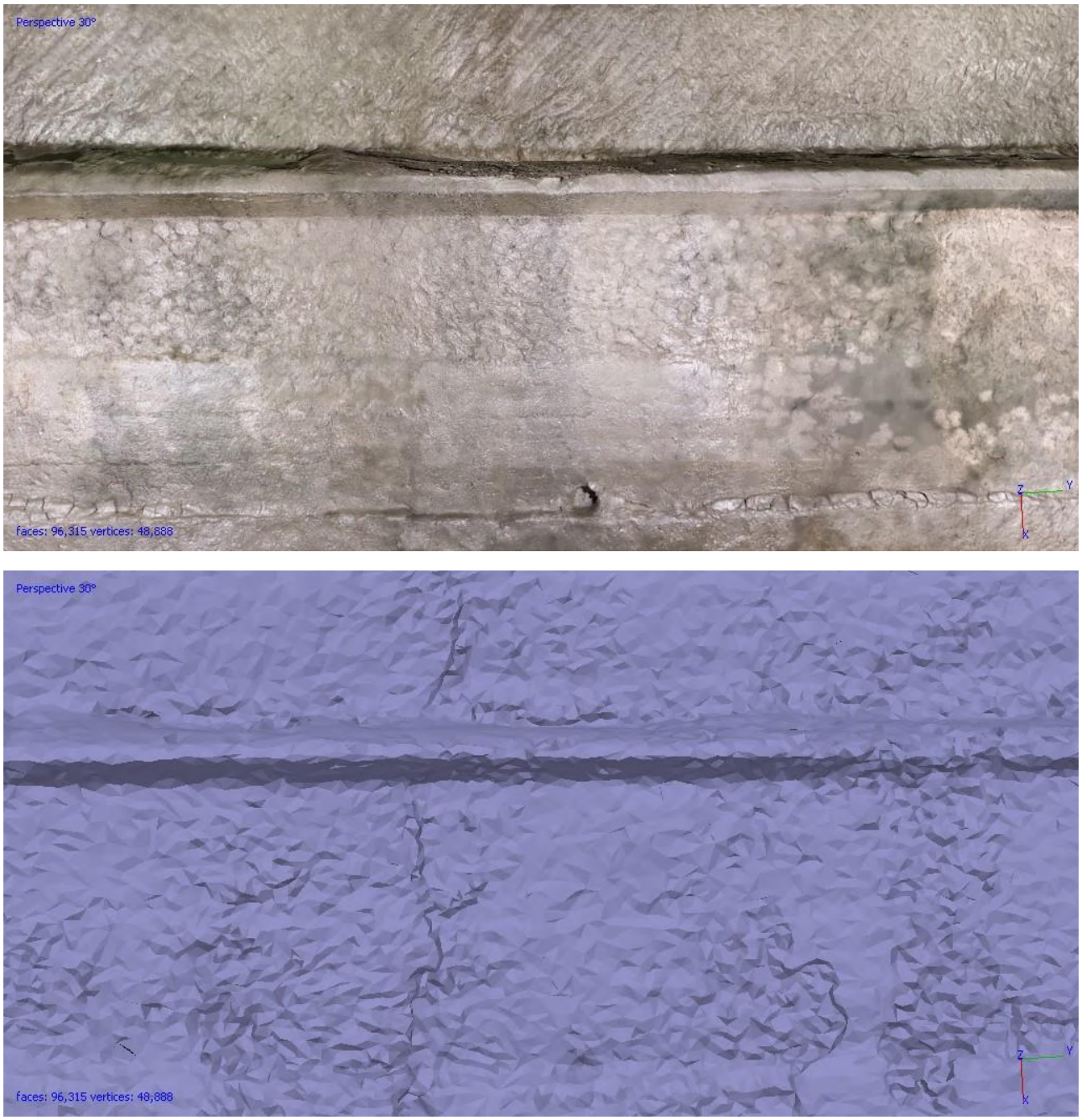



**Fig. 17 - Three-dimensional reconstruction of the interior of the underground chamber of the Roman Cistern. In this case the west side wall of the underground chamber observed in a 3D model with a photorealistic texture and in an opaque 3D mesh. Credits: Daniele Cataldi, Arco di Diana APS.**

The three-dimensional structure was created with a low resolution, because it is a temporary survey which must be followed by more specific surveys using a Laser-Scanner. In this case the difficulties were not insignificant, such as the presence of a lot of humidity, and dripping water infiltrations along the entire hypogeal area which hindered, not a little, the scientific detection activities, in addition to the muddy, slippery and disconnected.

In this, the researchers of the Arco di Diana APS Association have provided a very demanding job and not free from technical difficulties, such as lighting and its importance for the computerized processing phase of the recorded images and videos.

## 2.5 Official Photographic Documentation

**Fig. 18 – Exploration of the Roman Cistern with the ASSO Association - February 15, 2021. Credits: Arco di Diana APS Association.**

**Fig. 19 - Exploration of the Roman Cistern with the ASSO Association, in the photo in the foreground, the superintendent for archeology of Rome - February 15, 2021. Credits: Arco di Diana APS Association.**

**Fig. 20 - Exploration of the Roman Cistern with the ASSO Association - February 15, 2021, detail of the entrance to the underground chamber, note the high humidity of the gangy floor. Credits: Arco di Diana APS Association.**

**Fig. 21 - Exploration of the Roman Cistern with the Mayor of Castel Gandolfo city: Monachesi Milvia at the center between the two experts in the archaeological sector of the Arco di Diana APS Association - June 26, 2021, detail of the north-east wall of the underground chamber. Credits: Arco di Diana APS Association.**

The official photographic documentation, created by the Arco di Diana APS Association is the only one to document the work carried out inside the recently discovered underground structure. In this case the visit of the Archaeological Superintendency of Rome (**Fig. 18**, **19** and **20**) and the Mayor of Castel Gandolfo, Rome, Italy (**Fig. 21**).

## 3.0 Conclusions

The underground area referred to the Roman Cistern appears to be an extended underground area, which deserves to be studied in depth from a technical point of view. Mainly technical surveys are needed to verify the solidity of the ceiling and therefore verify the degree of safety of the underground environment.

The area contains a level of radioactivity that cannot be underestimated on which solutions must be found to mitigate the very problem of the density of the Radon-222 gas to allow technical and scientific personnel to be able to work safely.

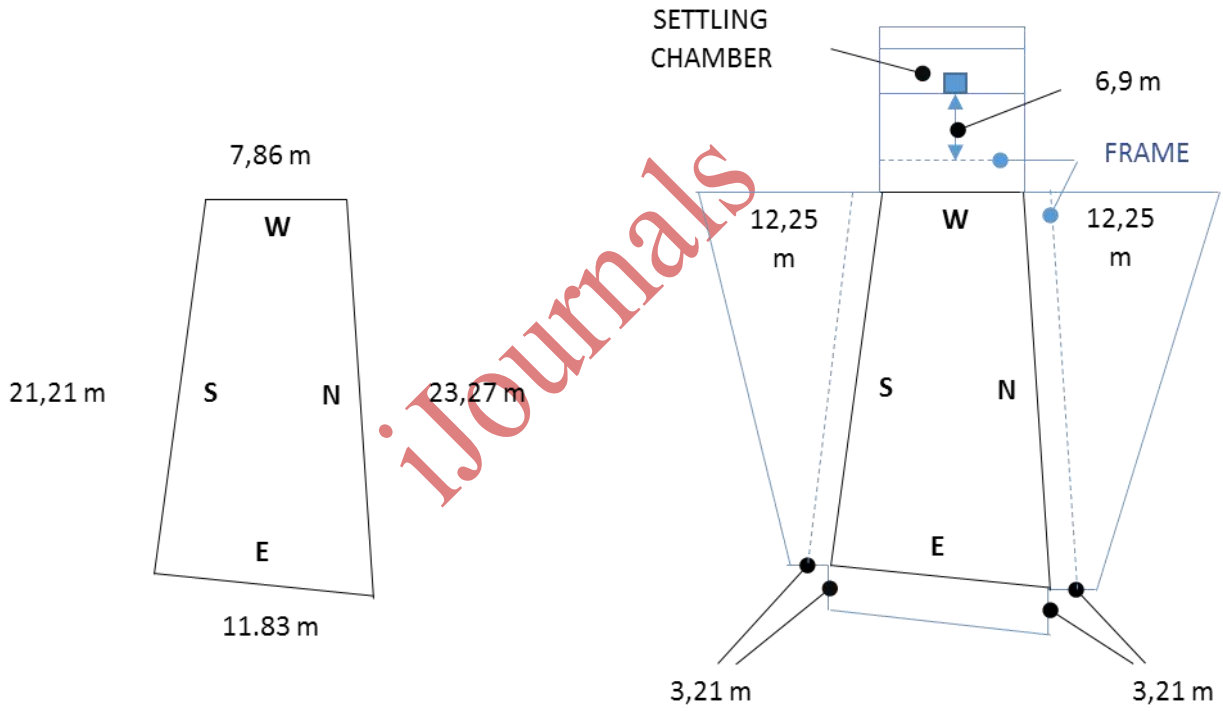
Having said that, it can be considered the hypothesis of creating a three-dimensional model of the internal perimeter of the entire underground area, to better evaluate the size, orientation and position with respect to the external road surface. In this regard, the creation of a three-dimensional model may be feasible, not without the mitigation of some problems that are not easy to solve, such

as that of photographic and video shooting in a totally dark environment and with the aid of a drone, in a environment of this type. The use of Laser-Scanner technology could be very useful, also to map the ducts present on the raised part of the underground chamber, where the settling chamber and the water supply ducts are located.

It is also considered important to confirm here, how at least access to the underground chamber should be improved, considering the construction of a staircase and a metal gate, which would at least allow safe access to the cistern itself and prevent outsiders from being able to enter it. freely making changes in an area of national historical interest.

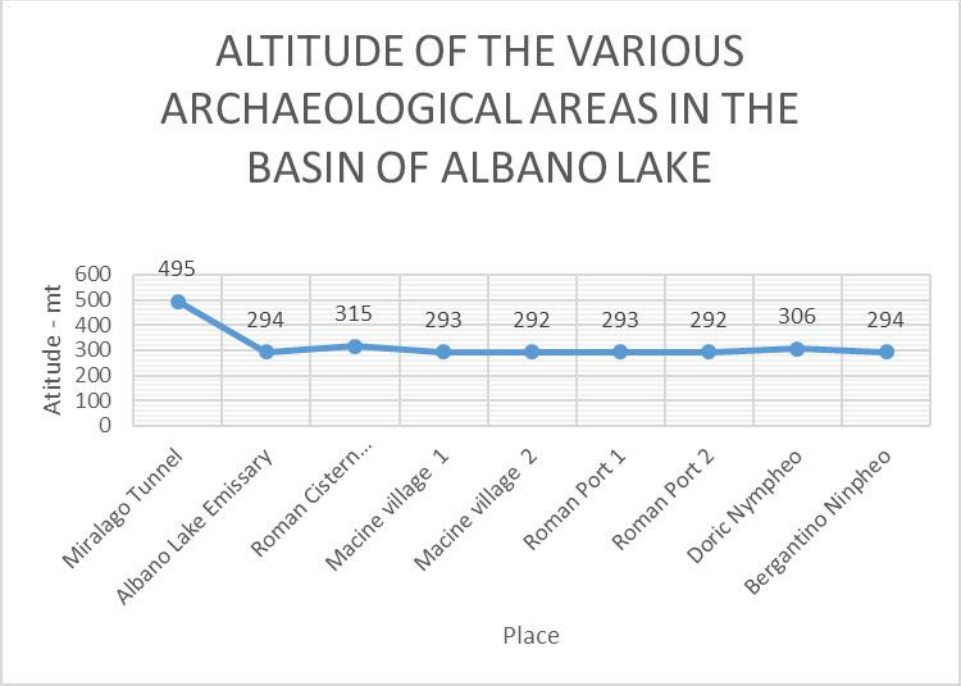
Many works can be carried out to make this archaeological discovery open to the public and to citizens as well as to tourists on a national and international scale, but in the same way further reconnaissance and exploration studies of the Roman Cistern must be undertaken to understand its exact extension also compared to the other archaeological and architectural elements of ancient times present in its immediate vicinity.

The recently discovered Roman cistern appears to be the highest waterworks in terms of height compared to the other structures present in the Basin of Lake Albano. It has the following internal measures:




**Scheme E – Measurement of the internal structure of the Roman Cistern, carried out through the investigation work of the Arco di Diana APS Association. Credits: Arco di Diana APS.**

On 8 August 2021, the Arco di Diana APS Association carried out some altimetric and exploratory surveys in the area of the Lake Albano Basin. The first altimetric surveys have highlighted the altitudes of some archaeological sites; the results are as follows (**Scheme F**):




**Scheme F – Altimetric measurements of some archaeological elements present close to the water basin of Lake Albano, except the Miralago Tunnel which is located outside the crater of volcanic origin, the Roman Cistern is the archaeological element with the greatest elevation in altitude and therefore capable to supply water to all the other archaeological structures mentioned. Credits: Arco di Diana APS Association.**

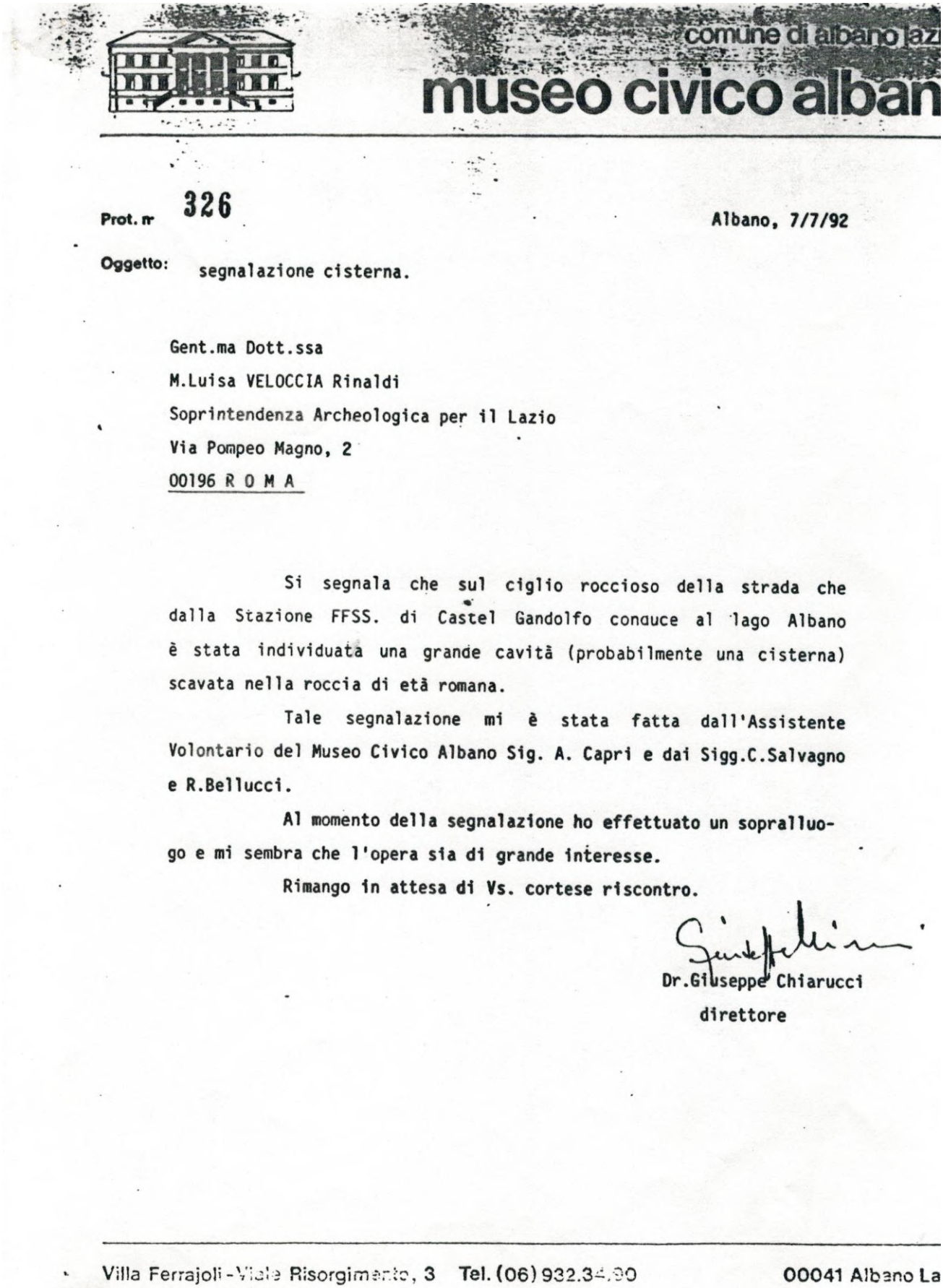
The data reported are in meters (**Scheme F**), and allow us to point out that most of the archaeological structures present close to the water basin of Lake Albano are at an almost identical altitude, this means that the level of Lake Albano, when these structures were built was the same. The Roman cistern turns out to be one of the largest underground works found in the southern area of Rome, and in this case very important as a hydraulic engineering work. It is therefore a very important discovery made since the European postwar period.

In the coming years, the area of Lake Albano, Rome, Italy, must be explored with greater attention in order to be able to unearth other important archaeological discoveries that still lie underground and are waiting to be brought to light. As for the Roman Cistern considered in this study, it was possible to deliver it to citizenship thanks to the investigation work of the Arco di Diana APS Association, without which it would not have been possible to obtain all the important information that was instead collected.

We are confident that in the not too distant future we will be able to interact again with the Archaeological Superintendency of Rome, in order to study the entire territory of the Alban Hills and thus be able to bring to light other sensational discoveries already identified.

**Acknowledgments: I personally thank on behalf of the Arco di Diana APS Association, which I represent here, Dr. Simona Carosi, of the Archaeological Superintendence of Rome, for her constant presence and commitment as well as infinite availability towards the requests of the association relating to research and survey projects carried out. Dr. Daniele Cataldi - Vice President of the Arco di Diana APS Association.**

**Attachment A**



comune di albano laz
museo civico alban

Prot. n° 326 Albano, 7/7/92

Oggetto: segnalazione cisterna.

Gent.ma Dott.ssa
M.Luisa VELOCCIA Rinaldi
Soprintendenza Archeologica per il Lazio
Via Pompeo Magno, 2
00196 R O M A

Si segnala che sul ciglio roccioso della strada che dalla Stazione FFSS. di Castel Gandolfo conduce al lago Albano è stata individuata una grande cavità (probabilmente una cisterna) scavata nella roccia di età romana.

Tale segnalazione mi è stata fatta dall'Assistente Volontario del Museo Civico Albano Sig. A. Capri e dai Sigg.C.Salvagno e R.Bellucci.

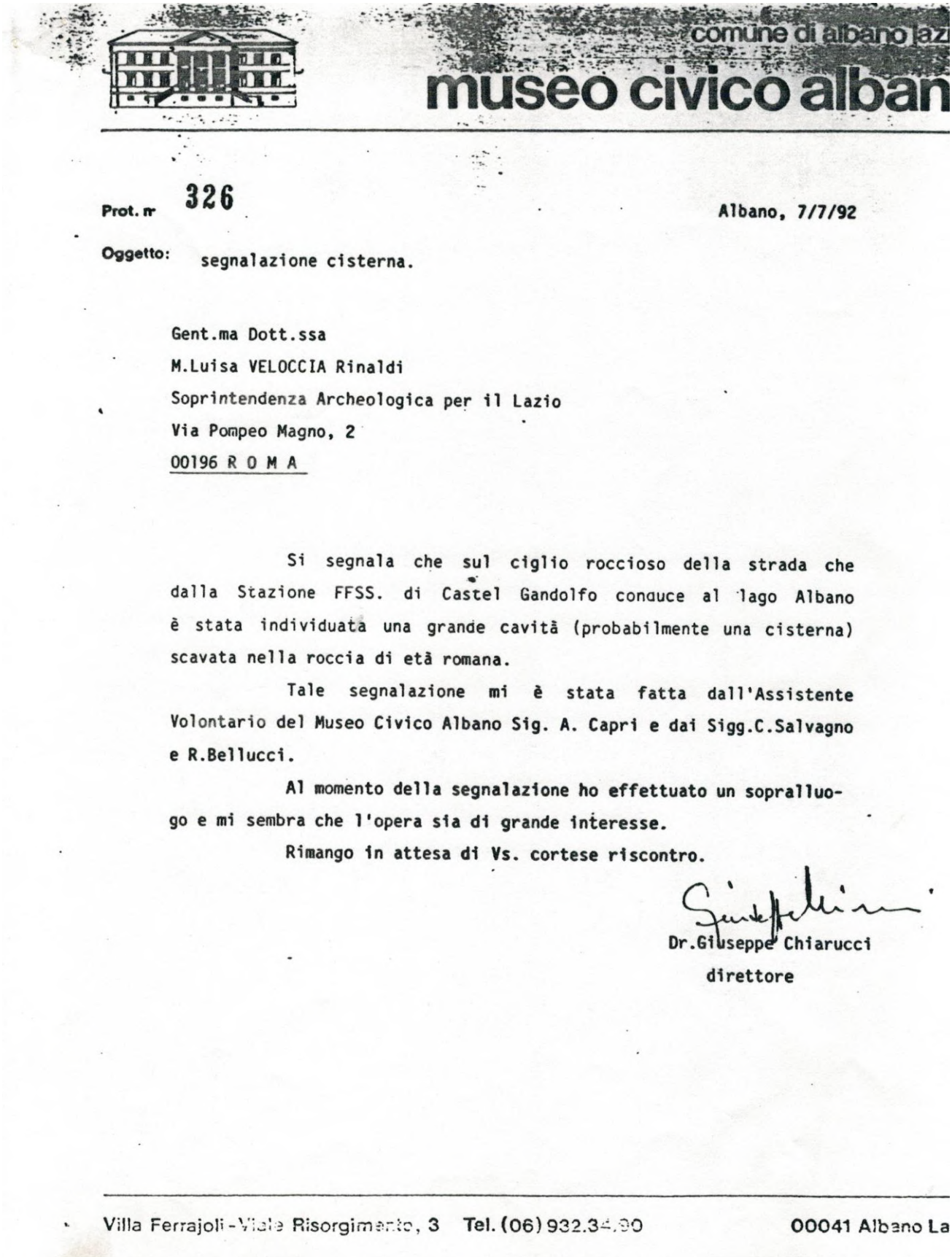
Al momento della segnalazione ho effettuato un sopralluogo e mi sembra che l'opera sia di grande interesse.

Rimango in attesa di Vs. cortese riscontro.

Dr.Giuseppe Chiarucci
direttore

Villa Ferrajoli - Viale Risorgimento, 3 Tel. (06) 932.34.00 00041 Albano La

**Attachment B**



comune di albano laz

museo civico alban

Prot. n° 326

Albano, 7/7/92

Oggetto: segnalazione cisterna.

Gent.ma Dott.ssa
M.Luisa VELOCCIA Rinaldi
Soprintendenza Archeologica per il Lazio
Via Pompeo Magno, 2
00196 R O M A

Si segnala che sul ciglio roccioso della strada che dalla Stazione FFSS. di Castel Gandolfo conduce al lago Albano è stata individuata una grande cavità (probabilmente una cisterna) scavata nella roccia di età romana.

Tale segnalazione mi è stata fatta dall'Assistente Volontario del Museo Civico Albano Sig. A. Capri e dai Sigg.C.Salvagno e R.Bellucci.

Al momento della segnalazione ho effettuato un sopralluogo e mi sembra che l'opera sia di grande interesse.

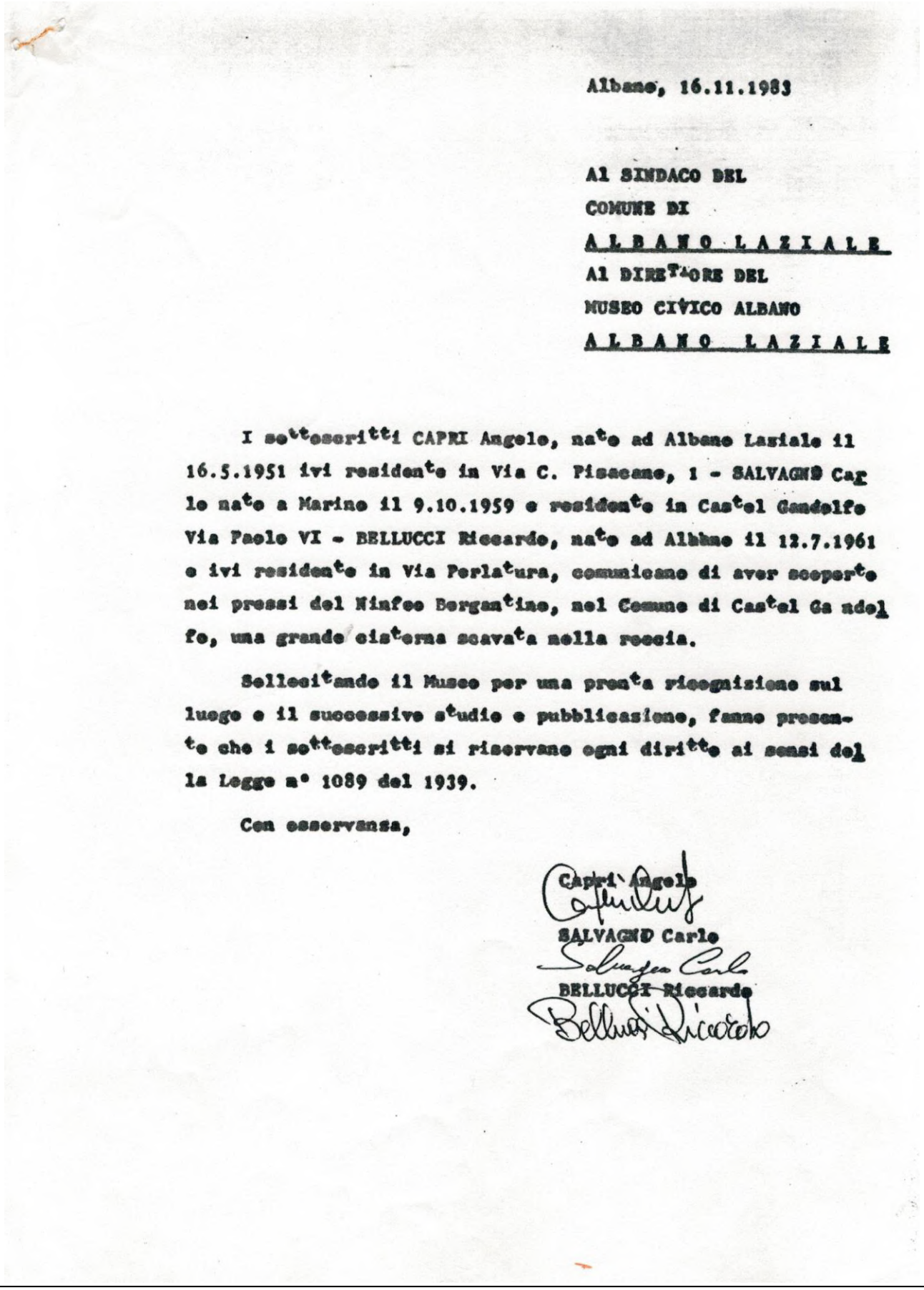
Rimango in attesa di Vs. cortese riscontro.

Dr.Giuseppe Chiarucci
direttore

Villa Ferrajoli - Viale Risorgimento, 3 Tel. (06) 932.34.90 00041 Albano La

**Attachment C**



Albano, 16.11.1983

Al SINDACO DEL
COMUNE DI
ALBANO LAZIALE
Al DIRETTORE DEL
MUSEO CIVICO ALBANO
ALBANO LAZIALE

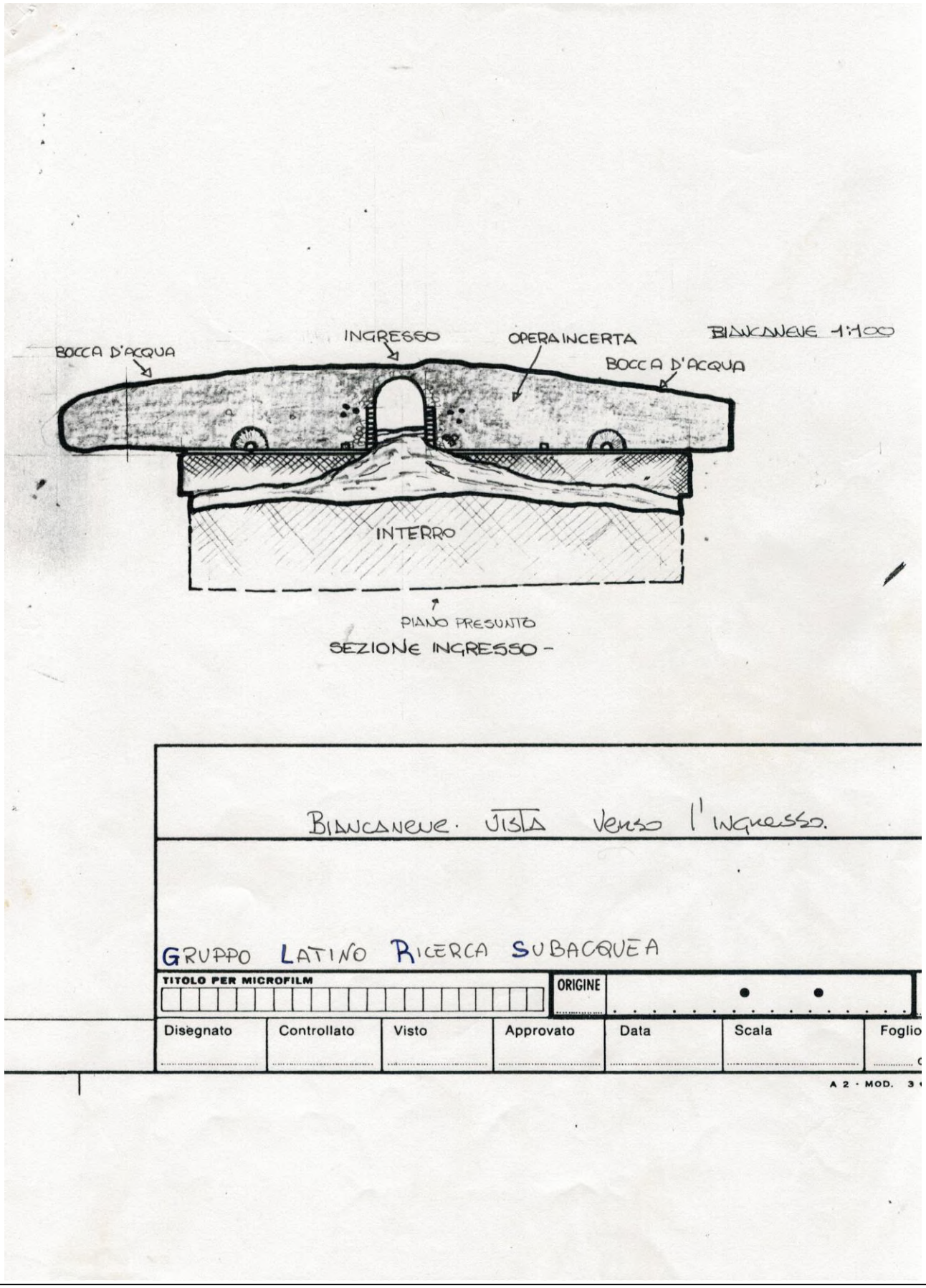
I sottoscritti CAPRI Angelo, nato ad Albano Laziale il 16.5.1951 ivi residente in Via C. Pisacane, 1 - SALVAGNO Carlo nato a Marino il 9.10.1959 e residente in Castel Gandolfo Via Paolo VI - BELLUCCI Riccardo, nato ad Albano il 12.7.1961 e ivi residente in Via Perlatura, comunicano di aver scoperto nei pressi del Ninfeo Borgantino, nel Comune di Castel Gandolfo, una grande cisterna scavata nella roccia.

Sollecitando il Museo per una pronta ricognizione sul luogo e il successivo studio e pubblicazione, fanno presente che i sottoscritti si riservano ogni diritto ai sensi della Legge n° 1089 del 1939.

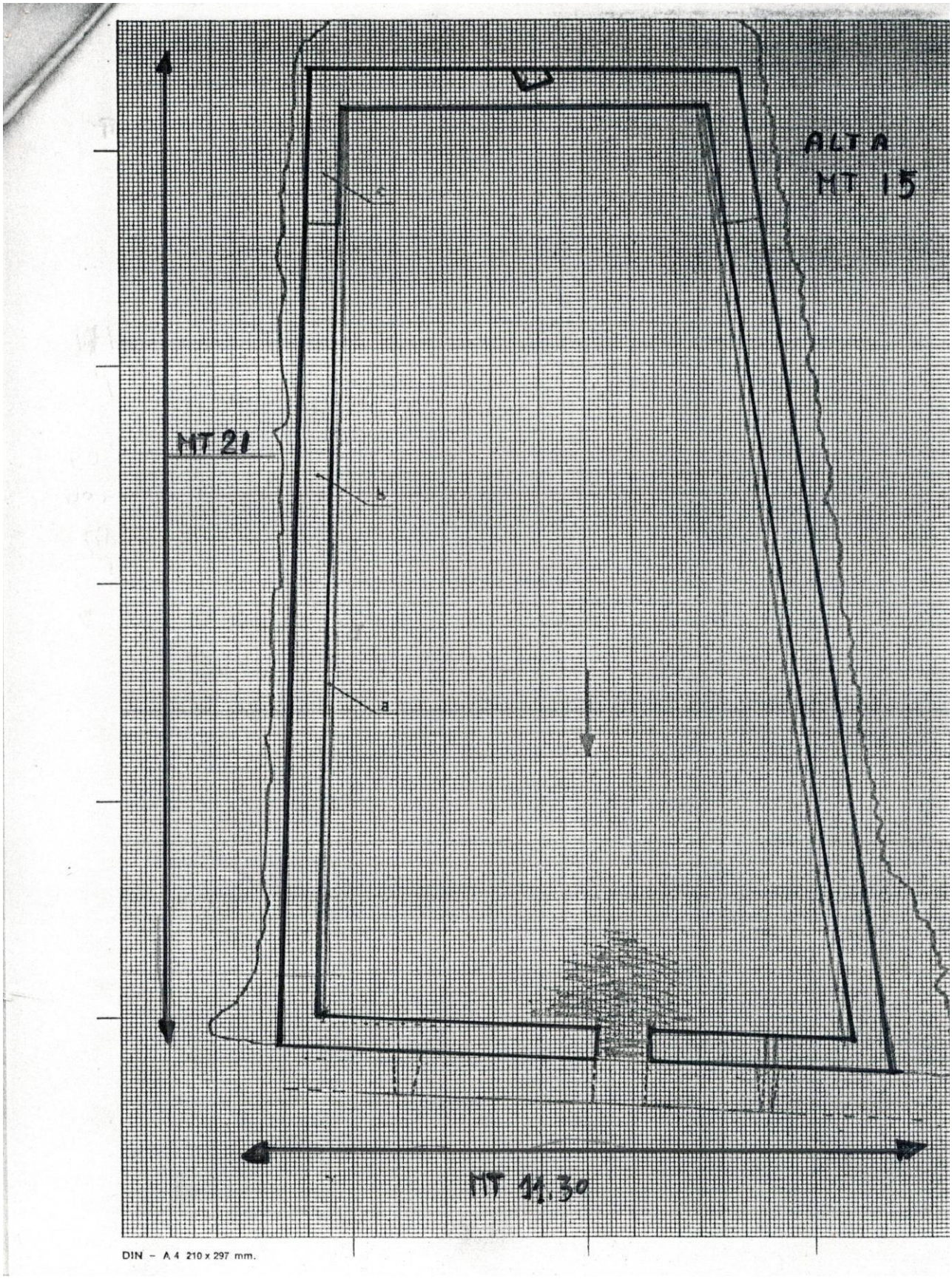
Con osservanza,

Capri Angelo
SALVAGNO Carlo
BELLUCCI Riccardo

**Attachment D**





## REFERENCES

**[1]** Reporting Discovery of the Roman Cistern - Letter to the Mayor di Albano Laziale, Rome, Italy and to the Director of the Museo Civico di Albano Laziale (Rome, Italy) - November 16, 1983.

**[2]** Protocol 326 - Civic Museum of Albano Laziale (Rome, Italy) - Municipality of Albano Laziale, Rome, Italy. Cistern Report (7 July 1992) - Archives of the Arco di Diana APS Association.

**[3]** Reliefs inside the underground chamber of the Roman Cistern, made by the GLRS Association - Gruppo Latino Ricerca Subacquea.

**[4]** Giuseppe Ceraudo e Fabio Piccarreta - Archeologia Aerea - Studi di Aerotopografia Archeologica - Libreria dello Stato - Istituto Poligrafico e Zecca dello Stato - Roma - 2004 - Edition edited by Pier Giorgio Monti.

**[5]** Attachment A

**[6]** Attachment B

**[7]** Attachment C

**[8]** Attachment D

**[9]** I limiti di esposizione per la popolazione e per i lavoratori sono regolamentati - from D.Lgs.230/95 and s.m.i. (D.Lgs.241/00 e D.Lgs.257/01).

**[10]** SOURCES AND EFFECTS OF IONIZING RADIATION - United Nations Scientific Committee on the Effects of Atomic Radiation UNSCEAR 2000 Report to the General Assembly, with Scientific Annexes VOLUME I: SOURCES. UNITED NATIONS New York, 2000