Comprehensive Technical Report on Archaeological Investigations at Site IV-238 Ivlita, KP 231, Akhaltsikhe District

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Abstract

The report presents the results of archaeological investigations undertaken in connection with the construction of the BTC Pipeline. The investigations were carried out at Site IV-238, KP 231 near the village of Ivlita in Akhaltsikhe District, Samtskhe Region.

The purpose of the investigation was data recovery and to establish the function of the locality. Field and laboratory studies were carried out by the Borjomi Archaeological Expedition of the Otar Lordkipanidze Centre of Archaeology of the Georgian National Museum under the supervision of Irine Gambashidze in 2004.

Site IV-238 is a Late Medieval aqueduct that supplied the Akhaltsikhe Rabat and Citadel with drinking water. Trenches allowed us to investigate an area of 82 square metres. A wall constructed from slate and adobe 6.5m long, 2m wide and 2.5m high was found in the form of a mound.

Excavations led to the identification of 41 artefacts, 38 of them fragments of the aqueduct, one fragment of mortar containing a piece of a ceramic pipe, and a fragment of a ceramic jug, a fragment of a greyish basalt cornice carved on one side with oblique fluting and a floral motif. This architectural detail must belong to a much earlier construction, probably a church, and must have been reused in the masonry of the aqueduct.

The aqueduct crossed the ROW at its full width, but it was impossible to change the route of the pipeline. By agreement between the archaeologists and the builders a tunnel was dug below the aqueduct through which the pipeline passed.

1.0 Introduction

Purpose of the investigation

The purpose of the project was to carry out archaeological investigations at Site IV-238, KP 231, near Ivlita Village (near Akhaltsikhe) in Akhaltsikhe District, Samtskhe Region, in order to identify its character and the area of its expansion. The investigation revealed the remains of a Late Medieval aqueduct. Since it was impossible to bypass it, the builders were encouraged to allow the pipeline to pass beneath the aqueduct.

Project sponsor

Field investigations and post-excavation laboratory processing and analysis were funded by the BTC and SCP Pipeline Companies.

Dates of the investigation

The archaeological investigations near Ivlita Village took place between 13-17 April 2004.

Final disposition and repository address

Archaeological material from Site IV-238 and the related field and laboratory reports have been deposited with the Otar Lordkipanidze Centre of Archaeology of the Georgian National Museum.
14 Uznadze St
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The final depository for the archaeological artefacts will be the Akhaltsikhe Branch of the Georgian National Museum.

2.0 Environmental Background

Akhaltsikhe District is a part of the historical province of Samtskhe. It is situated in the Akhaltsikhe depression and covers the Mtkvari Valley between Muskha and Atskuri and the Potskhovi Valley below the Kvabliani tributary. To the north the district is bordered by the Meskheti range while to the south it is surrounded by the Erusheti range.
Most of the district area is formed of Oligocene sandstone and clay, but a small part (the slopes of the Erusheti range) consists of Eocene tuff-breccia, tuff and andesite. The relief is diverse and contains flat terraces, valleys running north to south, small depressions and volcanic mountains.
In most parts of Akhaltsikhe District there is mountain steppe climate. Winters are cold with minor snowfalls, while summers are long and warm. At the bottom of the Akhaltsikhe depression the average temperature in January is -3.8º C, and in August +20.5º C; the average annual precipitation does not exceed 520mm, while in the mountainous zone it reaches 1200mm.
Rock xerophytic bushes and shrubs (juniper, blackthorn) prevail in the floral community of the district as well as xerophytic perennial herbaceous plants. The vegetation of the lower zone of the mountain forest includes oak and hornbeam, while fir and pine grow in its upper zone.
The wildlife includes deer, chamois, wild boar, otter, lynx, wild cat, bear, wolf, fox, badger, marten, weasel, rabbit, squirrel, water vole, and forest mouse. There are numerous wild pigeons, turtle-doves, crows, magpies, starlings, and quails. The rivers contain trout, barbel, and carp.

2.1 Site Location and Description

The aqueduct is located 3km NW of the town of Akhaltsikhe, between the villages of Ivlita and Tskruti, in Akhaltsikhe District at an altitude of 1098m. It was built on the left bank of the river Potskhovi, on a saddle on the crest of a ridge covered by an artificial pine forest. The aqueduct runs for over 180m in a south-westerly direction.

2.2 Past Environment

The earliest settlement in Georgia was discovered at Dmanisi, where stone artefacts and faunal material of the Olduvai period (of 1.8 million years ago) were found together with hominid remains. It is also worth mentioning Akhalkalaki Amiranisgora, otherwise the only Early Acheulean site in south-east Georgia, and which was followed in time by hundreds of sites of different periods of the Stone Age (Gabunia, Vekua, 2005, 5). Anthropological and palaeontological materials from these sites have great importance for the study of the environmental development of Georgia in the Quaternary period (between the Pleistocene and Early Holocene).

Before the Mindel period (0.6-0.7million years ago) in present day Georgia there was a moderately warm climate and a savanna-type landscape. A dramatic change of climate took place at the beginning of the Mindel period. This phenomenon occurred in Georgia too, although, due to its southern location, there was no large-scale fall of temperature. After this the Mindel-Riss warm period began which was followed by the Riss period, the greatest glaciation in the history of the Earth. The Riss glaciation was followed by the warm interglacial epoch, which can be dated to 120-70,000 years ago.

About 70,000 ago there began dramatic fall in temperature, which brought about the Würm glaciation. This glaciation strongly affected human settlement patterns in the Stone Age. Because of the severe conditions humans left the upland and highland areas and used them only during the warm summer season, mainly for hunting. In this period in Georgia humans lived only in the plains.

The transition from Old to New Stone Age coincided with the transitional stage from the Upper Pleistocene to the Holocene (approximately 10-12,000 years ago). At this time there occurred dramatic changes in environmental conditions and it began to get much warmer.

In the Mesolithic period humans went back to the highlands that had been abandoned during the previous Würm glaciation. Since then humans have lived in every landscape zone in Georgia. During the period after the Holocene glaciation the environment did not change much. (*Georgian Archaeology*, 1991, pp. 52-69).

Thanks to faunal and floral data we can to a certain extent reconstruct the palaeo-ecological picture of Georgian territory in the Pleistocene. No substantial environmental changes occurred between the Early Pleistocene and Early Holocene. The climate was moderately arid and warm (Gabunia, Vekua, 1997, 13-15). The landscape of eastern Georgia consisted of medium height mountain ranges traversed by deep gorges. Studies of floral fossils suggest that in the forests of the eastern Georgian plains there grew thermophilic tree species and those suited to a climate of average humidity, such as oak, willow, poplar, aspen, birch, or walnut, (Gabunia, Vekua, 1978, 3-56). Studies of bone material of mammal fossils suggest the existence of the following mammals: raccoon-like dog, hyena, lynx, sabre-toothed tiger, porcupine, mastodon, giant *damana*, rhinoceros, elephant, reindeer, fawn, oryx, hornless cow, and birds such as the ostrich (Gabunia, Vekua 1997, pp. 10-11).

No palynological or palaeobotanical investigations have been carried out near the aqueduct, and so we do not have precise information concerning environmental change. The old water pipe, for

which the aqueduct was constructed, goes across the artificial pine forest. Many such artificial forests were built throughout Akhaltsikhe District during the second half of the 20th century.

2.3 Land Use History

The area adjacent to the site is used as arable land for growing annual crops by the residents of the village of Ivlita. The mountain crest itself, where the aqueduct is built, is useless for agricultural purposes.

The area of Samtskhe Region is 254,496 hectares or 3.4% of the whole of Georgia. In 1975 arable land covered 18,401 hectares of the area under discussion; 3,579 ha were covered with perennial vegetation, 92,271 ha were under forest and shrubs, 74,914 ha were pasture or meadows, and 4,045 ha were farmland. The rest was useless for agricultural purposes.

3.0 Cultural Background

3.1 Prehistoric and Historic Contexts

Lower Palaeolithic (2,000,000-100,000 years ago)

Geologically, the lower Palaeolithic corresponds to the early stage of Pleistocene. It was then that a human of modern appearance emerged. The first representatives of the genus Homo (*Homo erectus*) lived in small groups and fed themselves with natural resources from around their dwellings. On the territory of Georgia there is evidence for this period at Dmanisi. Here, alongside stone inventories and fossils of Pliocene fauna, remains of *Homo erectus* were also found, the oldest of those discovered outside Africa. Together with evidence from Ubdaisa in the Jordan Valley, they suggest the route of hominid migration beyond Africa.
There exist 16 sites in Georgia where Acheulean type stone tools have been found belonging to the Palaeolithic period or later. Two of these sites are located in the southern part of the country in an area adjacent to the ROW.

Middle Palaeolithic (100,000-35,000 years ago)

This period coincides with the appearance of the oldest *Homo sapiens* or Neanderthal man. In Europe and south-east Asia the later stage of this period of human history is marked by the so called Mousterian stone tool culture which, compared to the Acheulean is more sophisticated and produced tools of more diverse shapes. Like northern Europe, Georgia spent most of this period in a glacial or periglacial environment. More than 75 sites producing Mousterian stone tools have been found in Georgia. Seven were found in southern Georgia, in the main region of the project area.

Upper Palaeolithic (35,000-14,000 years ago)

Upper Palaeolithic corresponds to Late Pleistocene. During this period the technology of making stone tools greatly improved. Some archaeologists consider that the diversity of stone tools excavated at different sites might point to the existence of culturally different human groups.
The emergence of verbal communication is also attributed to this period. The principal occupation of the inhabitants of Georgia in the Upper Palaeolithic must have been hunting in groups. Their prey will have included deer, bison, wild horse, wild goat, bear, and the cave lion, remains of all of which are found in abundance on Upper Palaeolithic sites. People lived in natural caves or grottoes, near the paths of hunted animals.
Three of the 33 or more significant Upper Palaeolithic sites discovered in Georgia are in the south, but none of them is near the ROW.

Mesolithic (12,000-8,000 BC)

The beginning of the Mesolithic period is defined by the end of the Pleistocene and the beginning of the Holocene. Once the Wurm glaciation was over, the climate became milder which made it possible to occupy considerably larger areas. Hunting remained the main means of sustenance but humans started looking for more diverse quarry. They hunted animals of different sizes such as deer, horses and sheep that lived in herds as well as separately.

The systematic gathering of seasonal plant products became an important part of the domestic economy. The people of the period, whether in Georgia, Europe or south-western Asia, switched from caves to occupying open areas. The diversification of materials and tools is a characteristic feature of this period. Microliths (flint and obsidian burins) and burnished stones used for processing plants are quite common at this time. Stone sinkers and harpoons point to the popularity of fishing. The transition from Upper Palaeolithic to Mesolithic is simply identified as the process of adapting to diverse and more available resources conditioned by the mild environment of the Holocene. In Georgia there are 12 significant Mesolithic sites, but none of them is near the ROW.

Neolithic and Eneolithic periods (8,000-3,500 BC)

The beginning of the Neolithic is known as a revolutionary period since it was then that dramatic changes in economic life occurred. Hunting and gathering were replaced by farming and livestock breeding and the cultivation of crops and domestication of animals began, as did the practice of using pottery for the storage and preparation of food. Stone tools like the hand-axe, sickle, grindstone and hoe, which was used for clearing and ploughing earth, became common.
Unlike the Palaeolithic and Mesolithic, Neolithic archaeological complexes in Georgia are mainly represented by fragments of pottery (vessels for preparing and storing food), which points to the great importance attached to food preparation and preservation.
The first isolated Neolithic structures in Georgia consisted of round or ellipsoidal rooms open towards one another. They were built of adobe and were probably strengthened with wooden beams. Dwellings were roofed with the branches of trees and clay. The organization of a settlement is clear from the site of Imiri Hill in Kvemo Kartli (southern Georgia).
In the 6^{th}-5^{th} millennia BC an advanced farming culture was created in eastern Georgia. Remains of a wide variety of wheat, barley, millet, oats, pea, lentil, melon, sorrel, etc. have been found. Grape pips discovered there are supposed to be transitional to the domesticated grapevine. A simple irrigation system was also practiced.
About 60 Neolithic sites are known in Georgia, most of them in the west, although concentrations can also be observed in southern parts of the country. One site of the Late Neolithic (Eneolithic) is located in the area contiguous to the project in Akhaltsikhe District.

Bronze Age (3,500-800 BC)

Bronze Age culture in Europe, Mediterranean and SW Asia formed a new type of society based on cattle breeding and agriculture, on the technical development of pottery and raw metal processing. It was the first stratified society ruled by military and religious elite. Their high social status is reflected in elaborate ornaments made of precious stones, precious metals and bronze.
The Bronze Age is divided into Early, Middle and Late Bronze periods. In Georgia the earliest culture of this epoch was the Kura-Araxis Culture, which developed in the Neolithic period and Early Bronze Age (3,500-2,500 BC). It is characterized by adobe, stone or earth and timber wall constructions, advanced pottery and metallurgical activities and, at the same time, by developed agriculture and cattle breeding. Remains of this culture are concentrated in the central part of southern Georgia. It was also widespread over the territories of present-day Armenia, Azerbaijan and eastern Turkey and even to the south, reaching Syria and Palestine.
Among the Kura-Araxis Culture sites discovered at Samtskhe, Amiranis Gora, a settlement and burial excavated near Akhaltsikhe is noteworthy. It is still the Early Bronze Age site in the

southern Caucasus that has been most fully studied (Chubinashvili, 1963). In 2005 an Early Bronze Age settlement also belonging to the Kura-Araxis Culture was found near Atskuri, at the 202 km point of the pipeline. Judging by the artefacts discovered at the site the main activities of the inhabitants were agriculture and cattle breeding.

A Kura-Araxis Culture settlement was excavated at Javakheti, in the village of Satkhe (Isaac et al. 1994). A kurgan was also excavated there whose grave inventory is analogous to the one from a Kura-Araxis period burial at Kvatskhela. It must consequently be the earliest kurgan to have been discovered in this region.

Judging by the Kura-Araxis Culture period sites excavated so far it is becoming clear that in the Early Bronze Age Samtskhe, Javakheti and Tori were not developed with equal intensity. Sites of this period are fewer in Borjomi and Adigeni Districts. According to some scholars, the Kura-Araxis tribes chose to live in less forested zones with a mainly continental climate (Japaridze, 1976).

The Kura-Araxis Culture was replaced by the Early Kurgan Culture, which had two stages: Martqopi and Bedena. In 2004 a kurgan belonging to the Martqopi stage of the Early Kurgan Culture was excavated at Kodiana hill, at the 193 km point of the ROW (Report of the Borjomi Archaeological Expedition in 2004).

In the Middle Bronze Age the so-called Trialeti Culture became widespread (2,500-1,500 BC). Its impact extended even beyond the borders of present-day Georgia, to the south and to the east. The name of the culture derives from the Trialeti plateau (the south-central part of Georgia which is traversed by the pipeline corridor), where the first archaeological investigation of its remains was conducted in the 1930s. The Trialeti Culture is characterized by large kurgans, fine pottery, bronze metallurgy and jewellery. The Trialeti Culture has only been studied through the medium of burial complexes, since inhabited settlements belonging to this culture have not yet been discovered.

In the Late Bronze Age a rapid process of consolidation of south Georgian tribes occurred, reflected in the formation of a homogeneous culture among related tribes over a vast area. In western Georgia Colchian Culture developed in the Late Bronze Age. In the 13^{th}-12^{th} centuries BC great pre-state unions were formed on the bases of these two cultures, the Diaokh (in the south-western part of historical Georgia, now in Turkey) and the Colchian (in western Georgia).

During the last stage of the Middle Bronze Age (mid-second millennium BC) and in the Late Bronze Age, Samtskhe, Javakheti and Tori were being settled with particular intensity and became culturally advanced. Among the Bronze Age sites recovered in these areas the following should be mentioned: a chance find of a cultural level in the village of Rveli (*Izvestia Arkheologicheskoi Komisii,* 1911); the remains of a metallurgical workshop and several burials in the village of Tsagveri; the remains of a copper and bronze processing workshop and characteristic associated material from Gujareti gorge; accidental finds of bronze artefacts in the village of Telovani (Colchian axes, metal moulds, ingots, etc.), recognized to be material of special importance (O. Gambashidze, 1967); a cemetery in the village of Gomna (Nioradze 1943, 173)⁊ . In the 1970s and 1980s Trialeti Culture burial sites of the Middle Bronze Age (Japaridze, Kikvidze, Avalishvili, Tsereteli 1981) and Late Bronze-Early Iron Age sites were excavated in the villages of Rveli, Chitakhevi, Kviratskhoveli, Bornighele, Berbukebi and Machartsqali; also Middle Bronze Age kurgans at Zveli and Okroqana-Akhcha (Gambashidze, Kvizhinadze 1979, 55-60; 1981, 57-64; 1985, 31-36). Particularly important is the Ude (Adigeni District) treasure, which contains typical Colchian Culture bronze and iron tools and weapons and other objects (Javakhishvili, Chubinishvili 1959).

Iron Age and Early Classical Period (800-500 BC)

At the beginning of the first millennium BC the transition from bronze processing to iron metallurgy brought about significant changes in economic development and social life.
In eastern Georgia the oldest centre of iron production was Kvemo Kartli, which was rich in iron ore. Iron Age sites have also been found in Tsalka and Borjomi Districts. In western Georgia there is evidence for iron production centres both in the coastal areas of the Black Sea as well as inland, whence iron was exported to Greek cities.
This period is marked by the decline of Kartvelian communities. Diaokh was destroyed by the kingdom of Urartu in the tenth or ninth century BC. Colchis collapsed around 720 BC as a result of the Cimmerian invasions.

Classical Period (500-325 BC)

During this period eastern Georgia was under the strong political and cultural influence of Achaemenid Persia. This influence is demonstrated in the Akhalgori treasure and in the archaeological material excavated at Tsikhiagora. A process of consolidation of the various tribes took place in which Meskhian tribes played a leading role. It was at this time that the city of Mtskheta was founded.
In the second half of the 6th century BC the kingdom of Colchis was created in western Georgia with its cities, religious centres, advanced and complex craft systems and wide international contacts. In the 6th-4th centuries BC Greek cities emerged on the Black Sea Coast: at Phasis (near Poti), Gienos (Ochamchire), and Dioskuria (Sokhumi), a development that promoted an increase and extension of economic and cultural ties for Colchis. The wide trade contacts that Colchis had with the Greek world are attested to by Classical authors as well as by a broad range of archaeological material. In the main, the Colchians exported wood and flax and imported luxuries such as precious vessels and ornaments. Here both Greek coins and locally minted Colchian tri-obols were in circulation. Excavations at the city of Vani, the religious centre of the kingdom, which have been conducted since 1947, have revealed some extraordinarily rich archaeological material.

Hellenistic Period (325-65 BC)

Alexander of Macedon did not invade Iberia and Colchis. Georgia was left beyond the Hellenistic world, although political, trade, economic and cultural contacts had a great influence upon the development of the country.
At the turn of the 4th-3rd centuries BC in eastern Georgia, the kingdom of Iberia (Kartli) was formed with its capital in Mtskheta as a result of a struggle between separate groups. Georgian historical tradition (*Kartlis Tskhovreba* ["Life of Kartli"]) mentions Parnavaz as the first king and ascribes to him the building of the citadel Armaztsikhe, and the erection of an idol of Armaz. Parnavaz had close contacts with the Hellenistic kingdom of the Seleucids and established a similar state organization.
In Hellenistic times, one of the most important trade and transit routes went through Georgia, which helped to spread Greek production (e.g. pottery, metalwork and stone-carving) throughout the country. The Hellenistic monetary system was introduced: in Colchis coins of Lysimachus were minted, while in Iberia they made gold imitations of Alexander staters.

The Hellenistic period is marked by an intensification of the process of urbanization and city development. It was then that Mtskheta, the capital of Iberia, and Vani, the main religious centre of Colchis, prospered. Hellenistic building methods and certain types of buildings became widespread. Some crafts also show evidence of Hellenistic influence, for example, the vertical loom was introduced in textile production. Greek religious cults (especially that of Dionysus) and beliefs became popular, also reflected in burial practice, e.g. the placing of coins in graves as payment to Charon.

Roman Period

In 65 BC, the Roman commander Pompey invaded Caucasia and conquered Iberia and Colchis as well as other countries. Colchis became a province of the empire. Roman garrisons were stationed in coastal cities (Phasis, Dioskuria, Trapezus, Apsaros) until the 4th century AD. Iberia maintained its royal power. The Iberian kings Mithridates I, Parsman I, Parsman II defended themselves from both Rome and Parthia but with unequal success. In the 2nd and the beginning of the 3rd century AD Iberia was a strong state with an independent policy.
At this time the status of Mtskheta, the capital of Iberia, was enhanced. In 75 AD the wall of the Armazi castle was fortified with the help of the Romans. A well-preserved vaulted crypt built of hewn stone points to a high level of architectural sophistication. A tombstone with a Greek inscription, found in Mtskheta, attests to the existence there in the 3rd or 4th century of the position of head of architects and artists.
In the 2nd-3rd century necropolis in Armaziskhevi near Mtskheta, a cup with an Aramaic inscription and Parthian gold coins were excavated. There are numerous graves of this period in the Samtavro necropolis in Mtskheta itself. Greek and Hebrew inscriptions coins, quantities of jewellery, silver and glassware have been unearthed there.
Thanks to the influence of Roman culture and way of life Georgian cities began to acquire baths with water pipes and drainage systems (e.g. Armaziskhevi, Bagineti, Urbnisi, Dzalisa, Bichvinta, Shukhuti. In the last three remains of mosaic floors have been found).

Early Medieval Period (4th -10th centuries)

In Georgia, the year of the conversion of Kartli to Christianity, either 326 or 337, is conventionally the beginning of the Medieval period. The establishment of Christianity in eastern Georgia is associated with St Nino, who first converted Queen Nana and then King Mirian and the whole pagan population of Mtskheta. Very large Christian communities already existed in the coastal cities of western Georgia, although Christianity was only later declared to be the state religion in the kingdom of Egrisi.
In the 5th and 6th centuries the Byzantine Empire and Sassanid Iran fought to establish their rule in Georgia. In the second half of the 5th century Vakhtang Gorgasali, the king of Kartli, successfully met the aggression of his powerful neighbours. His name is associated with the foundation of the city of Tbilisi, which soon became the capital of Kartli. He was also responsible for founding the Kartlian Patriarchate, from which emerged the autocephalous status of the Georgian church.
In 627 the Byzantine Emperor Heraclius invaded Kartli. According to *Kartlis Tskhovreba* ("Life of Kartli") he built several churches there, among them Atskuri cathedral. In the middle of the 7th century the Arabs conquered Georgia. In the 9th century a powerful kingdom was formed in Tao-Klarjeti (historical south-western Georgia, now in Turkey) with the Bagrationi royal family at its head. The great monastic movement that developed in this area under the leadership of St. Grigol

Khandzteli was followed by significant cultural advances. At this time western Georgia was part of the kingdom of Abkhazia, but in 978 Bagrat III became the king of both kingdoms, through which he initiated the unification of Georgia. The end of the 10th and the beginning of the 11th century are marked by an extraordinary flowering of art and architecture. The earliest building level of Akhaltsikhe castle belongs to the Early Medieval period and is dated to the 9th century (Chilashvili 1970, 107).

High Medieval Period (11th-14th centuries)

During the first half of the 11th century kings Giorgi I and Bagrat IV attempted to complete the unification of Georgia and to eradicate any Byzantine influence. In the 1070s the country's development was thwarted by an invasion of Seljuk Turks. During the reign of David IV the Builder (1089-1125), however, Georgia started to advance again. David annexed Kakheti, which had been a separate kingdom before then, as well as Tbilisi, which had been in Arab hands for 400 years. By these means the political unification of Georgia was finally achieved. David made Georgia the most powerful state in the region and defeated the Seljuk Turks in several battles. His success was assisted by the activities of the Crusaders in the Near East. Georgia remained a powerful unified state under David's successors and achieved the culmination of its power in the reign of Queen Tamar (1178-1213). Tamar's kingdom covered almost the whole of Transcaucasia, while its influence extended as far as the north Caucasus and the empire of Trebizond. In 1235 Georgia was conquered by the Mongols. Now began a gradual degradation of the state system, of economics and culture. This process could not be halted by the occasional successes of Giorgi IV the Brilliant (1314-1346) or of Alexandre I (1412-1442). After the collapse of the Byzantine Empire in 1453 the country seemed to be surrounded by Moslem countries. In the second half of the 15th century Georgia disintegrated into several separate kingdoms and provinces.
The city of Akhaltsikhe was founded in the 10th-12th centuries, and is first mentioned in written sources in the 12th century. The fortress of the rulers—the Jaqelis—belongs to the 12th-14th centuries, and fragments reused in later buildings must be of the same date. In the top left-hand corner of the fortress gate is a 12th century stone inscription that mentions the builders Michael and Bagrat.

Late Medieval Period (16th-18th centuries)

The Late Medieval period was a time of serious political, economic and cultural crisis in Georgia. A country that had disintegrated into kingdoms and provinces could not withstand its enemies and often became the victim of invasion. In the 16th to 18th centuries Kartli and Kakheti were mainly subordinated to Iran. Western Georgia was under Ottoman influence. The Ottomans simply annexed south-western Georgia (Samtskhe-Saatabago) to their empire in the 1570s. In 1628 the Akhaltsikhe Pashalik was established. The unification of Kartli and Kakheti and several successful wars conducted by Erekle II were followed by the devastating invasion of the Iranians in 1795. After the annexation of Samtskhe by the Ottomans, Akhaltsikhe first became the centre of the province of Liva and then the centre of the whole of the Pasha's domain. During this period the Citadel was reconstructed several times. A mosque was built in the city, and houses (now the older districts) were built on the terraces of the slopes near and around the castle. In the 1650s the city, where most of the houses were wooden, burned down in a great fire. Akhaltsikhe

was rebuilt in the second half of the 17th century. In the 18th century it became the centre of the slave trade.
Akhaltsikhe was a multinational city with diverse religions. Here lived Georgians, Armenians, Turks, Jews. There were Catholic and Monophysite Armenian churches, mosques and a synagogue there.
In 1752 a substantial new mosque and medrese were built within the Citadel. Here there were also powder stores, a library, and towers in which officials lived.
The Citadel (palace, baths and other buildings) was supplied by Likaniskhevi spring water flowing from the Persati mountains which was drained by means of underground sewers. The Citadel still preserves remains of an earlier piped water system. When building happens today, there occasionally appear clay pipes, immense vessels for water gathering, filtering and distribution, water switching systems, and the remains of irrigation canals. The aqueduct that we excavated and investigated was also a part of the water supply system of the Akhaltsikhe Citadel and of the Rabat district.

Modern Period (19th-20th cc)

The Persian invasion of 1795 involved the country in disaster. The Russian Empire took advantage of the situation and annexed the kingdom of Kartli and Kakheti in 1801. This was followed by the conquest of the kingdom of Imereti and of the provinces of Guria, Megrelia and Abkhazia. In 1828, following her victory over the Ottoman empire, Russia annexed Samtskhe-Javakheti, and in 1878 Ajara and Shavshet-Klarjeti. It was through Russia that European culture and a European life style penetrated Georgia.
By the time Russia annexed Samtskhe, Akhaltsikhe had a population of 10,000 people. The city was divided into 12 neighbourhoods: Nuraliant, Lelo, Jiritmoedani, Zemo, Gumbati, the district of the Georgians, etc. (Gvaramadze 1906, 3,4). Under Russian rule commerce and crafts developed in the city, and buildings on European lines began to be constructed.
After the Russian revolution, Georgia gained its independence in 1918. Encouraged by the Turks, Moslem separatists tried to create a separate state in Samtskhe, but the democratic Republic of Georgia successfully prevented this move. In 1921, Bolshevik Russia annexed Georgia once more and made it into a Soviet Socialist Republic.
In 1945, the Soviet authorities exiled the whole Moslem population of Akhaltsikhe and other regions of Samtskhe (the so called "Turkish Meskhetians") accusing them of siding with Nazi Germany. The majority still live outside Georgia.
In 1991 Georgia regained its independence.

3.2 Summary of Previous research

No archaeological site has been identified within 1 km radius of Site IV-238 near the village of Ivlita.

4.0 Methodology

4.1 Field Methods

A central datum point was selected outside the investigated area. The area was divided into squares of 10 x 10m. On the plan the squares were denoted by a capital letter of the Latin alphabet and by an Arabic numeral.
To record the cultural levels five trial trenches of different sizes were dug across the site. One trench was made at the wall and was cleared from the inside. The work was done by hand.
The excavated site was measured, and the artefacts catalogued and drawn. Plans of the site and section drawings were made, and photographic documentation carried out. The material was collected and recorded by level. The finds were wrapped and labelled in the field. Every artefact was taken from the field for laboratory treatment.

4.2 Laboratory Methods

The artefacts were grouped according by material and place of recovery. Pottery artefacts were cleaned with brushes and washed in a solution of hydrochloric acid. Afterwards an analysis was conducted of their stylistic and typological features. All the artefacts were numbered, described, catalogued, labelled and put in plastic bags.
Digital photos were classified.
Hard copy and electronic versions of the documentation related to field and laboratory work are deposited at the Otar Lordkipanidze Centre of Archaeology of the Georgian National Museum.

5.0 Results

5.1 Basic Data Summary

On the land under consideration, situated near the village of Ivlita, Akhaltsikhe District, KP-231, an area of 82.4 square metres was investigated. Five trial trenches of different sizes were dug, among them Trenches No.1 and No.4 near the aqueduct, along the ROW, while the main trench was dug right over the aqueduct.
In Trench No.1 (6 x 2.4 x 0.5 m) a pile of stones was cleaned, whose cultural level could not be identified.
Trench No.2 (4 x 1 x 0.5 m) appeared to be sterile.
In Trench No.3 (6 x 2 x 0.5 m) small fragments of pottery appeared without a cultural context. Ceramic pieces were mostly fragments of pipes.
In Trench No.4 (4 x 2 x 0.7 m) a small amount of ceramic fragments were also found.
The main Trench No.5 (11 x 4 m) was made right over the aqueduct.
The recovery of the engineering building and the fragments of clay pipes provides evidence that we were dealing with an aqueduct, a hydro-engineering building which apparently supplied the old quarter of Akhaltsikhe with water.
Altogether, 36 artefacts were recovered, comprising 34 ceramic fragments, one stone object, and one fragment of mortar. The artefacts were all found in context and came mainly from the stone masonry and the earth that lay directly over the aqueduct. The ratio of material found in context in a cultural level to accidental finds is 100% to 0%.

5.2 Features

Judging by the finds, the water supply system that spanned the aqueduct was renovated several times, but we did not find separate strata, and it should therefore be considered as a single period feature.

5.3 Artefacts

The artefacts recovered on the aqueduct can be classified into three groups:

1. **Ceramic artefacts**

Two subgroups can be identified by function among the ceramics, namely building materials and tableware. 33 of 34 ceramic pieces are water pipe fragments. Tableware is represented by one fragment of a small jug.

Type: building ceramics, pipes (pl. III: 37, 39) fired reddish-buff, made of well-refined clay with sandy admixtures, different diameters, clumsy work, with a smooth surface, grooved inside (from the action of the potter's wheel), fragments of heads and ends of clay pipes.
Manufacturing technique: wheel made, clay with sand admixtures, kiln fired.
Distribution: at the upper part of the aqueduct, on the surface and near the surface, in the main trench.
Function: pipes for drinking water (building).
Period: 17^{th}-18^{th} centuries.

Type: tableware pottery, one small fragment of rim and neck, plain, smooth, clumsy work; fired buff.
Manufacturing technique: wheel made, well-refined clay, kiln fired.
Discovered in the masonry of the aqueduct.
Period: Late Classical (?).

2. Stone artefact
Type: architectural detail, cornice (pl. III: 1) made from greyish basalt, one side carved with obliquely incised flutes and floral motifs.
Found in the filling of the aqueduct masonry, at 1.1 metres below the surface.
Function, primary: building, detail of a church (?) cornice; secondary: building stone in the masonry of the aqueduct wall.
Period: Early Medieval and 14^{th}-16^{th} centuries.

6.0 Interpretation

The aqueduct discovered near the village of Ivlita, formed part of the water supply system of the Akhaltsikhe Rabat and Citadel. Its function seems to be related to supplying the settlement and the garrison with drinking water.

In terms of construction, the structure of the clay pipes and other external data, the aqueduct at Ivlita has much in common with Late Medieval building techniques. No other material dating it to an earlier period has been found. Taking the historic background into consideration, the construction and utilization of the aqueduct can be dated to the 17th or 18th century. The discovery of a piece of carved basalt in the masonry of the aqueduct is also noteworthy. It must be part of the cornice of an Early Medieval church. Clearly, stone from a church that had already been destroyed was reused in the construction of the aqueduct.

The aqueduct near Ivlita village was apparently laid from the nearby mountain and ran through linked clay pipes over a long distance towards its destination (Rabat, gardens and orchards, baths, etc.). These pipes constituted an open water channel. They were attached to each other by means of mortar and were placed on top of a well-built high wall that functioned as a levelling construction to even out the irregular relief of the terrain, and to allow the water to flow directly towards its destination. The main construction was also very important because it controlled the gravity-fed apparatus.

Aqueducts have a long history. In Eastern countries they had been built since the second millennium BC, and in Greece since the 7th century BC. The aqueducts at Rome of the 4th century BC have a total length of 436 km, 55 km of which were raised on arches. The well-known Aqua Appia was built by Appius Claudius Caecus in 312 BC. Fine examples of Roman aqueducts are the "Pont du Gard" near Nimes (1st century BC, Gallia Narbonensis, present-day France) and the aqueduct near Segovia which is still in use (2nd century AD, Spain). Another well-known example is the Burgaz aqueduct near Constantinople (6th century). The two-storey arcaded aqueduct of the Iberian monastery on Mount Athos (Chalcidice peninsula, Greece) was built in 980-983, when the builders Ioane Mtatsmindeli and Tornike Eristavi were active.

Such a substantial and powerful water supply and distribution system was unknown in Georgia until recently. The Ivlita aqueduct is the first and so far the only aqueduct to have been discovered, although other kinds of piped water systems are known from earlier times. The 12th century cave monastery at Vardzia was supplied by spring water through one of the channels that led from the Persati mountains. The water pipe network excavated at Vardzia displays a high level of hydraulic engineering. There, water ran through a tunnel cut in the rock from a place above the monastery in a gravity-fed flow system. The water filled a rock-cut reservoir and then ran through clay pipes towards the cells (Melitauri, 1963, 7). These pipes were cast in moulds, joined at the ends with mortar and directed along a surface specially inclined so as not to impede the water pressure. Judging by surviving traces, the clay pipes were sometimes embedded in grooves and sometimes laid directly on the rock.

In this context special attention should be paid to the earlier irrigation systems at Samtskhe. In this area mountain springs were the only means of irrigating the soil. Springs were directed downwards in gravity-fed systems. In hydro-technical terms the Samtskhe irrigation arrangements are typical of mountainous areas, as in Svaneti, Upper Racha, or Khevi. In the lowlands of Akhaltsikhe and in the Adigeni District, field crop cultivation, market gardening and viticulture are well developed. Here lands are irrigated from springs and reservoirs using gravity-fed systems. Small amounts of spring water might be collected in ravines and then directed to a spot from which artificial waterfalls were arranged. Levelling and cleaning the terrain were also

very important, for which various means of irrigation were used, for example, if the ground was flooded, humidity might be retained for a long time. (Gegeshidze 1990, 95-116).

In Samtskhe in earlier times, channel construction and water conservation were serious concerns for the whole village. Stealing water was punished in the same way as stealing bread. In Samtskhe, the main form of irrigation was to use mountain streams, brooks, and artificial channels. Water was then distributed into artificial reservoirs by means of gravity-fed systems. Irrigated terrace agriculture was typical of the population of Samtskhe, in keeping with their centuries-old traditions.

The aqueduct excavated near Ivlita illustrates how important was the water supply for the arable land of Akhaltsikhe and adjacent village settlements. Although archaeological excavations have not been carried out within the Akhaltsikhe Citadel, the buildings situated there, a mosque, a bath, a palace, reception rooms, taverns and caravanserais, all=indicate the existence of a system of piped water.

The old part of the city of Akhaltsikhe is located on the left, high and rocky, bank of the river Potskhovi. It includes the castle surrounded by the so-called Rabat, the merchants' and artisans' quarter. According to Vakhushti, "there is a city of Akhaltsikhe on the rocky slope of Persati Mountain, and the city is enclosed within three walls" (Vakhushti, p. 125 [in Georgian]).

The earliest building level of the Citadel might belong to the 9th or 10th century, the period when the city was created and found itself within the confines of a fortified castle (Chilashvili 1970, 107). The Citadel was mainly built during the rule of the *atabag* Sargis Jaqeli (13th-14th century). In all the preserved buildings there are many traces of renovation.

In 1628 Akhaltsikhe became the centre of the Pashalik. The pashas of Akhaltsikhe had their residence arranged within the Citadel. According to Iskander Munshi and Evlia Chelebi, 15,000 people lived in Rabat and 6,600 in the inner castle during the first half of the 17th century. In the 1650s the city, of which most of the houses were wooden, burned down in a great fire. As a result, a city became a small town. After this disaster the population only managed to build 400 houses.

As Vakhushti says, the Akhaltsikhe Citadel (consisting of a palace, baths and other structures) was supplied with water from the Livaniskhevi spring flowing out from Persati Mountain, while drains running through underground collectors were laid towards the sloping gorge. The Citadel still preserves the remains of the earlier water-pipe system. When building work is carried out there today, clay pipes, vessels for water gathering, filtering and distribution, and the remains of switch-pipes and irrigation channels are occasionally recovered.

7.0 Conclusions and Recommendations

The aqueduct near the village of Ivlita, dateable to the 17th-18th centuries, is a part of the water pipe system of the Akhaltsikhe Rabat and Citadel. Its function appears to have been to supply the settlement and the garrison with drinking water. Such a substantial and powerful water supply and distribution system was unknown until recently. The aqueduct near Ivlita is the first and so far the only one to have been recognised.

It illustrates how important was the water supply for Akhaltsikhe and for its arable land and for that of adjacent agricultural settlements. The aqueduct is an important monument of Medieval architectural engineering. Future building activity on the site should not be allowed. In the case of farming activities on adjoining land, the historical significance of the monument should be borne in mind.

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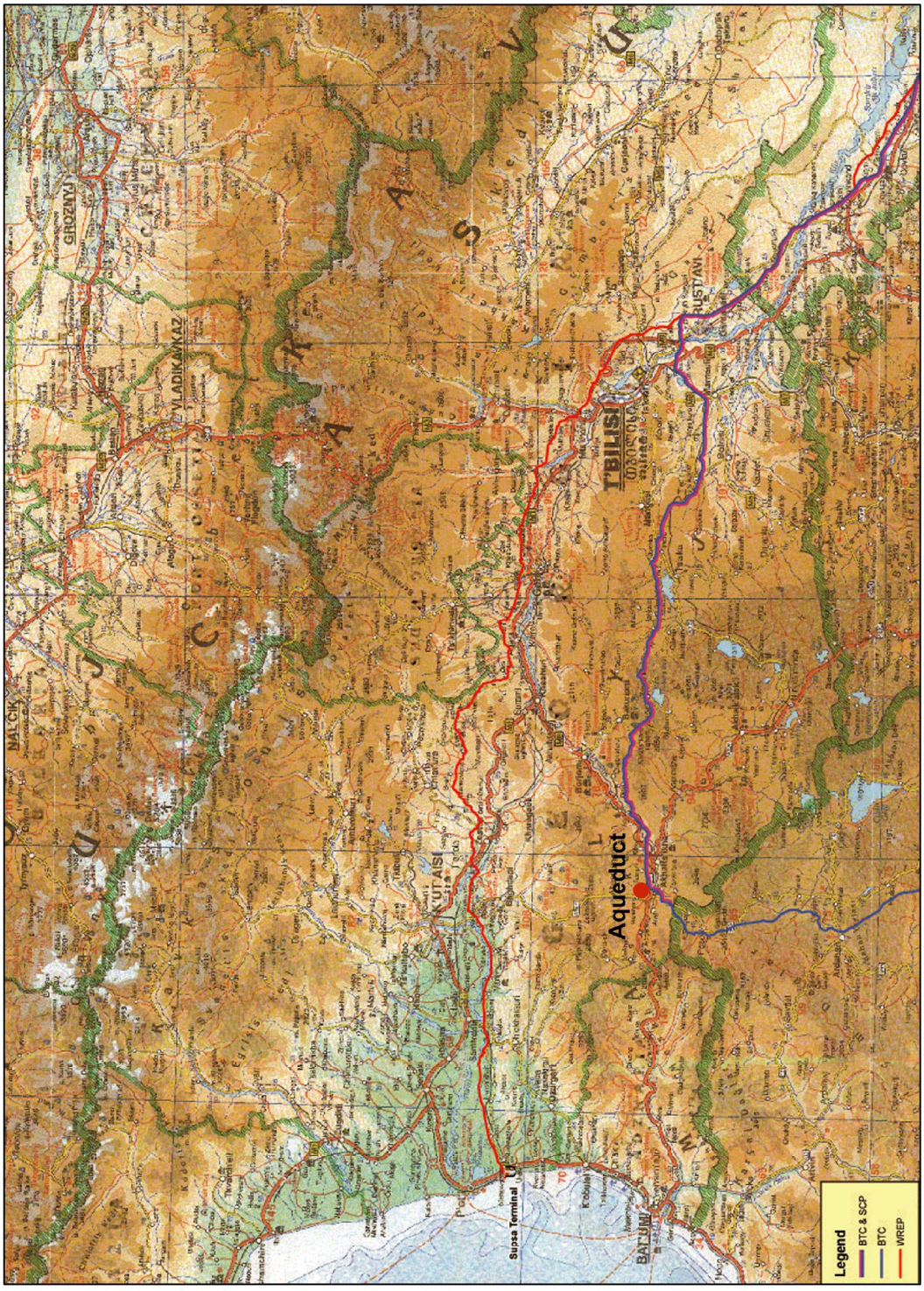
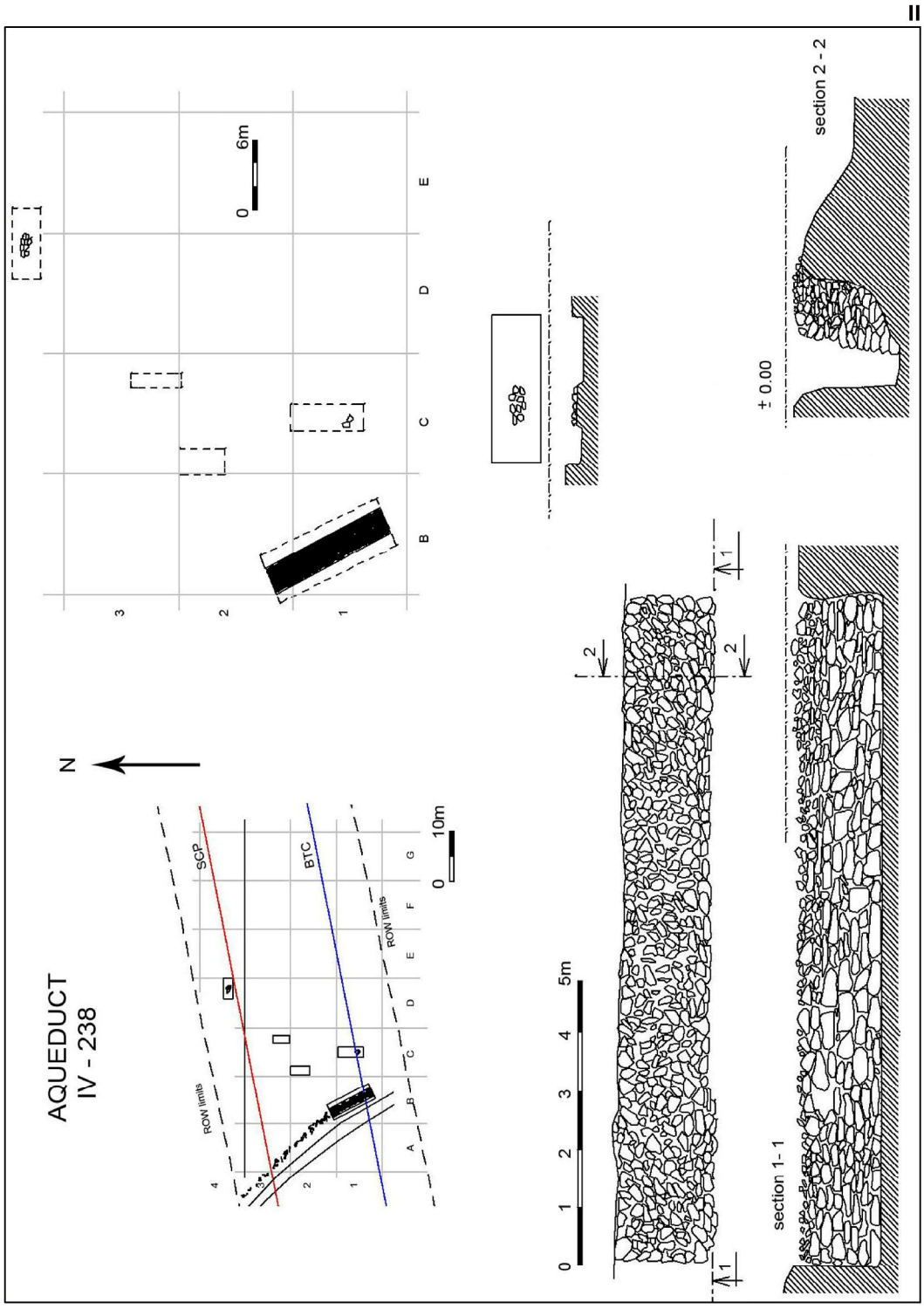
Artefact number	Place of discovery	Depth, m	Type of material	Function	Form	Segment	Descriptors			Number	Comments	Date/ Cultural period
							1	2	3			
1	Under stone masonry	1.1	Stone	Construction	Wall fragment	Cornice fragment	Blackish surface	Vertical flutes on the outside, ornament fragment on one side		1	No photos and drawings	Early Medieval
2	Stone masonry	0.3-0.4	Lime mortar	Construction	Mortar fragment		Light grey	Ceramic pipe fragment in the structure		1		Late Medieval
3	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired brick-red	Horizontal engraved lines inside	Round	1	No drawings	Late Medieval
4	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired buff, thick fabric	Horizontal engraved lines inside	Round	1		Late Medieval
5	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired buff	Horizontal engraved lines inside, trace of scratching	Round	1	No drawings	Late Medieval
6	Stone masonry	0.8	Ceramic	Construction	Pipe	Rim	Fired buff		Round, slightly thickened, small line divides in two parts	4	Not restorable	Late Medieval
7	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired brick-red	Lime mortar traces on both surfaces	Round	3	Not restorable, no drawings	Late Medieval
8	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff, thin fabric		Round, slightly thicken	6	Not restorable,	Late Medieval

									ed		no drawings	
9	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff, thin fabric		Round, slightly thickened	2	Not restorable	Late Medieval
10	Stone masonry	1.1	Ceramic	Tableware	Small jug	Rim	Fired buff, thin fabric, fine-grained		Round, out-turned rim, neck slightly concave	1	No drawings	Late classic?
11	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	grey fired, thin fabric		Round, out-turned rim	1	No drawings	Late Medieval
12	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired buff	Lime mortar trace inside	Round, slightly thickened	1		Late Medieval
13	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired buff		Round, slightly thickened, small line divides in two parts	1		Late Medieval
14	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired buff		Round, slightly thickened	1		Late Medieval
15	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired buff	Lime mortar trace inside	Round	1		Late Medieval
16	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired buff	Lime mortar trace outside	Round	1		Late Medieval
17	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff	Lime mortar trace outside, scratched trace on the edge	Round	1	No drawings	Late Medieval
18	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired buff, grey inside	Lime mortar trace	Round	1		Late Medieval

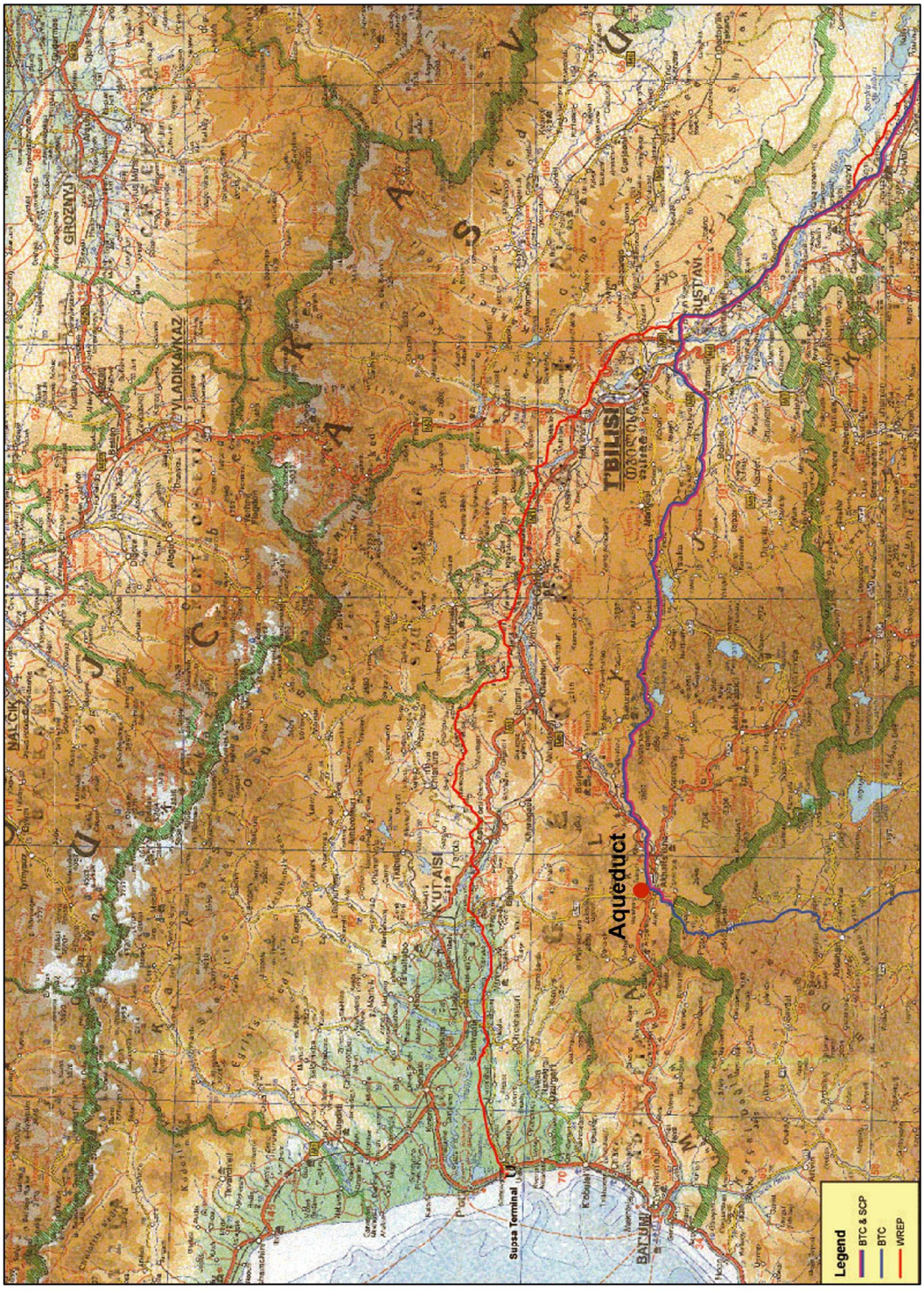
19	Stone masonry	1.1	Ceramic	Construction	Pipe	Neck	Fired buff, fabric fired regularly		Round	1		Late Medieval
20	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired brick-red	Lime mortar trace outside	Round	1	No drawings	Late Medieval
21	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired brick-red, fabric fired regularly	Lime mortar trace outside, scratched trace on the edge	Round	1	No drawings	Late Medieval
22	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired buff, fabric fired regularly		Round	1	No drawings	Late Medieval
23	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired buff, fabric fired regularly		Round	1		Late Medieval
24	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired buff	Lime mortar trace outside	Round, flat ridge around rim	1	No drawings	Late Medieval
25	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff		Round, thickened ridge around rim	1	No drawings	Late Medieval
26	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired brick-red, thin fabric		Round rim, thickened ridge around rim	1	No drawings	Late Medieval
27	Stone masonry	1.1	Ceramic	Construction	Pipe	Wall	Fired buff	Thin line "bagel" on the middle part, lime mortar trace	Round	1		Late Medieval
28	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired brick-red		Round rim, thickened ridge round rim	1	No drawings	Late Medieval
29	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff		Round rim, thickened ridge round rim	1		Late Medieval

30	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff, thin fabric	Lime mortar trace	Round rim, thickened ridge round rim	1	No drawings	Late Medieval
31	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired buff	Lime mortar trace	Round rim, thickened ridge round rim	1	No drawings	Late Medieval
32	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff	Lime mortar trace	Round, flat horizontal rim	1		Late Medieval
33	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired buff	Lime mortar trace	Round, out-turned rim	1		Late Medieval
34	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff		Round rim, thickened ridge around rim	1	No drawings	Late Medieval
35	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim	Fired buff, thin fabric		Round, thickened rim	1		Late Medieval
36	Stone masonry	1.1	Ceramic	Construction	Pipe	Rim-wall	Fired buff, thick fabric		Round	39		Late Medieval


Aqueduct
TBILISI
KUTAISI
Legend
BTC & SCP
BTC
WREP


II
AQUEDUCT
IV - 238
N
SCP
BTC
ROW limits
ROW limits
0
10m
6m
section 2 - 2
± 0.00
section 1 - 1
0
5m

III


Aqueduct
TBILISI
KUTAISI
Legend
BTC & SCP
BTC
WREP