

Gas interconnector North Macedonia - Greece

CBA, Feasibility Study update, Environmental and Social Impact Assessment, Basic (detailed) Design and Tender Dossier

Supplementary ESIA Report

Addendum II Supplementary Cultural Heritage Impact Assessment Report Draft Final Report

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Executive Summary

This supplementary assessment has been conducted as a result of the implementation of the project for the construction of a main gas pipeline – Section North Macedonia – Greece. Specifically, this has been done due to the need for determining the impact that the newly built pipeline will have on the social, cultural and natural values of the region. Given the fact that the cultural heritage is an important factor for the region, all possible impacts (positive and negative) should be approached with special care. Accordingly, this report is aimed at anticipating and registering such impacts on cultural heritage. The planned pipeline is going to be constructed within the boundaries of the area in Gevgelija, Bogdanci, Negotino and Demir Kapija municipalities.

Integrated management of cultural and natural heritage is carried out according to national legislation, determined and defined strategic documents, analyses and reports, as well as bibliographic units related to the heritage of the region. While preparing the Heritage Impact Assessment (HIA) they are all taken into account, as well as other published and unpublished data sources, which refer to the heritage of the region and its management.

Besides the cabinet work for preparing the Heritage Impact Assessment (HIA), the research team approached to field studies with the aim to gather relevant and current data, as well as mapping and visualization of affected cultural sites and objects.

As a general basis for the development of HIA, the ICOMOS guidelines model were taken on which such reports should be based. The Heritage Impact Assessment follows the methodology presented in the Supplementary ESIA report, and is comprised of grading and evaluation of receptors' sensitivities (significance of the site/value/locality), as well as grading and evaluation of impact magnitudes related to the construction of the gas pipeline. The diverse grading of the values and impacts are expressed through determined criteria descriptors ranging from "negligible" to "very high" for receptors, or from "no change" to "high" for impacts magnitude.

The determined categories of grading and assessment were subject to intercrossing, thus defining the impact significance of each of the reviewed sites or values and the impacts on them. Defining these variables is required with the aim for determining the endangerment of the value of the region with the planned construction of the gas pipeline.

The Heritage Impact Assessment covers two periods as follows: period during construction and period of operation the gas pipeline. After the detailed analysis of the planned route the conclusion was that there is no significant cultural heritage that is closer than 50 meters from the planned route. This means that their properties would not be endangered or damaged during the construction or operation of the gas pipeline. The overall pressure on the cultural heritage is estimated to be negligible to moderate.

The integrity and authenticity of the region incorporate all cultural and natural goods in their combination (Cultural landscape) into an unbreakable whole. The Assessment determined that the integrity and authenticity of the heritage are not endangered.

All measures proposed by the HIA shall be in accordance with the existing legislation for protection of cultural heritage (Law on Protection of Cultural Heritage, Book of rules for Archaeological Research).

1 Introduction

1.1 Background

The Supplementary Heritage Impact Assessment aims at objectively assessing the impacts of the planned main gas pipeline, section North Macedonia -Greece. The project will be carried out on the territory of Gevgelija, Bogdanci, Negotino and Demir Kapija Municipality, and will require conversion of state land and expropriation of private land. The alignment of the main gas pipeline section (North Macedonia - Greece) passes through protected area of cultural heritage in the region.

In accordance with the national regulation a draft Environmental and Social Impact Assessment (ESIA) was prepared, along with appropriate assessment of impacts on biodiversity and cultural heritage in the region, which are set according to EC Guidelines and the United Nations Convention concerning the Protection of the Cultural and Natural Heritage.

1.2 Gas Pipeline Section North Macedonia - Greece (Project Corridor)

The proposed pipeline route is as follows:

The route starts 4 km east of the Bogorodica border crossing near the village Kirjanica bypassing village Stojakovo. Further gas pipeline is crossing the local road Stojakovo – Bogorodica and on 4+500 km, it is approaching the Thessaloniki-Skopje oil pipeline. At 7 + 000 km, the gas pipeline crosses the regional road Gevgelija-Bogdanci and the river Vardar at 8 + 500 km;

At the section 12 + 500 km to 15 + 000 km the route passes by the village of Prdejci on its south side, crossing the Skopje – Gevgelija international railway and highway, the oil pipeline and the local road Negorci – Prdejci. Further, the gas pipeline crosses river Kovanska and another intersection on the right side with the oil pipeline;

Starting from the km 16+000 gas pipeline enters in the hilly and mountainous area moving away from the oil pipeline and bypassing the quarry in the Dolamare locality. The gas pipeline intersects with the river Zuica, passing the local hills (Bilo, Goli Rid, Maslinski Rid) approaching the oil pipeline and crossing the river Stara Reka (Petrushka Reka) at 30+000 km;

Starting from km 30 + 000 to km 51 + 000 the route is generally passing mountainous terrain near by the oil pipeline crossings at several places (km 31 + 500; km 32 + 000; km 36 + 000; km 37 + 500; 38 + 500 km; 47 + 300 km; 48 + 800 km and 50 + 500 km). On this part of the route, gas pipeline is at the highest elevation of 877 m above sea level; and

Further, the route on km 53 + 000 crosses the river Bosava at elevation of 120 asl. and continues west of the town of Demir Kapija after which on a hilly terrain passing through the area of Golemo brdo and the Bugdeshna Glava. The gas pipeline bypasses the village Przdevo on the east side.

1.3 Cultural heritage sites along the pipeline route

It is considered that in the area of municipalities of Gevgelija, Bogdanci, Negotino and Demir Kapija there are more than 250 registered and recorded archaeological sites.

From the 250 registered and recorded archaeological sites, 21 are located near the proposed pipeline route; 13 out of the 21 sites may be potentially affected by the construction of proposed pipeline. All 13 sites are registered in the registers of the National Conservation Center of the Republic of Macedonia and at the Institute for protection of cultural heritage and Museum Strumica and they have a record number. These 13 sites are listed in the table below; further details on all 21 sites are provided in Appendix 1.

Table 1-1 Potentially affected archaeological sites along the route

	Name and location	Type / period of the site	Proximity to projected gas pipeline/ chainage
	Municipality of Gevgelija		
1.	Goli Rid – v.Smokvica	Settlement / Late Roman	50 m / Km 19+500 – 20+200
2.	Glavica – v.Prdejci	Settlement / Eneolithic and Roman; Church and necropolis / Medieval	50 m / Km 15+500
3.	Keramidarnica – v.Prdejci	Late bronze age settlement	50 m / Km 11+00
4.	Gradishte – v.Gabrovo	Medieval fortress	100 m / Km 27+00
	Municipality Demir Kapija		
5.	Crkvište – v.Dren	Church and settlement/ Late Roman and Medieval	50 m/ Km 48+900
6.	Orizarski Grobišta – v.Dren	Settlement/ Late Medieval	400 m/ Km 50+300
7.	Padinata – v.Chiflig	settlement/ Roman and Late Roman	400 m/ Km 51+000
8.	Ilmov Rid - v.Chiflig	Settlement / Late Roman	300 m/ Km 51+700
9.	Sveti Atanasij - v.Chiflig	Early Christian Church / Late Roman – Early Byzantine	100 m/ Km 52+500
10.	Orizarsko Pole – Staro Selo – Modra Stena – Besvichko Pole - v.Chiflig	Settlement and necropolis / Roman and Late Roman	50 m/ Km 52+500-53+000
11.	Bo(u)gdashna (Bogatishina) Glava – v.Przdevo	Settlement / Iron Age	50 m/ Km 59+000
	Municipality Negotino		
12.	Atanasica – v.Tremnik	Settlement and necropolis/ Late Medieval	50 m/ Km 61+500
	Municipality Bogdanci		
13.	Rudina – Shipkov Dol – v.Stojakovo	settlement from Hellenistic times and a necropolis from late antiquity	50 m / km 5+000

Note: According to the Law for protection of cultural heritage, “**protected**” cultural heritage sites have received an Act for Valorisation prescribing the degree of protection, while “**registered**” sites have been identified in the field but are yet to be recorded in the official State register for cultural protection and are yet to receive an Act for Valorisation.

2 Applied methodology for the preparation of HIA

2.1 Data Sources

Published Data

Official documents that underpin this project and are within the Republic of North Macedonia are the following:

- **AKRN 1996** = *Археолошка Карта на Република Македонија том. 1*, одг. ур. Цветан Грозданов и др. Скопје: МАНУ, Музеј на Македонија – Археолошки оддел.
- **Hald 1917** = Hald, Karl. 1917. *Auf den Trümmern Stobis*. Stuttgart.
- **Hahn 1867** = Hann, Johann Georg von. 1867. *Reuse durch die Gebiete des Drin und Wardar*. Wien.
- **Lilčić** = Лилчиќ, Виктор. 2008. „Три тврдини на македонските кралеви кај Демир Капија“, Македонско Наследство год. год. IX, бр. 33: 2-26.
- **Keramitčiev 1961** = Керамидчиев, Апостол. 1961. „Белешки од рекогносцирањето во Струмичкиот Базен и по долината на Вардар“. *Зборник на Археолошки музеј Скопје* том III, 111-117.
- **Mandić 1986** = Мандиќ, Милоје. 1986. „Прилог кон проучувањето на некрополите од средниот век и раниот турски период во Македонија“. Во *Зборник посветен на Бошко Бабиќ, 147-150*. Прилеп : Институт за истражување на старословенската култура – Прилеп.
- **Mikulčić 2002** = Mikulčić, Ivan. 2002. *Spätantike und Frühbyzantinische Befestigungen in Nordmakedonien : Städte – Vici – Refugien – Kastelle*. München : VERLAG, C. H.
- **Papazoglu 1957** = Папазоглу, Фанула. 1957. *Македонски градови у римско доба*. Скопје: Сојуз на друштвата за антички студии на Македонија; Филозофски факултет.
- **Radovanović 1924** = Радовановиќ, Војислав. 1924. „Тиквеш и Рајец : Антропогеографска испитивања“, во *Населба и порекло становништва (књига 17)*, уредник Јован Цвијић. Београд : СКА.
- **TIR** = *Tabula [Tabula] imperii romani: K 34 Sofia. Naissus - Dyrrhachion - Scupi - Serdica – Thessalonike*. Ljubljana: Römisch-Germanische Kommission, 1976.
- **Vinčić 1996** = Винчиќ, Живојин. 1996. **1000 години антика во тиквешката. Неготино : Собрание на Општина Неготино, 1996.**

Unpublished Data

- Spatial Plan of the Republic of Macedonia, Ministry for Environment and Spatial Planning, 2011

2.2 Data Bases

- Infrastructural and Detailed Design for construction of main gas pipeline, section Greece – North Macedonia

2.3 Field Surveys

In order to analyze the route of the gas pipeline and its correlation with the registered, but also the recorded archaeological sites and buildings, several field surveys have been conducted along the route by the cultural heritage experts.

2.4 Supplementary Impact Assessment Methodology

The supplementary cultural heritage assessment follows the methodology presented in the Supplementary ESIA report. The supplementary assessment considered the potential impact of the planned construction of the gas pipeline on certain receptors (cultural values of different types), as well as the impact on the overall cultural values of the region. The assessment included professional evaluation of the individual cultural localities and values, which are situated in the vicinity of the planned route and which might directly or indirectly be affected by its construction.

More precisely, it is a graded assessment of the receptor sensitivity expressed by certain criteria descriptors. The sensitivity of the receptors has five levels (grading), from “negligible” to “very high”. The impact magnitude ranges from “no change” to “high”.

The determined categories of grading and assessment were subject to intercrossing, thus defining the impact significance of each of the reviewed sites or values and the impacts on them. Defining these variables is required with the aim for determining the endangerment of the value of the region with the planned construction of the gas pipeline. Five categories (very high, high, moderate, low and Insignificant) are used to assess the significance of each impact.

The explanation of the receptors` sensitivities, or each of the criteria descriptors is shown below.

Sensitivity	Typical Criteria Descriptors
Very high	Very high importance and rarity, international scale and very limited potential for substitution
High	High importance and rarity, national scale and limited potential for substitution
Medium	High or medium importance and rarity, regional scale, limited potential for substitution
Low	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale

Besides determining the receptor sensitivity, the impact significance was also analyzed. More precisely, the impact that the construction of the gas pipeline will have on the receptors (its tangible and visual elements). Therefore, a complete inventory of the cultural heritage in the given area was the result, as well as a certain number of all sites and resources, which were at risk of being damaged to a lesser or greater extent, were selected. Additionally, included were those receptors and their impacts which are located in the vicinity of the route of the gas pipeline and have a minimum importance for the locals, or tourists as part of their cultural-tourist offer (visiting local church, celebrating local customs, celebrations, feasts and so on).

The tangible element of the receptors, or the impact on them, is called buildings and fabric. It concerns the form and design of the value, the material that it is made of, it takes into account whether it affects their substance, functionality and accessibility for the tourists, travelers, visitors or the local population, as well as the traditions and events connected with the buildings and localities along the route.

The visual aspects were also taken into consideration, which is related to context and settings, in particular cultural landscape and how to protect the landscape during the construction of the pipeline.

The tangible and visual aspects of the cultural values are determined according to the Operational Guidelines for the Implementation of the World Heritage Convention (UNESCO July, 2013).

Buildings and fabric	form and design
	materials and substance
	function and accessibility
	tradition and events connected with buildings (churches) in settlements which are located along the gas pipeline

Context and setting	cultural landscape
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The impact can be evaluated in terms of the level of influence – impact magnitude on both aspects of the receptor (buildings and fabric – tangible aspect and context and setting – visual aspect). The evaluation of the impact consisted of professional judgement by the experts in their respective fields. The level of magnitude varied from “no change” to “high”.

The lowest level of magnitude signifies that there is no risk of an immediate or indirect negative impact on the resource and its parts or elements and in the future its value (individual or as part in the total value) will not be diminished. The same applies for the positive effects i.e. the mentioned construction will not contribute to the enhancement of the resource’s value (individual or as part of the total value). The highest grade of impact magnitude refers to the highest level of change that will occur on the cultural resource in a positive or negative sense. The two extremes can be: complete losing of the cultural value, or devastation and decay to the point of uselessness and irreversible damage; or on the other hand, complete structural restoration and quality enhancement.

The following table shows the different levels of magnitude and their description by criteria descriptors.

Magnitude	Typical Criteria Descriptors
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse)
	Large scale or major improvement of resource; extensive restoration or enhancement, major improvement of attribute quality (Beneficial)
Moderate	Loss of resource, but not affecting integrity, partial loss of/damage to key characteristics, features or elements (Adverse)
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial)
Low	Some measurable change in attributes, quality or vulnerability, minor loss of or alteration to one (possibly more) key characteristics, features or elements (Adverse)
	Minor benefit to, or addition of, one (possibly more) key characteristics, features or elements, some beneficial impact on attribute or a reduced risk of a negative impact occurring (Beneficial)
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse)
	Very minor benefit to or positive addition of one or more characteristics, features or elements (Beneficial)
No change	Negligible loss or detrimental alteration to one or more characteristics, features or elements (Adverse)
	Negligible benefit to or positive addition of one or more characteristics, features or elements (Beneficial)

At the end of this process the two defined categories for the determined cultural values are inter-crossed. The two variables are receptor sensitivity and impact magnitude. The combination of these two elements of the assessment is called assigning impact significance. Because there are two aspects for the impacts, again we will have two values of the assessment.

The following table presents the categories of significance of impacts. These are result from the inter-crossing of the two-receptor sensitivity and magnitude of impact:

		MAGNITUDE OF THE IMPACT (DEGREE OF CHANGE)				
		No change	Negligible	Low	Moderate	High
SENSITIVITY(VALUE)OF THE ENVIRONMENT	Very High	Insignificant	Low	Moderate or High	High or Very high	Very High
	High	Insignificant	Low	Low or Moderate	Moderate or High	High or Very high
	Medium	Insignificant	Insignificant or Low	Low or Moderate	Moderate	Moderate or High
	Low	Insignificant	Insignificant or Low	Insignificant or Low	Low	Moderate
	Negligible	Insignificant	Insignificant	Insignificant or Low	Insignificant or Low	Low

Impacts classified as “Insignificant”, “Low” and “Moderate” were considered not to require further mitigation. Impacts classified as “High” or “Very high” were considered to require specific/targeted mitigation and adaptive management verifying the efficacy of the mitigation in place and/or the need for additional mitigation.

3 Supplementary Cultural Heritage Impact Assessment Summary

This section provides a brief summary of the supplementary cultural heritage impact assessment for the 21 registered and recorded sites along the route. The complete impact assessment is provided in a separate document (refer to the Appendix to of this HIA report). The other sites in the region of Gevgelija, Bogdanci, Negotino and Demir Kapija are at a large distance from the pipeline route and considered to have no impact by the construction of the proposed pipeline.

From the 21 assessed sites, 5 are registered sites along the route in municipalities of Gevgelija and Bogdanci.

- Rudina (Sipkov Dol) – v.Stojakovo
- Keramidarnica – v.Prdejtsi
- Glavica – v.Prdejtsi
- Goli Rid – v.Smokvitsa
- Gradiste – v.Gabrovo

The construction of the gas pipeline line is expected to have a **“low”** to **“moderate”** impact on these sites.

The remaining 16 registered sites are located in the municipalities of Demir Kapija and Negotino.

- Kalugerska Chuka – v. Dren
- Buka – v. Dren
- Crkvište – v. Dren
- Goren Zmeovec – v. Dren
- Orizarski Grobišta – v. Dren
- Padinata – v. Chiflig
- Orizari - v. Chiflig
- Ilimov Rid - v. Chiflig
- Sveti Atanasij - v. Chiflig
- Orizarsko Pole – Staro Selo – Modra Stena – Besvichko Pole - v. Chiflig
- Penov Kamen – v. Chiflig – Demir Kapija
- Bo(u)gdashna (Bogatishina) Glava – v. Przdevo
- Atanasica – v. Tremnik
- Ormankov Grob - v.Tremnik
- Jaka Cheshma – Crkvar - v.Tremnik
- Chair Rid - v.Tremnik

The construction of the gas pipeline line is expected to have a **“insignificant”** to **“moderate”** impact on these sites.

The supplementary assessment concluded that there is no direct physical endangerment of any recorded or registered cultural monument along the route of the gas pipeline.

4 Mitigation Measures

The following mitigation measures are recommended:

For the area of the region Demir Kapija and Negotino

- Mandatory archeological supervision of the route during construction from chainage 48.0 to 53.0 km, from 58.0 to 61.0 km; and
- Mandatory archeological excavations in the area of Block Station BVS-I3 prior to construction, in the volume of 20% of the construction area, with obligatory excavations during the drilling archeological structures are discovered.

For the area of the region Gevgelija and Bogdanci

- Mandatory archeological supervision during construction of the pipeline from chainage 10.5km to 11.5km and from 19.5km to 20.0km.

Mandatory archaeological supervision during construction is proposed at these sections of the pipeline as the cultural heritage sites are located closer to the axis of the pipeline compared to other sites, and the density of sites in these sections is higher. In addition, the sites have only been surveyed and the perimeter of the sites has not yet been established.

In accordance with the Law for protection of cultural heritage, if a cultural heritage site is found during construction of the pipeline, the construction work shall immediately cease, the relevant cultural protection institution must be notified in order to make determination in relation to further conservation works before construction work can recommence.

The construction supervision should include cultural heritage experts from archaeological background with relevant education and experience in cultural heritage conservation work in the area of Gevgelija, Demir Kapija and Negotino. This requirement should be included in the construction management plan.

5 The most important archeological sites in Gevgelija, Bogdanci, Negotino and Demir Kapija

This section provides basic description on some of the more important cultural heritage sites in the broader region. This is provided for general information in terms of the cultural values present in the broader geographic region. None of the sites described in this section is affected by the construction of the proposed pipeline.

Gevgelija-Valandovo

The city of Gevgelija is located in the central part of the Gevgelija-Valandovo ravine, on the east terrace between the rivers of Konska, Suva Reka and Vardar. On the west side the town is encircled with the massifs of the Kozuf Mountain. The Gevgelija-Valandovo ravine covers the space between the Demir Kapija gorge and the Ciganska Reka on the south, a region that is characterized by the miscellaneous cultural and historical landscapes. The ravine is in fact a depression, a remnant of the neogenic lake phase that finished in the early phases of the geological history of the Earth, when the waters of the Law Vardar Valley Lake system, due to neotectonic movements, flew out through the river Vardar into the Aegean Sea. From geological aspect, the basis of the terrain in the biggest part is consisted of magmatic rocks of the gabro-dyabazative massif that build the central and western parts of the area.

Atici, village of Crnicani- Nov Dojran (Amzabegovo-Vrshnik cultural group)

During the excavation and research, parts of the settlements and objects for everyday living with very rich inventory were discovered. Here belongs the fragmented ceramic pottery, jewels, anthropomorphic figurines and stone tools.

Vardarski Rid, southeast of Gevgelija

The site is located in the southeast suburbs of Gevgelija and spreads on two hills, western hill (Hill 1) and eastern hill (Hill 2) mutually connected. The east side of the hill- Hill 2, partially forms the right bank of the river, on which top was found the acropolis, central complex around which is built an internal turret with a width of 1.20 meters. The enormous physical damage of these parts of the site did not leave sufficient space for further successful research. On the leveled space (saddle), between Hill 1 and Hill 2, remnants from developed settlement were discovered. The discovered movable material is consisted of fragmented and whole ceramic pottery found in the preserved parts of the living facilities. In the museum collection of ceramic pots there are rough and smooth, hand-made pots. The fine ceramics is characterized by the quality of the preparation and painting of the pots and the rough objects for its kitchen purposes (fire pithoses for storing general goods). On the southeast side of the Hill 1 remnants from necropolis were located. Vardarski Rid was suitable location for settling life through the centuries and on its area many remnants from different lives and funerals from different archaeological periods had been deposited, thus creating one of the most complex archaeological sites – with a complex stratigraphy with cultural remnants from miscellaneous periods, from Late Bronze Age to the Macedonian – Hellenistic period and the establishment of the Roman Empire. Until now on the site we're found unsettlement and craft city Stoa – part of the Agora Vardarski Rid, streets, squares, kilns for ceramic and metal, landscaping and other infrastructure settlement content.

The high standard and level of cultural development witnesses the discovered tub in a house on the east terrace. Luxury and for everyday use, table ceramics, toiletries, jewelry, relief cups, lamps, cantaros, unguentariums, packaging vessels, metallurgical products and tools- pliers, knives, sickles, keys, mold for terracotta, kilns for backing pottery etc. As the most important and representative finding is the sculpture of Aphrodite, reflecting the taste and style of the time, fashion and local affinity of the population in this period.





Gortynia – Vardarski Rid

The discovery of a stone slab in 1999 that the second row from left to right to read the letters...RTYNIA as well the last discovery of a seal (the seal imprint) in 2010 where over the performance of Nike perched on a chariot is labeled GORDINIA contributed in clarification of the city of Vardarski Rid.

Raul – Gevgelija

On the northwestern periphery of Gevgelija is located the site Raul (Old Vineyard) which is necropolis since Roman times (3rd-4th century). The site is situated on a gentle hill that dominates over the immediate surroundings. Today on that hill is located the Regional penal and correctional institution of Gevgelija. In fact, the necropolis was first registered in 1978 during mechanical preparation of the ground for planting the orchard of the regional jail when they found four burial structures of the two leads. In 1991 there was another intervention when excavations uncovered two tombs in central graves and a tomb of the same chronological determination. The settlement is located about 500 meters northwest of the necropolis of a known elevation under the same name- Raul and planted with pine trees. Fragments of pottery vessels, construction and a heap of stones are found on the surface.

Bogorodica Rid (Kofilak)

On the opposite, right bank of the river Vardar the site Bogorodica Rid (Kofilak) is located. A small one-layer settlement is located on the hardly accessible rise and leveled terrace. Right under it, on the south slope, the necropolis from the Iron Age is located – **Milci, located on the left bank of the river Vardar.** During the excavation research on Bogorodica Ride in 1995, a living house was discovered with preserved inventory.



Keramidarnica

Remains from a settlement in the Late Bronze Age were registered on the site Keramidarnica, located between the villages of Prdejci and Smokvica, right next to the road corridor E – 75. The final boundaries of the settlement are still not defined. The leveled terrace that spread towards west and south is possible middle point. Two living objects were discovered in the researched part of the eastern periphery. The forms and decorations of the discovered fragments of ceramic pots and the time frame (13th- 11th c. BC) is identical with the above two mentioned sites.

Lisichin Dol

With the discovery of a single, intact grave wholeness in the necropolis of the Iron Age – Lisichin Dol, on the west periphery of Isar, the buried person was identified as a person with a status of a local priestess., dating back in 7th c. BC), a set of authentic ritual objects was attached on and around the face, among which was also a cult cup.

Bishov Javor – Smokvica

A bronze cup was discovered in a flat grave construction (late Iron Age, 7th- 6th c. BC) in the nearby necropolis Bishov Javor, near village of Smokvica, in the zone of alluvial river terrace of Vardar, not that far from from **Tufka**. In the organized space we recognize three types of grave construction – cysts and processed stone tiles, graves in pithoses and free burials in oval pits. Were also found objects of late Archaic features. Besides of using bronze, new materials were introduced in the making of jewelry (gold, silver and amber). In the grave ceramic set, a new form of ceramic appears- koton. If there were certain purpose-build construction (temples) for practicing the rituals, they have not been discovered yet, then we can freely conclude that there was a religious order in the communities.



Pic.33 - Pyxis pendant, Bishov Javor, Gevgelija

Suva Reka

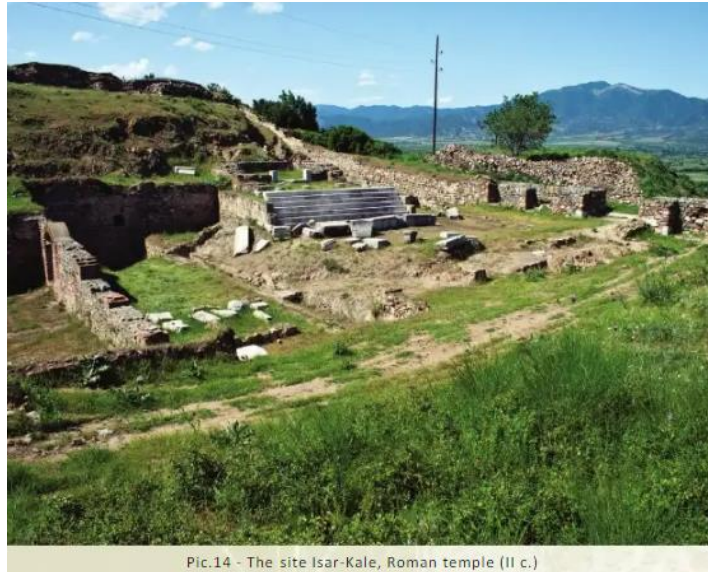
The population of the prehistoric Iron Age settlement established two of its necropolises in the neighboring surroundings of the settlement. The first necropolis was located in and around the riverbed of Suva Reka, connected with concentration of graves in Paragon and southern part of the city (between str."Ilija Mitov", "Risto Frsinin" and "Samoilova"). The second big necropolis is Milci.

Marvinci – Isar Kale (Doberus/Idomenai) Valandovo

In the upper flow of the river Vardar, situated southwest on the left bank of the river Vardar, within the municipality of Valandovo, several prehistoric and antic sites (7th century BC to 6th century AD) are grouped around the village of Marvinci. The multilayer settlement **Isar – Kale** takes the central position, which according to the researchers so far should be identified as the ancient city of **Idomene (Idomenai)**. The discovered movable items complement the picture of the heterogeneous material cultural of the early Roman period and the new late Roman culture, developed with the big administrative changes of Diocletian (284-305 AD) and the beginning of the second important stage in the Roman Empire- late Antiquity.

On the top of the hill is the acropolis of the settlement that throughout the classical period was covered by a defensive wall. In the previous studies on the site, despite the discovered remains of residential buildings from the Macedonian- Hellenistic and Roman period, Roman castrum-war camp was discovered with parts of the wall and gate, and at foot of the acropolis was discovered temple built by a makedonijarh and dedicated to Heracles, i.e., Komodo Emperor (180-192 AD). Patron of the temple, makedonijarh – a senior Macedonian Koinon settled in Beria was originally from the city of Isar. The area south and southwest of the acropolis was used for burial of the population of the Antiquity. In the previous researches about 3000 graves and tombs were discovered, with diversity in grave construction and use of both funeral rites- inhumation and cremation. Events at the funeral and burial rituals, the richness and variety of grave enclosures (metal and ceramic vessels, jewelry, bronze and precious materials, weapons, coins, terracotta, bronze sculptures, etc.) reflect the cultural achievements, religious beliefs and economic status of population in the time that occurred, and in obtaining demographic picture with sex and age structure of population.

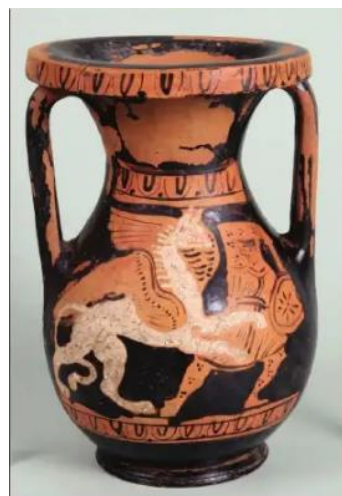
A roadmap was found on the site which mentioned the distance between the ancient cities Doberus and Idomenai, so this creates the assumption that the Isar in Antiquity was one of these two cities.



Pic.14 - The site Isar-Kale, Roman temple (II c.)



Pic.16 - The site Isar – Kale, terracotta findings (III-II c.BC)



Pic.18 - The site Isar – Kale, red figural pelike with image of struggle of Amazons with griffon



Pic.17 - The site Isar – Kale, golden earrings with representation of a griffon (IV-II c BC)

Gradishor – Mramor, Marvinci

By the site Isar – Kale in the village Marvinci and immediately on the right bank of the river Vardar is the site Gradishor – Mramor. It is located on a large plateau that occupies an area of about 5 acres and located 1.5km southeast of the village Miletkovo. In literature this location is potentially taken into account as a possible place of the ancient city Idomenai. In a separate record of non-movable cultural heritage of North Macedonia in the field of archaeology, the site is registered as a settlement and a necropolis from the Macedonian- Hellenistic and Roman period. Also, the extension **Monastery**, which is in the area of the village Smokvica and located immediately south of Gradishor- Mramor, should be considered as part of this site. In the previous research of a building was discovered- a Roman house triclinium, which size is not yet defined and chronologically can be dated to the 3rd-4th century AD. Ten rooms were found in total, but basically the building spread to the southeast and southwest.



Pic.13 - The site Isar – Kale, v.Marvinci and the site Gradishor – Mramor v.Miletkovo

Stakina Chesma – Valandovo

The site Stakina Chesma is located on the southern outskirts of the city Valandovo, only a hundred meters of the last rise of the Roman Empire in the late 3rd and early 4th century AD, where Romans built a luxury house. In the previous research dozen rooms were found, and although the object is not defined completely, according to its size, diversity and abundance of floor mosaics made in opus sectile and opus tessalatum, painted walls, discovered luxury vessels, it is evident that this is a representative object whose owners belonged to the upper social strata. Researchers believe that the large object is a palace, which is part of the complex with luxury buildings established in the town of Valandovo.

Selishte – Gabrovo

The site Selishte is located about 2.5km east of the village Gabrovo, situated on a large hill. In 2001 on its southern slopes while carrying out protective archaeological excavations, four burial structures with cremated deceased were found. According to the discovered burial items, pottery vessels, lamps, fibulas, needles and coins, chronologically these detected tombs can date back to the early-tsar Roman period (1st century BC – 1st century AD). Remains of the settlement are visible on the surface north of the necropolis, in the direction of the rise of the site.

Gloska Chuka (Glos) – Grchiste, Prdejska Chuka

Moving from Isar to south, on the left bank of the river Vardar, the village of Grchiste is located, in which vicinity the site Glos is located. On the upper terrace construction remnants from an urbanized

settlement were discovered, perhaps the ancient Atalanta (Atalante). In the immediate vicinity of the site, by the road for the village of Gjavato, grave constructions were discovered, typical for Iron Age necropolises, it also represents a settlement of the Macedonian- Hellenistic period.

In the region of the municipality of Valandovo, there were three more necropolises from the Iron Age evidenced – **Meleznik in the village of Dedeli, Karakusha and Zelenishte**, dating back at the beginning of 5th c. BC. These necropolises formally belong to the Gevgelija cultural group.

Tufka – Smokvica

In the south periphery of the countryside of the village of Smokvica the site Tufka is located. Movable ceramic material from the Iron Age, antiquity and Middle Ages were unearthed along the whole area of the site. In the boundaries of the destroyed acropolis, several burials were registered without clear archaeological and cultural context.

Bolovan – Paljurci, Nov Dojran

East of the city of Gevgelija, by the road Bogdanci-Nov Dojran, in the immediate vicinity of the accumulation Paljurci and the region of the place called Bolovan, a necropolis was discovered with a same name from the Iron Age. The degree of preservation of the necropolis Bolovan is symbolic but from the insight into the intact grave wholes we believe that it is one of the richer necropolises 7th- 6th c. BC.





Karaula – Nov Dojran

During the urbanization of Nov Dojran, in the neighborhood Karaula, movable items were found from the Iron Age among the remains of destroyed late antic necropolis.

New Dojran

In the settlement New Dojran and its immediate surroundings there were identified several sites from ancient times. In fact, the settlement is built on the ruins of an ancient settlement that existed on the western shore of Lake Dojran. This location, based on ancient literature data, some scholars put the place where we identify the ancient city Doberus, while others feel that here was located Tauriana station, which is located on Poitinger map.

The sites **Manastir** and **Karaula**, located in the very urban core, representing the Roman necropolis time period can be placed first in the 3rd-4th century AD. On the location **Shkolo**, western periphery of the modern settlement remains of an early Christian Basilica were discovered (4th century AD), according to researchers on the site **Toplec** the existence of a Roman bath should be expected. The settlement under surface debris can potentially be located in the western outskirts of New Dojran and beyond to the rise known under the toponym Poljana.

With the construction of the collector system, certain neighborhoods in the settlement of New Dojran were damaged, especially the sites Manastir and Karaula.

Bashot – Gorna Koriya, Negorci

The site Bashot – Gorna Koriya is located on the southern outskirts of the village Negorci and about 500 meters west of Negorci Spa, which rises as a high hill composed of several smaller peaks. On this location, although so far researchers have not been done, we can accommodate the settlement of the Roman period. The eastern terrace of the site, next to the modern village cemetery, is situated necropolis from the same period (2nd-4th century).

Brdanov Kamen/ Tumba, Bogdanci

At about 1,5km west of Bogdanci, left from the regional road Bogdanci- Gevgelija, located in the central part of a small open valley to the south is the site Brdanov Kamen/ Tumba. On dominant high with oval form the necropolis is located on the site and on its east and southeast foot are the remains of a settlement since Roman times (4th-5th century).

Bisterna – Prdejci

The site Bisterna is located at 500 meters northwest of the village Prdejci, right from the international road Skopje – Gevgelija and represents a settlement from Roman times. The protective investigation on the site discovered architectural remains (tegulas, imbrexes, crushed stone, lime mortar), pottery, mosaic floors and tubuluses and suspensures.



Сл.8 - The site Bisterna, v.Prdejci

Vetka Crkva – Prdejci

Also, on the northeastern outskirts of the village Prdejci, near the railway line Skopje – Gevgelija is the locality Vetka Crkva, where construction debris and architectural plastic sacral objects from Roman times were found. Here was found a marble torso portraying male figure dressed in natural size, a fragmented sculpture like Paljatus.

Mamino – Gjavoto

The site Mamino is an established settlement from the Late Antique period (4th-6th century). The site is located about 4km north of the village Gjavoto, situated on a high hill with a flattened plateau which dominates the surrounding area. On the surface, apart from the building materials and fragmented movable findings, there was also a turret – defensive wall that at certain places preserved to a height of 1.20 meters.



Pic.12 - The site Mamino, Grchishte

Kale – Strezov Grad

The site Kale – Strezov Grad is located on the left side of the Demir Kapija's cliff, where Chelevechka River joins Vardar. The massif Kale – Strezov Grad is made of limestone, which sides go up to 200 meters, wide about 400 meters and long 1000 meters, spreading from north to south, with minor exceptions. Morphologically is divided into three zones, north, central and south. The massif itself is separated from the Tikvesh Ravine with the massif Yuruchki Kamen and the deep canyon of Chelevechka River. This strategic position protects it from the frequent attacks coming from north.

On the site are found Early Christian and Medieval church, part of the west wall, east wall with tower 1, two objects and part of tower 2. One of the objects in the east side is Early Byzantine and renewed in the 13th century, two separate rooms, one is two leveled and the other one leveled. The second object is positioned on the north side and was active until 10th-11th century. This object, besides the east wall, is not fully discovered.



medieval church - Prosek

The earliest finds (fragmented ceramic pottery) on the site are from Late bronze period, going through Early Byzantine period when the central fortification was built and parts of the north plateau. Certain inventory and church renovations, shows activities till first few decades of the Turkish invasion.

Markov Grad – Koreshnica

At the southern end of the hill Yuruchki Kamen, is located monumental fortification, might be used as a refugium. Is located on the plateau, 600x280 meters, spreading from south to west to River Vardar and Chelevechka River to east. The three sites are vertical and over the rivers, 120-220 meters high and inaccessible. Late antique fortification was built on the Classical and Hellenistic ruins (5th-3rd century BC). In the 4th century BC, at least four new towers were built on the north part, and on the highest southeast part of the plateau was built an acropolis, 110x110 meters. Coins from Justinian I, Jovan Cimiski and Mihail IV, as well as Latin and Bulgarian coins were found. On the total site of 14 hectares were unearthed all sorts of weapons, building materials, tools etc.

As part of this fortification is the site Crkvishte where were found Early Christian and Medieval church with graveyards.

Markova Kula – Koreshnica

The archaeological site Markova Kula is located in the fields of the village Koreshnica, near Demir Kapija. The site is positioned on a important cross road along the river Vardar and between middle and lower Povardarie. Is located on the highest spot on the massif Yuruchki Kamen.

On the researched part of the site is a fortification with dimensions 25x50 meters, spreading on 0,8 hectares, as many sites in Demir Kapija the beginnings are in the Hellenistic period. The towers are two, cubicle in the base, made of crushed stone, one on the north and one on the south side. There's new wall on the west side, from the Late Roman period, second half of the 3rd century. The latest activity was till the middle of the 13th century.

Kula – Koreshnica

On 400 meters south of the site Markova Kula and 250-350 meters north of Markov Grad, centrally positioned on the massif Yuruchki Kamen is the fortification Kula.

Kula was built on older Hellenistic ruins. It's 103 meters long and 34 wide, walls are 1.80-1.90 meters wide, built from a solid material in very straight line. There's a tower on the south wall, two on the angles of the north wall and one on the center. According to I. Mikulchik, the fortification was dated in the 6th century, and there were no Medieval layers, except on the south side with dimensions of 100x120 meters. This new built is connected to the fortification on south with a long-fortified wall made of crushed stone. The west wall is destroyed by erosion. I. Mikulchik says that there's signs of intense living in the Middle Ages and a lot of coin were found in the bases of the houses from 13th and 14th century.

Kula na Postralec – Demir Kapija

This is the northern fortification on the hill Krastavec, located on the right side of the river Vardar on 380 meters high. The fortification has a strategic position to overview the roads stretching through the canyon. The fortification is long 410 meters, wide between 50 and 100 meters, most likely built on a Hellenistic remains. The strongest was the southern wall, along the road and it's remains are 3 meters high. The thickest was the east wall, with 4.10 meters, fortified with bastion. Two separate objects are recognizable as acropolises.

Gradina – Peshtera – Demir Kapija

This site is located on the ravine of the massif Krastavec, south of the road and about 400 meters from river Vardar. Besides the building materials, on the northeast position was found remains of a tower built from stone and limestone. Taking in consideration the close proximity of the site Manastir and Crkvishte, the guess is that this was a settlement from Early Byzantine and Medieval period.

Ograda – Bistrenci

Along the archaeological excavations in 2008, was discovered a settlement on the east periphery of the necropolis on the site Ograda – Bistrenci. On it's territory was unearthed four holes in the ground, 1.60-1.80 deep, one was filled with organic materials and fragmented ceramic pottery, the second was with animal sacrifice, lamb and the other two were without burial material. Part of the fragmented ceramic is telling us that this settlement was active in 11th and 12th century.

Crkvishte – Demir Kapija

The site Crkvishte is located in the foothill of Dolni Krastavec and Ramnishte, at around 750 meters from river Boshava and 350 meters from river Vardar. On the site is found basilica dating back in early Yustinian's time, that was in use for a quite long period of time, until the end of the 6th century. This basilica was built on a older necropolis dating back in the Hellenistic period, as well as the newer parts and the burial finds, showing that this was functioning all through 14th and 15th century.



Crkvishte – Demir Kapija

Manastir

This site is located on the plateau of the massif Dolen Krastavec, just on the entrance of the canyon, 60 meters south of the river Vardar. Big part of this site is destroyed by building the road and later the railroad. The researchers discovered cubicle object, divided on three long rectangular parts and one part connecting them. Because of this type of building, they think that is a church or monastery in question. This basilica is 15 meters long and 11,70 meters wide, and considering the annexes 20 meters. It's built on an older object with a technique of drywall.

In the basilica itself, was found a church icon of St. Jovan Bogoslov, dating in the 14th century, which states that this church was used even later in the Medieval period. Also, pithoses were found for storing food and over 30 graves.

Church (Crkva) – St.Petka – (Sv.Petka) – Bistrenci (“Sv.Ilija”)

The site Sv.Ilija is located 1km south of the village Bistrenci, between the village church and the modern (nowadays) graveyard. The church is built on older remains of Early Christian church. Ther was not much of archaeological research on this site, but we know that it was built until 15th century with a necropolis.

Church II (Crkva II), Kale-Strezov Grad – Chelevec

At the foothill of Kale- Strezov Grad, on a flat, fluvial terrace, near Chelevechka Reka, is located one more Early Christian church. On the surface of the site is obvious numerous parts of cubicle blocks.

Same sort of blocks are discovered also in the site Crkvishte and the church at the site Kale-Strezov Grad.

St.Atanasie (Sv.Atanasie)

On the spot of the crossroad to the village Chiflig is located Sv.Atanasie. Today on that spot was built little village church, on the remains of older Medieval or Early Christian church.

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7 Appendix: Supplementary Impact Assessment - Archaeological Sites along the route of the Gas Pipeline

(Separate File)