Cultural Heritage Environmental Impact Assessment:
Ayg-1 PV Plant Project
Armenia

10/20/2023

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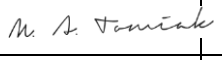
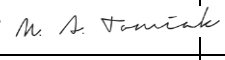
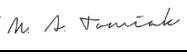
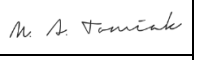
Signature				
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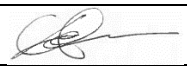
Signature				
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2 GLOSSARY

Acronym	Title	Description
IFC	International Finance Corporation	IFC, a member of the World Bank Group, advances economic development and improves the lives of people by encouraging the growth of the private sector in developing countries.
EBRD	European Bank for Reconstruction and Development	The EBRD is an international financial institution. As a multilateral developmental investment bank, the EBRD uses investment as a tool to build market economies.
EPC	Engineering Procurement and Construction	EPC contracts (a type of turnkey contract) are a form of contract used to undertake construction works by the private sector on large-scale and complex infrastructure projects. In addition to delivering a complete facility, the contractor must deliver that facility for a guaranteed price by a fixed date and it must perform to the specified level.
ASR	Archaeological Survey Report	An archaeological survey report carried out in 2021/2022, carried out by Areni 1 Cave Scientific Research Foundation & Cortes Arqueologia
WSI	Written Scheme of Investigation	a specification that sets out the scope of works required to understand the extent, character and significance of any archaeological remains within a defined area
CHMP	Cultural Heritage Management Plan	A plan that outlines the measures to be taken before, during and after an activity in order to manage and protect cultural heritage in the activity area.
CHM	Cultural Heritage Monitors	Appropriately qualified Cultural Heritage/Archaeological professionals that conduct a formal programme of observation and investigation during any operation carried out for non-archaeological reasons.
UAV	Unmanned Aerial Vehicle	A drone designed to collect aerial imagery

3 LIST OF MAPS

1 INTRODUCTION

1.1 PROJECT BACKGROUND

A Cultural Heritage Impact Assessment has been commissioned in advance of the planned Ayg-1 200 MW solar PV power plant (henceforth "the Project"), located in the Talin and Dashtadem communities of Aragatsotn region, Armenia.

1.2 THIS REPORT

This report provides the outcome of the assessment of likely significant effects which would occur as a result of the implementation of the Project upon the Cultural Heritage. The assessment considers potential impacts on physical heritage - buried heritage assets (archaeological remains), and above ground heritage assets (e.g. buildings, structures, monuments and areas of heritage interest) - as well as intangible heritage.

This report describes the assessment methodology, the cultural heritage baseline within the Project boundary and in the immediate surrounding area, and provides a summary of the likely significant effects on cultural heritage arising from the Project. It also outlines mitigation measures in line with the mitigation hierarchy (avoid, minimise, mitigate), and identifies likely residual effects after these measures have been employed.

This Chapter is supported by an Archaeological Survey Report, undertaken by Areni 1 Cave Scientific Research Foundation & Cortes Arqueologia in November 2022 (Appendix 1).

1.3 HISTORICAL BACKGROUND

The Historic-Cultural Landscape in the area of the southern fringes of Mt. Aragats span from the Lower Palaeolithic (c. 1.5 million to 200000 years ago) to the Medieval period and utilised up until the Soviet era. From the earlier periods (Mesolithic to Iron Age – c. 12,000-600 BC), chains of structures called desert kites can be observed (created for hunting, trapping, animal husbandry, and cultic function) with supporting enclosures, as well as agglomerative settlements, towers, and graveyards.

Recent archaeological investigations indicate that Armenia and the Armenian Highlands lie close to some of the earliest evidence for sedentary human settlement in Eurasia (as indicated by Early Neolithic sites in eastern Turkey such as Gobekle Tepe dating back to the tenth millennium BC). It therefore has a very deep and rich archaeological record including extensive evidence for ancient hunting and trapping systems, such as kites. Such structures are widespread in the Talin-Karmrashen Plateau (an area spanning over 150,000 hectares), within which the Project site lies.

1.4 TOPOGRAPHY OF PROJECT LOCATION

The Project is located on the Talin plateau that lies on the south-western side of the dome of Mt. Aragats. The plateau is shaped by a suite of several mafic lava flows and pyroclastic deposits which can be traced along the Karmrashen River and its tributaries (Map 6 of Appendix 4). The plateau overlooks the upper reaches of the Mastara Selav River valley to the south. Mt. Aragat's stratovolcano (characterised by large deposits of obsidian volcanic glass widely used for making prehistoric tools), Mt. Arteni, Mt. Ddmasar, and other eruptive centres are visible from the Project location.

The local morphology is characterised by high and low hills (typical of the pre-mountainous zones of central Armenia) and deep gorges cut by seasonal water flows originating as a result of snowmelt water. These were formed during the late Pleistocene and early Holocene, and their development continues to this day. Despite this, surface water is virtually non-existent as it filtrates immediately into the porous and fissured volcanic geology.

The intensive weathering of the slopes over long periods of time has played a significant role in the formation and development of the local Cultural Heritage. Volcanic tuff, and different types of basalts and dacite, served as a source of construction materials. This facilitated the integration of the anthropogenic features with the natural forms, in the form of structures such as kites, towers, enclosures, and burial mounds.

2 LEGISLATION, POLICY AND GUIDANCE

2.1 RELEVANT LEGISLATION

2.1.1 National Legislation

The Republic of Armenia observes certain laws for the protection of the heritage.
These include:

- Réglementation sur la protection des monuments historiques en Arménie (1978).
- Law on Preservation and Utilization of Immovable Monuments of History and Culture and of the Historic Environment (adopted on the 11 of November 1989).
- Law of the Republic of Armenia about protection and use of immovable monuments of history and culture and the historical circle (1998).
- International legal instruments signed in the framework of the United Nations Educational, Scientific and Cultural Organization (2000).
- Decision N.438 on approving the order of state inventory, observation, protection, fixation, renovation, restoration and use of immovable monuments of history and culture (2002).
- Law on the protection and use of immovable monuments of history and culture and historical surrounding (amended 2003).
- Decision N.1643 on the establishment of list of especially valuable cultural values of the cultural heritage of the Republic of Armenia (2005).
- The RA Law On Basics of Cultural Law, (2002) *unless referred to by Decisions m. 438 (2002).
- the RA Law On Basics of Cultural Law, 20 November 2002
- the RA law On export and import of cultural values (2006)
- the RA Law on Intangible Cultural Heritage (2009) which regulates the legal relations arising during the processes of safeguarding of intangible cultural heritage.
- The RA Government Decision On '*Establishing the Procedure for Identification, Documentation, Preservation of, and Exchange of Information on Intangible Cultural Values and On Approving the form of the Certificate of Intangible Cultural Value*' (2010)

2.1.2 International Treaties and Conventions

Armenia also has signed and ratified several international conventions on the topic of heritage, such as:

- The Convention concerning the Protection of the World Cultural and Natural Heritage, Paris (1972).
- European Convention on the Protection of the Archaeological Heritage, Valletta (1992).
- Convention on Biological Diversity (1992).
- European Landscape Convention, Florence (2000)
- Convention for the Safeguarding of the Intangible Cultural Heritage, Paris (2003).

2.1.3 International Financial Standards

In addition to applicable Armenian regulations and laws, the IFC Performance Standards, and the EBRD Performance Requirements were used to guide this assessment.

The IFC Performance Standard 8[1] (PS) was developed to inform and set out minimum requirements for the protection of cultural heritage resources in development projects supported by the IFC.

The stated purposes of this standard are to:

- To protect cultural heritage from the adverse impacts of project activities and support its preservation;
- To promote the equitable sharing of benefits from the use of cultural heritage.

In paragraph 6 it calls for the implementation of international treaties and national laws relating to heritage protection, stating that clients: '*will identify and protect cultural heritage by ensuring that internationally recognized practices for the protection, field-based study, and documentation of cultural heritage are implemented*'.

In paragraph 7 it adds that: '*where the risk and identification process determines that there is a chance of impacts to cultural heritage, the client will retain competent professionals to assist in the identification and protection of cultural heritage*'.

In paragraph 8 it is also stated that: *"The client is responsible for siting and designing a project to avoid significant adverse impacts to cultural heritage. The environmental and social risks and impacts identification process should determine whether the proposed location of a project is in areas where cultural heritage is expected to be found, either during construction or operations."*

The standard goes on to specify (paragraph 9) that Affected Communities and relevant national regulatory agencies should be consulted. It favours the retention of cultural heritage in situ (paragraph 12), only permitting exceptions where there is no feasible alternative, and the removal of the resource is carried out 'using the best available technique'.

In paragraphs 13-15, the standard addresses impacts on 'critical cultural heritage' defined as: *(i) the internationally recognized heritage of communities who use, or have used within living memory, the cultural heritage for long-standing cultural purposes; or (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation.*

It states that critical heritage should not be removed unless in exceptional circumstances where impacts are unavoidable. In such cases external experts should be retained to assist in its protection and assessment.

[1] IFC, January 2012, Performance Standard 8, Cultural Heritage

Where there are legally protected sites, the client is required to comply with legal requirements related to their protection, consult stakeholders and implement additional programmes to promote and enhance their conservation.

The EBRD's Performance Requirement[2] (PR) 8 sets a framework for clients to protect cultural heritage through the avoidance, and where avoidance is not feasible, the reduction and mitigation of any potential adverse impacts by EBRD-financed activities, in an appropriate and proportionate manner.

The purposes of the requirement are to:

- to support the conservation of cultural heritage in the context of EBRD-financed projects,
- to protect irreplaceable cultural heritage from adverse impacts of project activities,
- to promote the equitable sharing of benefits from the use of cultural heritage in business activities,
- to promote the awareness of and appreciation of cultural heritage where possible, and
- to guide clients to avoid or mitigate adverse impacts on cultural heritage in the course of their business operations.

Like the IFC Performance standard, the EBRD PR calls for the implementation of international treaties and national laws relating to heritage protection (paragraph 3), requires consideration of both tangible and intangible heritage (paragraph 7), and requires "the client will consult with relevant ministries, experts and local communities as appropriate" (paragraph 10). It also requires clients to carry out meaningful consultation all key stakeholders (identified in accordance with the requirements of PR10) in order to identify cultural heritage likely to be affected and understand its significance in the context of assessing impacts. There is also a requirement to identify opportunities for potential community benefit.

It also recognises that items or sites of "cultural heritage value or significance could be uncovered in unexpected locations, during the actual implementation of an approved project", and therefore should be implemented where the project "is located in, or in the vicinity of, a cultural heritage site, or "involves significant excavations, demolitions, movement of earth, flooding or other changes in the physical environment" (paragraph 8). Paragraph 6 and 14 state the requirement, where relevant, for the implementation of international treaties, national and/or local laws, regulations and protected area management plans, and will apply "*PR apply whether or not the cultural heritage has been legally protected or previously disturbed*" (paragraph 6).

The EBRD states preference should be given to avoiding adverse impacts during the design and site selection phases (paragraph 12). Where impacts cannot be avoided, further studies are required to assess potential impacts and conducted by qualified and experienced cultural heritage specialists (paragraph 13) and appropriate mitigation measures developed in order

[2] EBRD, April 2019, Performance Requirement 8

to “reduce and mitigate any adverse impacts on the cultural heritage, along with the implementation schedule and required budget for such measures” (paragraph 15).

Implementation of the mitigation measures will be conducted and overseen by trained and qualified personnel, and shall include a Chance Finds Procedure (CFP) which details the provisions for managing chance finds (physical cultural heritage encountered unexpectedly during project implementation) (paragraph 16).

3 ASSESSMENT SCOPE

3.1 ASSESSMENT SCOPE

3.1.1 Physical Cultural Heritage/Archaeology

The assessment scope comprises impacts on physical heritage - buried heritage assets (archaeological remains) and above ground heritage assets (e.g. buildings, structures, monuments and areas of heritage interest) – as well as intangible heritage, within, or for the latter, associated with, the Project. The geographical scope (henceforth the 'Study Area'), comprises the Project footprint, and a 100m buffer around it.

The Project comprises all elements that are to be constructed and operated as part of the Project. These are detailed in *Section 8.2 - Outline of Project Design*. The only exception are access roads, which are undergoing a preferred route selection-process. For this reason, access roads were not surveyed as part of the baseline surveys which informed the Archaeological Survey Report (ASR). It is understood that any access roads outside of the Study Area will be subject to an archaeological walkover survey, and any design alteration recommendations or impacts assessed will be managed through a later stage of the Cultural Heritage Management Plan (CHMP).

It is also noted that, due to the nature and shape of the Project layout, that there are a number of cultural heritage features which lie greater than 100m away from the Project, but are within areas which are, in essence, surrounded by The Project. These cultural heritage assets could be considered at risk of construction activities – especially by unplanned vehicle traffic or ad-hoc construction works (most likely temporary but could also be permanent). These assets at risk, but which are located outside the study area are included in Map 5 within Appendix 4 (Maps).

The following project stages have been identified as possible impact-causing effects, and therefore addressed in this report:

Construction Stage (Permanent)

Partial or complete loss of buried heritage assets in areas where ground disturbance is proposed and/or partial or complete loss of non-designated above ground heritage assets due to demolition or alteration.

Construction Stage (Temporary)

The impact of temporary /construction works, including the use of access/haul roads and borrow pits, on heritage assets through effects from noise, vibration or emissions.

Operational Stage

Physical impacts on buried or above ground archaeology as the result of operational traffic or secondary development.

Decommissioning Stage

Physical impacts on buried or above ground archaeology as the result of decommissioning of the site, inclusive of all tasks undertaken within the approach to deactivating the project or facility from service and removal of permanent and temporary infrastructure.

The project is estimated to be under construction for 1-2 years, be operational for between 20-35 years, after which the decommissioning of the project will be implemented.

3.1.2 Intangible Cultural Heritage

As part of the requirements under international financial standards (e.g. EBRD's Performance Standard 8) is it necessary that the identification and protection of impacts on intangible heritage is also considered and mitigated against where possible.

UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage, Article 2 outlines how intangible cultural heritage is manifested within five domains[3] – and that there is frequently a close association between tangible and intangible heritage; the former being a the output or outcome of an intangible cultural expression.

Impacts on intangible heritage generally occur, therefore, when the tangible manifestation of intangible values are affected by development.

3.2 CONSULTATION

The Government of Armenia assigned the site to this Project through a presidential decree after consultation and approval of the affected communities and relevant ministries.

3.2.1 Consultations: Physical Cultural Heritage

The baseline surveys undertaken by the Areni 1 Cave Scientific Research Foundation & Cortes Arqueologia were undertaken with the approval of the Armenian Ministry of Culture. The results of the survey were submitted to the Ministry of Culture by Dr Boris Gasparyan of the Institute of Archaeology and Ethnography (part of the National Academy of Sciences of Armenia), who has submitted a workplan for evaluation and mitigation in line with the recommendations set out in this report. This has been approved by the Ministry of Culture on conditions that the site is photographed in order to create a 3D model of all archaeological sites before construction commences. Before intrusive works can take place, a method statement needs to be approved by the Archaeological Commission which advises the Ministry of Culture.

[3] UNESCO, Basic Texts of the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage p5-6

3.2.2 Consultations: Intangible Cultural Heritage

Meaningful consultation of local residents and stakeholders from Talin, Ashnak, Katnaghbyur and Dashtadem of the Aragatsotn province has been undertaken. In these consultations, the communities were asked if features or places of intangible cultural heritage value existed within the project area.

Further to these broad consultations with focus groups, an Armenian ethnographer undertook consultation with specific regard to cultural heritage in May 2023. He again identified the communities Talin, Ashnak, Katnaghbyur and Dashtadem which might have intangible cultural practices and traditions that could be of risk of being impacted by the Project. These were. Key informants were identified in each community. Interviews with these individuals were undertaken and the results set out in the Intangible Heritage Report (Appendix 5).

3.2.3 Results of the consultations

Seven cultural heritage intangible values (with Armenian culture) were identified to be inscribed on the representative list of the UNESCO Intangible Cultural Heritage of Humanity. In the context of UNESCO's five domains, four were identified as relevant to one or more of the approached communities. See Table 2 in Appendix 5.

Overall, the Intangible Heritage Study concludes that through the initial research and supporting interview consultations, conducted with the residents of the neighbouring communities, that none of these communities, near the Project Site, currently utilize the area for cultural / historic purposes. They have no special connection with the land and location, nor have any intangible connection to any cultural heritage that could be potentially affected by the Project. The only site with intangible significance within the project area mentioned during these consultations was site #141, a khachkar (a memorial, not a grave) erected in the 1990's, commemorating the death of a local resident. This site apart, the communities were clear that no sites of contemporary intangible heritage value exist within the project areas.

Whilst a number of the communities identified distinct intangible heritage elements present in their cultural heritage (which are included in the state lists/inscribed on the UNESCO list of Intangible Cultural Heritage of Humanity, pertinent to Armenia), with the exception of the khachkar (site #141), there are no resources within the Project area with identifiable intangible cultural heritage significance.

3.2.4 ONGOING CONSULTATIONS

Further formal consultation has taken place with the Ministry of Culture (part of the Ministry of Education, Science, Culture and Sports) in October 2023. This included provision and approval of the CHMP. A formal written approval for the CHMP method and approach, was provided at the end of October 2023.

Formal consultation is also being undertaken for the following organisation/NGOs:

- Institute of Archaeology and Ethnography
- ICOMOS Armenia
- Regional Center for Cultural Heritage
- Sustainable Tourism Development in Armenia NGO
- Fund of development of Tourism in Armenia

This comprises provision of a summary of the EIA and CHMP for information. Each regulator and stakeholder will be provided the opportunity to voice any concerns, provide a response, and/or request for further information.

The CHMP includes further information on the programme of ongoing engagement with regulators and other stakeholders, which is appropriate to ensure all necessary parties are informed or progress and results. Future engagement comprises:

- Reporting of any 'finds of significance' through the CHF (Chance Finds Procedures) - See section 6.4.
- Sharing summaries of outcome results upon completion of each element of mitigation works outlined in the CHMP (See section 6.6.3)
- Confirmation and sharing of results (and archive location and Identifier) of resultant archaeological findings and reports.

3.3 LIMITATIONS AND ASSUMPTIONS

3.3.1 Physical Cultural Heritage

The main limitation to the assessment is the nature of the archaeological resource: before the archaeological surveys were carried in 2022, little/nothing was known about the archaeology within the Project Study Area and relatively little about the wider surrounding area. As a result, very few of the sites identified are accurately dated, which makes it hard to accurately identify their full significance.

Further to this, the effect of erosion has meant that in many areas the surface is 'deflated' as the result of the removal of light sediment leaving behind only heavier objects including archaeological artefacts. This removes the potential to date objects by their place in the stratigraphic sequence. To an extent, this may be improved by intrusive archaeological surveys, including excavation (at the Project site, only non-intrusive heritage surveys have been undertaken so far[4]). Thus, while there is a general understanding of the extent and character of physical remains on the site, a full understanding of their date, nature, survival and significance, in particular for periods not present or poorly presented in the historical record, is limited.

This is particularly the case where features have been recorded as points rather than with lines or polygons covering their full area or extent. In some cases sufficient information is available - from ground-based photography, UAV photography or satellite imagery used for the ASR - the true area and extent of such features have been defined. Linear features, such

[4] Archaeological Survey Report (2022) Ayg-1 PV Plant Project (Armenia)

as walls or enclosure boundaries have not been transcribed owing to the uneven quality of the available imagery.

This assessment is based on the information derived from these sources combined with experience, extrapolation from other sites in the wider region and an element of professional judgment. Further ground-truthing is necessary in order to confirm in detail the extent, character and significance of many of the sites listed here. Notwithstanding these limitations, sufficient information is available to enable a robust impact assessment to be made. The methodology conforms to the requirements of local, national and international guidance.

3.3.2 Intangible Cultural Heritage

There were no significant limitations in terms of access to information about intangible cultural heritage.

3.3.3 The Project Construction and Operation

Whilst a design plan of the Project has been agreed, in the absence of Detailed Engineering drawings at this stage, a number of construction and operations assumptions have been integrated into the mitigation design assuming a worst-case scenario as a heritage-driven approach. Project Construction and Operation assumptions are addressed and detailed in

4 METHOD OF BASELINE DATA COLLECTION

4.1 PHYSICAL CULTURAL HERITAGE

4.1.1 Study Area

In order to determine the potential effects of the Project upon cultural heritage, the identification of heritage and results from heritage investigations within the Project footprint, and a 100m buffer around it, have been included in the assessment.

Information with the Study Area was examined in order to determine potential heritage that might be impacted both within the Project footprint and within the area immediately adjacent to it. The 100m buffer area is assessed to take into consideration possible impacts which may result as a consequence of the Project's construction, operation and decommission. The study area is considered through professional judgement to be appropriate to characterise the historic environment of the Site and surrounding area. Where appropriate, there may be reference to assets beyond these study areas, e.g., where such assets are particularly significant and / or where they contribute to current understanding of the historic environment.

An assessment of construction effects on heritage assets beyond the immediate vicinity of the Project (<100m) has been scoped out on the basis that there is unlikely to be significant effects from any of the stages of the development on cultural heritage.

4.1.2 Previous Heritage Surveys

Appendix 1 provides the ASR, completed in November 2022 by the Areni 1 Cave Scientific Research Foundation, which identified and collated an understanding of the heritage within the Study Area and vicinity. It included:

- a desk-based study (conducted in 2021) of available information about the cultural heritage from unpublished (archival) and published literary sources, and their identification on the list of archaeological and historical monuments of the Aragatsotn Province. No previously known sites were identified within the project boundary. The desk-based study, conducted in 2021, fed into the heritage baseline conditions of the Study Area and helped plan the archaeological surveys.

- A preliminary survey of the Project Site (conducted in 2021), which comprised a site walkover, in order to identify and record archaeological elements of the landscape, i.e. structures, collection of surface finds, the study of sections, etc, and understanding the boundaries and spread of the cultural layers and their relationship

- A detailed survey of the Project Site (conducted in April and November 2022), which comprised a more detailed site walkover, and allowed for compilation of an inventory of features, aerial photography by a drone of the identified feature (which helped inform the process of formation of the cultural landscapes of the past and relationship between features, as well as evidencing the natural degradation and prior construction activities in the area).

The resultant detailed inventory of the heritage resource within the Study Area as identified in the archaeological surveys (2021-2022) by Areni 1 Cave Scientific Research Foundation, was used as the baseline inventory for this assessment. Features have been grouped together where additional research has indicated that features are related, or where it is likely feature elements exist in the space between assets.

4.2 INTANGIBLE CULTURAL HERITAGE

In order to assess the intangible heritage baseline, the Project engaged with local communities to understand their cultural practices and traditions.

The approach comprised:

- A desk-based overview of affected intangible heritage resources, and the identification of potentially affected communities (with supported mapping), and
- Interviews with key informant individuals and specialist groups/institutions.

For further details see Appendix 5.

5 ASSESSMENT METHODOLOGY

5.1 INTRODUCTION

Following the characterisation of the baseline conditions, the methodology used to characterise the likely effects on potential cultural heritage within the Study Area has entailed:

- Evaluating the significance of heritage assets, based on the conclusions set out in the ASR, experience and professional judgment (in the absence of any previous designation/protection for any sites in the area).
- Predicting the magnitude of change upon the known or potential heritage significance of assets and the likelihood and resulting significance of effect,
- Considering the effect of mitigation measures that have been already incorporated into the project's design on the basis of the ASR;
- Considering additional mitigation that might be required in order to avoid, reduce or off-set any significant negative effects; and
- Quantifying any residual effects (those that might remain after mitigation).

5.2 DETERMINING ASSET (RECEPTOR) HERITAGE SIGNIFICANCE

The heritage significance (or heritage 'value' or 'sensitivity') of an asset is determined by its scientific, historical, or cultural importance. The level of importance is calculated using a combination of the significance as evidenced in the ASR, professional judgement and the assigned IFC category (Critical, Non-Replicable or Replicable; see table 3).[5]

The assessment takes into consideration:

- Whether a heritage asset can be moved to another location or replaced by a similar site, or is of a type that is common in the surrounding region (replicable, non-replicable or critical);
- the extent of the heritage asset's cultural value to local, national, or international stakeholders; and/or
- the asset's scientific value based on a combination of factors including likely date, condition and rarity.

Each asset is evaluated against the range of criteria listed above on a case by case basis. The lack of direct evidence concerning the date and/or function of many of the features identified within the project area means that considerable uncertainty remains regarding the significance of many sites. This is reflected in the value categories summarised below.

[5] IFC (2012), Performance Standard 8 – Cultural Heritage

Table 1 - Heritage Significance Ratings & Criteria below gives an indication of the heritage significance ('value' or 'sensitivity') determination based on the following characteristics:

Table 1 - Heritage Significance Ratings & Criteria

Definition of heritage significance	Heritage Significance	Examples
• Site is protected by local, national and international laws or treaties; • Site cannot be moved or replaced without major loss of cultural value - and is assessed as 'Critical' within IFC categories; • Legal status specifically prohibits direct impacts or encroachment on site and/or protection zone; • Site has substantial value to local, national and international stakeholders; and/or • Site has exceptional scientific value and similar site types are rare or non-existent	High	• World Heritage Site; • Site with specific high order national protection status; • Archaeological site with demonstrated or clear potential; • international scientific or cultural value; • Regionally important natural feature (rock formation, tree grove, etc.).
• Site is specifically or generically protected by local or national laws but laws allow for mitigated impacts; Site can be moved or replaced, or data and artefacts recovered in consultation with stakeholders • Site has considerable cultural value for local and/or national stakeholders; and/or • Site has substantial scientific value but similar information can be obtained at a limited number of other sites.	Medium-High	• Complex archaeological site with preserved occupation stratum; • Important historic place of worship (mosque, church, etc.) • Structure, enclosure or system of enclosure of potentially important or unique use and good potential for additional information • Burial mound/tomb • Regionally important natural feature (rock formation, tree grove, etc.). • Area of proven high archaeological potential.
• Site is not specifically protected under local, national, or international laws or treaties; • Site has some cultural value for local and/or national stakeholders; and/or • Site can be moved to another location or replaced by a similar site, or is of a type that is not unique in the surrounding region, • Site has good scientific value but similar information can be obtained at a limited number of other sites.	Medium-Low	• An archaeological site or area with preserved stratum; • A historic place of worship (mosque, church, etc.) • Structure, enclosure of unknown use or some potential for additional information • Potential burial mound/tomb • Locally important natural feature (rock formation, tree grove, etc.). • An area of proven archaeological potential.

• Site is not specifically protected under local, national, or international laws or treaties; • Site can be moved to another location or replaced by a similar site, or is of a type that is common in the surrounding region, • Site has limited cultural value to local, national, or international stakeholders; and/or • Site has limited scientific value or similar information can be obtained at numerous sites.	Low	• Historic trash disposal site (an archaeological midden); • Shrine site with limited associated construction; • Traditional village cemetery; • Simple place of worship; • Sacred tree of minimal local importance; • An area of possible archaeological potential
• Site is not specifically protected under local, national, or international laws or treaties; • Site can be moved to another location or replaced by a similar site, or is of a type that is common in the surrounding region, • Site has low or no cultural value to local, national, or international stakeholders; and/or • Site has very limited or no scientific value or similar information can be obtained at numerous sites.	Very Low	• Archaeological lithic or ceramic scatters without underlying cultural stratigraphy; • Shrine site with no associated construction or history • An area of limited archaeological potential • Disjointed or sections of feature defining boundaries which are well known

Table 2 - IFC Cultural Heritage Category below gives an indication of the heritage significance determination based on the following IFC Cultural Heritage Category characteristics:

Table 2 - IFC Cultural Heritage Category

Replicable Cultural Heritage (Low)	Non-Replicable Cultural Heritage (Medium)	Critical Cultural Heritage (High)
Living heritage sites that can easily be moved or replaced with another structure or appropriate natural feature. Archaeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites or structures or are already well understood.	Archaeological or historical sites that reflect in detail the economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where cultural heritage is unique or relatively unique either (i) for the period it represents, or (ii) in linking several periods in the same site.	Includes (i) the internationally recognised heritage of communities who use, or have used within living memory the cultural heritage for longstanding cultural purposes; or (ii) [nationally or internationally] legally protected cultural heritage areas, including those proposed by host governments for such designation.

5.3 Determining Magnitude of Impact

The determination of the 'magnitude of impact' upon the significance of known or potential heritage assets is based on the severity of the likely impact to that asset. Impacts, relating to heritage, are typically physical disturbances which will cause irreversible damage. The magnitude of the impact is best characterized by the extent of the damage in comparison to the whole asset. Limitations on access to assets, either permanent or temporary, are another form of impact to be considered.

Table 4 below describes the criteria used in this assessment to determine the magnitude of impact:

Table 3 - Magnitude of Impact Criteria

Magnitude of Impact	Definition of Impact
High	Complete removal of asset. Change to asset significance resulting in a fundamental change in our ability to understand and appreciate the resource and its historical context, character and setting. The scale of change would be such that it could result in a designated asset being undesignated or having its level of designation lowered
Medium	Change to asset significance resulting in an appreciable change in our ability to understand and appreciate the asset and its historical context, character and setting or the unrecorded loss of archaeological interest.
Small	Change to asset significance resulting in a small change in our ability to understand and appreciate the asset and its historical context and character.
Negligible/No Change	Negligible or no discernible change in the physical condition, setting or accessibility of the site

5.4 Significance of Effect

The assessment of likely significant effects has considered the Construction, Operational, and Decommissioning stages. The significance level attributed to each effect has been assessed based on the heritage significance of the affected heritage asset and the magnitude of impact to the heritage significance of the asset – as a result of the Project.

The outcome Significance of Effects as outlined in Appendix 3, may be either negative (adverse) or positive (beneficial) and are defined initially without mitigation. The table is essentially a guide only, so that the process is transparent and the rationale for the effect scores is provided in the relevant sections. Where the resulting effect comprises two separate levels (i.e. 'moderate or minor' or 'minor or negligible'), professional judgement has been applied to select the most appropriate significance of effect.

Where information is insufficient to be able to quantify either the asset significance or magnitude of impact with any degree of certainty, the effect is given as 'uncertain'. This might be the case for possible buried heritage assets where the presence, nature, date, extent and significance is uncertain due to the absence of any reliable detailed information (i.e. absence of site-based investigation).

Table 4 - Table of Significance of the Effects Outcomes

Significance / Impact	Very Low	Low	Medium-Low	Medium-High	High
Negligible/No Change	Negligible	Negligible	Negligible	Negligible	Negligible
Small	Negligible	Negligible	Minor	Minor	Moderate
Medium	Minor	Minor	Moderate	Moderate	Major
High	Moderate	Moderate	Major	Major	Major

The following terms have been used to define the significance of the effects identified:

- **Major effect**: where the Project could be expected to have a considerable effect (either positive or negative) on heritage assets (receptors). For the cultural heritage resource this equates to substantial harm to, or loss of, significance of an asset of high or medium heritage significance.
- **Moderate effect:** where the Project could be expected to have a noticeable effect (either positive or negative) on heritage assets (receptors). For the cultural heritage resource this equates to less than substantial harm to the significance of an asset of high or medium heritage significance.
- **Minor effect:** where the Project could be expected to result in a small, minimally noticeable effect (either positive or negative) on heritage assets (receptors). For the cultural heritage resource this equates to less than substantial harm to the significance of an asset of medium heritage significance or substantial harm to, or the loss of, significance of an asset of low heritage significance.
- **Negligible:** where no discernible effect is expected as a result of the Project on the cultural heritage resource (i.e. the effect is insignificant), or less minimal harm to the significance of an asset of very low heritage significance.

6 BASELINE CONDITIONS (PHYSICAL CULTURAL HERITAGE)

6.1 PAST ARCHAEOLOGICAL INVESTIGATIONS

Prior to the ASR, undertaken by Areni 1 Cave Scientific Research Foundation & Cortes Arqueologia in 2021-2022, there were no known previous archaeological investigations within the Study Area.

6.2 FACTORS AFFECTING ARCHAEOLOGICAL SURVIVAL

Archaeological survival, for the majority of the Project footprint and Study Area, is expected to be of good quality. In immediate proximity of the Study Area, however, large-scale surface bulldozing was undertaken during the Soviet Period (pre 1991), notably to the west of the southern section of the Project, and immediately to the north of the northern section. Evidenced by satellite imagery, there is a minor overlap with the 100m buffered area of the project development boundary in these areas and will have likely removed any above ground heritage resources in this area.

There has been no other modern construction on site. Further to this, the effect of erosion has meant that in many areas the surface is 'deflated' as the result of the removal of light sediment leaving behind only heavier objects including archaeological artefacts. This removes the potential to date objects by their place in the stratigraphic sequence.

6.3 ASSETS PROTECTED BY LOCAL, NATIONAL AND/OR INTERNATIONAL LAWS OR TREATIES;

There are no cultural heritage assets within the Study Area that are currently protected by any local, national and international laws or treaties.

6.4 OTHER CULTURAL HERITAGE ASSETS

Numerous features of heritage interest were identified within the Study Area by the 2022 surveys. These comprise wall fragments, enclosures, tombs/burial mounds, tower structures, kite structures, settlements, obsidian tool and implement scatters, concentrations of lithic artifacts and one-off features such as a petroglyph, a khachkar.

Table 5 summarises the quantities of features identified (shown on Figure 2).

Table 5 Sites within the study area grouped by category

Feature types identified	Count of Feature Type
Concentration of obsidian/lithic artifacts	8
Cultic structure	2
Enclosure/Enclosed area	29
Khachkar	1
Kite	4
Petroglyph	1
Potential tomb	8
Settlement	11
Structure	5
Tomb	25
Tombs	1
Tower	7
Tower and Enclosure	1
Tower and Wall	1
Wall/Wall fragment	63
Wall fragment and Enclosure	1
Wall fragment and tower	1
Wall fragments with tower	1
Total	170

6.4.1 **Statement of Heritage Significance**

Appendix 2 provides the assessment outcome of all 170 assets. Section 5.2 provides the background and rationale for assigning significance.

Table 6, below, lists the 67 sites that have been identified as having the highest sensitivity level within the Project Study area ('Medium-High'). There are currently no sites which have been identified as having 'High' significance. Due to their higher heritage value, these assets are of greater sensitivity and therefore risk to project.

Of particular note are heritage assets #152 (a large, multi-period, archaeological complex), #159 (a multi-period agglomerative settlement site), #146 (an area of tombs), #157 (an area of tombs or structures), #166 (a system of structures and potential tombs), #168 and #170 (both large enclosure systems including walls, towers and tombs relating to each other and situated across of several gorges). These are larger complex sites, and so impacts are generally high due to the cumulative nature. Also, as a feature type, tombs are generally considered to be of higher value, given the archaeological information potential they can hold. Sites #204-208 were recognised as surface scatters of prehistoric worked obsidian and stone, but some or all could prove to mark the location of stratified sites of early prehistoric date and, as such, of exceptional importance. Consideration of redesigning to avoid or

minimise impact, and/or specific mitigation, monitoring measures and protocol will be required for these assets.

Furthermore, heritage features which are likely to contain tombs, are well preserved kite structures (or comprising elements, such as the Towers), or well-preserved cultic structures also have potential to hold a higher (*medium)* heritage significance rating.

Table 6 - Sites of higher heritage significance within the study area

ID	Name/Feature-type	Significance	IFC Category	Description	Area (m^2)
31	Wall fragments with tower	Medium-High	Non-Replicable Cultural Heritage	Portions of walls and small tower in the junction of the walls, with a simple masonry situated on a slope and top of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.	184.1
50	Tower and Enclosure	Medium-High	Non-Replicable Cultural Heritage	Tower remnants standing inside of a large structure or enclosure. Timing and function are unknown.	1274.6
54	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.	16.2
61	Tomb	Medium-High	Non-Replicable Cultural Heritage	Tomb feature	Unknown
64	Kite structure	Medium-High	Non-Replicable Cultural Heritage	Kite Structure	536.1
65	Tower and Wall	Medium-High	Non-Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Traces of the nearby small tower are prooving that most probably it is part of a kite structure, which lost its completness after the partial melioration of the area.	122.4
77	Wall fragment and tower	Medium-High	Non-Replicable Cultural Heritage	Portion of a long wall with an attached small tower, made from basalt located on the slope of a small hill. The tower is hravily ruined, and only the foundations are visible. Most propably it is part of a destroyed kite structure after the melioration works in the area.	153.9
94	Tomb	Medium-High	Non-Replicable Cultural Heritage	A medium size burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.	35.4
96	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.	392.9

ID	Name/Feature-type	Significance	IFC Category	Description	Area (m^2)
102	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.	37.1
103	Kite	Medium-High	Non-Replicable Cultural Heritage	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.	469.0
104	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structures with a simple masonry located on a top of a small hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most probably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure the walls of which exist in close proximity.	405.6
105	Tomb	Medium-High	Non-Replicable Cultural Heritage	Collection of rocks, reminding of a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.	64.9
106	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.	93.5
109	Structure	Medium-High	Non-Replicable Cultural Heritage	A complex presented by a series of walls on natural hills and surrounding areas. The function and timing is unknown. Probably can be a cultic or ritual complex, accompanied with some burials. More characteristic to the Middle Bronze Age.	1446.8
111	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.	456.3
113	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.	87.6
114	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.	195.4
116	Tomb	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped enclosure around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is possible that the feature contains a hidden tomb.	104.8
117	Settlement	Medium-High	Non-Replicable Cultural Heritage	Traces of an agglomerative settlement near the v-shaped kite structure (No. 77), probably from the same time period, which can not be defined without excavations.	752.4

ID	Name/Feature-type	Significance	IFC Category	Description	Area (m^2)
118	Tomb	Medium-High	Non-Replicable Cultural Heritage	Collection of rocks near a natural hill formed by basaltic lava, which can be a hidden tomb. Timing is unknown.	134.4
120	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.	386.8
121	Enclosure	Medium-High	Non-Replicable Cultural Heritage	A system of enclosures located near the seasonal river bed. Timing is unknown. Most probably high and late Medieval periods. It was used as hearding unit and seasonal dwelling.	690.5
122	Structure	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped enclosure around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is possible that the feature contains a hidden tomb.	337.5
123	Tomb	Medium-High	Non-Replicable Cultural Heritage	Collection of rocks, reminding tomb structures or potential tombs among a group of similar structures located in the meliorated field. Time is unknown.	150.4
126	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure (small tower or enclosure) related with the kite wall (No. 115). The structure is heavily ruined, the collapsed stones are visible on the slopes. Suppose to be part of a large kite structure the walls of which exist in close proximity.	237.6
128	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement on the top and the slopes of a hill. Time is unknown. Probably belongs to the Neolithic period.	1086.6
129	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.	24.3
130	Kite	Medium-High	Non-Replicable Cultural Heritage	Nearly complete, v-shaped kite structure, with long walls and towers at the starts of the arms on a slope of a hill.	5459.4
131	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure the walls of which exist in close proximity (No. 124).	153.7
132	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.	3279.8

ID	Name/Feature-type	Significance	IFC Category	Description	Area (m^2)
134	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.	125.9
135	Enclosure	Medium-High	Non-Replicable Cultural Heritage	An enclosure and a structure looking like a tomb located on the seasoanl river terrace in a small gorge. Most probably belongs to the Bronze-Iron Ages	1593.7
136	Petroglyph	Medium-High	Non-Replicable Cultural Heritage	Petroglyph depicting a schematic drawing of a structure. Made by a metallic tool on a smooth and shiny surface of the local basalt rock. Such exist abudantly in the area. Time is unknown. More probably reflects shchematic disposition of the nearby kite or enclosure system.	3350.7
138	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure with a simple masonry located on a top of a natural hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.	71.5
140	Enclosure	Medium-High	Non-Replicable Cultural Heritage	A system of enclosures located on the slope of a hill. Timing is unknown. Most probably high and late Medieval periods. It was used as hearding unit and seasoanl dwelling and was renovated several times.	1806.6
142	Structure	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped enclosures around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is posible that the feature contains a hidden tomb.	211.2
143	Tower	Medium-High	Non-Replicable Cultural Heritage	Tower Feature	83.7
145	Tomb	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped structure with walls built from local basalt. Forth in the group of similar structures standing close to each other. More probably are remnants of an enclosure for keeping cattle or other domestic animals from high and/or late Medieval periods.	459.9
146	Tomb	Medium-High	Non-Replicable Cultural Heritage	Structures with walls built from local volcanic tuff. First in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.	860.6
147	Tomb	Medium-High	Non-Replicable Cultural Heritage	Tomb and enclosure feature	823.1
148	Tomb	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped structure with walls built from local volcanic tuff and basalt. Eighth in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.	504.8

ID	Name/Feature-type	Significance	IFC Category	Description	Area (m^2)
149	Kite	Medium-High	Non-Replicable Cultural Heritage	Head of a complex kite structure with very well preserved towers, enclosers and other features located on the top and southern slopes of a hill. Arms are missing because of partial melioration of the area.	24940.0
150	Tomb	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped structure with walls built from local volcanic tuff and basalt. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.	64.7
151	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.	441.2
152	Settlement	Medium-High	Non-Replicable Cultural Heritage	Large Archaeological Complex composed around a natural rock formation, containing an agglomerative settlement, enclosures, structures and burial mounds. Judging from the surface collections was functioning from the Early Bronze Age to the late Medieval period and occupying a central place in the landscape.	43133.4
153	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement situated near a seasonal river bed and formed by enclosures and structures. Time is not defined as of surface finds were not recorded.	1510.6
154	Tomb	Medium-High	Non-Replicable Cultural Heritage	Series of structures spread on the top and slopes of a natural hill reminding a tower with walls, which also contains a tomb. Also it is posible the structure is the prototype of the earlist agglomerative settlement. Time is unknown, because of luck of surface finds.	414.9
155	Tomb	Medium-High	Non-Replicable Cultural Heritage	Series of structures spread on tops and slopes of a two natural hills reminding a tower with walls, which also contains a tomb. Also it is posible the structure is the prototype of the earlist agglomerative settlement. Time is unknown, because of luck of surface finds.	145.7
156	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement composed around a natural rock formation and formed by enclosures and structures. Time is not defined as of surface finds were not recorded.	7326.4
157	Tombs	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped and devided into three portions structure with walls built from local volcanic tuff and basalt. First in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.	533.1
158	Structure	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped structure with walls built from local basalt. More probably are remnants of an ecnclosure for keeping cattle or other domestic animals from high and/or late Medieval periods. Also it is posible that the stucture is built over Bronze-Iron Age tomb.	122.2
159	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement composed around a natural rock formation, formed by enclosures and structures. Judging from the surface collections was functioning from the Early Bronze Age to the late Medieval period.	7669.7

ID	Name/Feature-type	Significance	IFC Category	Description	Area (m^2)
160	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure, with traces of disturbanse. More probably belongs to the Late Bronze-Early Iron Age.	62.0
164	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement composed around a natural hill and formed by enclosures and structures. Time is not defined, put possibly belongs to the Neolithic-Chalcolithic period as of surface finds are represented by many obsidian artifacts. The settlement was damaged after melioration of the area by heavy mechanism.	6448.3
165	Settlement	Medium-High	Non-Replicable Cultural Heritage	Rounded and rectangular-shaped structures with walls built from local volcanic tuff and basalt standing next to each other. More probably are seasonal dwellings and units for keeping sheep-goat or cattle built in high Medieval period, based on abudant pottery fragments collected in the context.	39040.0
165	Settlement	Medium-High	Non-Replicable Cultural Heritage	Rounded and rectangular-shaped structures with walls built from local volcanic tuff and basalt standing next to each other. More probably are seasonal dwellings and units for keeping sheep-goat or cattle built in high Medieval period, based on abudant pottery fragments collected in the context.	39040.0
167	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.	86.3
168	Enclosure	Medium-High	Non-Replicable Cultural Heritage	Large system including enclosures, walls, towers and tombs related to each other and situated across of several gorges. Occupies huge area. Timing and function are unknown. Probably the system represents a specific feature of a prehistoric (Neolithic to Bronze-Iron Ages) hearding and cultic landscapes. No parallels are available.	90590.2
169	Settlement	Medium-High	Non-Replicable Cultural Heritage	Aglomerative settlement, situated on a flat area and occupying a rim of a gorge. Timing is unknown. The settlement was heavily reconstructed in Medieval period, when the cell-type enclosures and structures were turned into shoe-shaped enclosures, but the site still keeps its scientific potential and value.	91863.3
170	Enclosure	Medium-High	Non-Replicable Cultural Heritage	Large system including enclosures, structures and long walls situated on both sides of a gorge. Occupies huge area. Timing and function are unknown. Probably the system represents specific features of high Medieval agrucultural landscape, relecting boundaries of vineyards, wine producing facilities and seasonal dwellings.	47608.5
171	Settlement	Medium-High	Non-Replicable Cultural Heritage	A system of three agglomerative settlements composed around natural hills and formed by enclosures and rounded structures. Time is not defined, but possibly belongs to the Neolithic-Chalcolithic period as of surface finds are represented only by obsidian artifacts. The unit is in perfect state of preservation and has no any signs of damage.	22045.6
201	Enclosure	Medium-High	Non-Replicable	A system of rounded enclosures joined to a potential tower.	3424.9

ID	Name/Feature-type	Significance	IFC Category	Description	Area (m^2)
			Cultural Heritage		
204	Lithic Scatter	Medium-High	Non-Replicable Cultural Heritage	Concentration of obsidian artifacts on a limited area, which belong to the Middle Paleolithic and Neolithic-Chlcolithic periods. The abudance and concentration of finds are telling about a stratified open-air site existing in the area, which requiers excavations through test trenches.	2383.1
205	Lithic Scatter	Medium-High	Non-Replicable Cultural Heritage	Concentration of obsidian artifacts on a limited area, which belongs to the Neolithic-Chlcolithic periods and the Bronze Age. There is a need to study the find area to understand where are the obsidian scatters are orignating from and to do some additional collections.	1677.3
206	Lithic Scatter	Medium-High	Non-Replicable Cultural Heritage	Natural, small hill located closely to the rim of a gorge in front of which dence scatters of obsidian artifacts exist. Judging from the state of preservation and typology of the tools we have here a stratified late Middle Paleolithic open air site. In addition a complex of artifacts characteristic to the Neolithic period also exist in the collection, which can be ralated to some walls and structures visible around the hill, telling about reoccupation of the same site in Neolihic. The site has an exeptional value, which means that after some excavations for stratigraphy and dating, it requiers preservation and/or conservation.	4113.7
207	Lithic Scatter	Medium-High	Non-Replicable Cultural Heritage	Flat area (probably a terrace) located closely to the rim of a gorge where dence scatters of obsidian artifacts collected. Judging from the state of preservation and typology of the tools it is possible have that here a stratified late Middle Paleolithic open-air site exists. In addition a complex of artifacts characteristic to the Neolithic period also is visible in the collection. The site has an important value, but test excavations are requierd to check the stratigraphic preservation of the site.	3342.5

6.5 CULTURAL HERITAGE ASSETS OUTSIDE THE STUDY AREA

Significant cultural heritage assets in the wider vicinity of the project include a number of legally protected sites include:

- The Monastery Church of Kristapor, situated in an area of open landscape c.2km south of Dashtadem Village, a minimum of 1.5km from the southern portion of the project;
- The medieval fortress of Dashatedem, located on the southern edge of the village. This has been recently renovated and is located a minimum of 1.7km from the western edge of the project;
- The Talin Cathedral Monastery complex, situated on the north side of modern Talin, (the opposite side to the proposed development)

7 BASELINE CONDITIONS (INTANGIBLE CULTURAL HERITAGE)

7.1 CONSULTATIONS

Meaningful consultation of local residents and stakeholders from *Talin, Ashnak, Katnaghbyur* and *Dashtadem* of the Aragatsotn province has been undertaken. In these consultations, the communities were asked if features or places of intangible cultural heritage value existed within the project area.

Further to these broad consultations with focus groups, an Armenian ethnographer undertook consultation with specific regard to cultural heritage in May 2023. He again identified the communities *Talin, Ashnak, Katnaghbyur* and *Dashtadem*[6] which might have intangible cultural practices and traditions that could be of risk of being impacted by the Project. These were. Key informants were identified in each community. Interviews with these individuals were undertaken and the results set out in the Intangible Heritage Report (Appendix 5).

7.2 RESULTS OF THE CONSULTATIONS

Whilst a number of the communities identified distinct intangible heritage elements present in their cultural heritage (which are included in the state lists/inscribed on the UNESCO list of Intangible Cultural Heritage of Humanity, pertinent to Armenia), with the exception of the khachkar (site #141), there are no resources within the Project area with identifiable intangible cultural heritage significance.

[6] Yerevan, 2023, p5 -15

8 ASSESSMENT OF EFFECTS

8.1 INTRODUCTION

This section assesses the projects likely impact on the significance of physical cultural heritage (no features of intangible cultural value within the study area were identified). The terminology used for this assessment, assess the impact of the proposals on the significance of heritage on a scale (of 'significance of effects') scale from – a negligible effect through to a major effect.

8.2 OUTLINE OF PROJECT DESIGN

The planned Ayg-1 200 MW solar PV power plant covers an area of approximately 5.2km^2. It comprises a peripheral fenced off core area, within which the arrays of photo voltaic solar panels will be constructed/positioned. See Appendix 5 for the layout design.

The project design includes the following features:

- PV Modules, Trackers, Inverters, Transformers, Cables, Cleaning Robots.
  PV Modules are installed on the PV Mounting structure (colloquially called a "tracker" because the top structure/purlin will be able to move via motors and track the sun).
  Trackers, installed to the purlin will be attached to the ground with steel posts concreted into the ground. The holes, typically drilled with a Rotary Drilling Machine, will be drilled into the ground (approx. 1.2-1.5m). Once the posts are set, the PV mounting structure/purlin and motors will be installed on top of the posts.

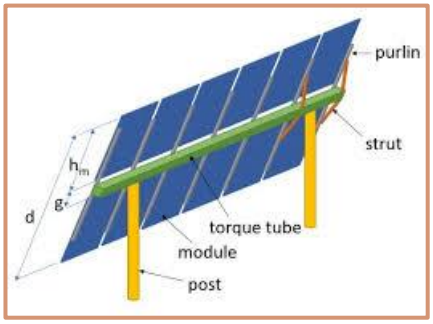

Figure 1 - PV Module and Tracker Setup

  Installation of cables and their locations will not be finalised until the detailed engineering design is produced. However it is anticipated that;
  - *From Module to Module, it will be overground.*
  - *From Module to String Inverter, this will be a mix of overground and underground.*
  - *From the output of the inverter onwards it will be underground.*

- Fencing and gate entrances
  Fencing will be installed by inserting concrete piles in the ground. holes will be drilled in the ground (approx. 0.5-1m). Concrete will be used to hold the post in place.
- Laydown Areas
- Power conversion stations
- Weather stations

- Plant gates
- Roads (Internal, Periphery and Main)
  Internal roads to either be asphalted or compacted.
- Overhead Lines

8.3 SUMMARY OF CONSTRUCTION IMPACTS

Construction impacts include anything that would cause ground disturbance (such as preliminary ground works, site strip/topsoil removal and storage, construction compounds, laydown areas, landscaping, piling, post holes, excavation for foundations, services, drainage, fencing, cabling, piping and lighting).

For the Project, the piled holes which will be required for the PV panel supports, the fencing, gates, and foundations for buildings, high voltage equipment, power and weather stations will result in partial disturbance of the heritage assets within the construction footprint. Post-holes cause impacts within the footprint of the post-hole and can cause damage to the adjacent area. Groupings of post-hole have the effect of making the area within the group inaccessible to future investigation and is thus equivalent to the total loss of the affected area.

The impact of construction or upgrading of access roads and laydown areas are dependent on the depths of construction required, material used for surfacing, and the types of vehicles likely to utilise the road/laydown area. Whilst some deeper archaeological strata may not be impacted, it should be assumed that construction pf roads and tracks will require the complete removal or destruction of both above ground and buried heritage features.

Impacts caused by 'imposed loads' are also a possibility. Construction of embankments, laydown areas, and/or heavy vehicle tracking, can cause significant loading and potentially lead to sediment deformation and damage to buried features and artefacts.[7] Again, using the precautionary principle, it should be assumed that any heritage resources beneath earthworks will be destroyed.

Impacts to Asset Setting and Historic Landscape

The development will have an effect on the historic landscape of the area, most significantly in views from key historic sites. A number of sites/assets were identified as requiring assessment due to potential changes to their setting. Assets above-ground assessed to be of high significance, within 2.5 km of the project were considered and scoped in. This area broadly aligned with the near side of settlements facing the project and therefore captured any sites where the historic landscape might include the Project area. A more detailed review of the scoped in sites was undertaken of two assets; Kristapor Monastic Church and Dashtadem Fortress (although not Talin Cathedral Monastery Complex, which is on the far side of Talin to the Project).

[7] Historic England (2016), p18

There will be partial views of the solar panels from Kristapor Monastic Church and Dashtadem Fortress. Figures 7 and 8 illustrate the extent of the visual impact from Kristapor Monastic Church and Dashtadem Fortress respectively.

In the case of Dashtadem Fortress, the main viewpoint across the landscape to the east is available from a viewpoint in a collapsed section of the eastern defences. From here there will be only very limited visibility of PV panels on west-facing slopes at least 1.5km to the south-east and 2.7km to the north-east. The relative distance and small areas of the development will cause minimal change in terms of the relationship of the fortress to the surrounding landscape and therefore is determined as being negligible.

Rather more of the site will be visible from Kristapor Church. While the impacts on its overall relationship with the wider landscape will be small, this equates to a moderate impact because of its high significance.

8.4 Summary of Operational impacts

Operational impacts include any physical impacts on buried or above ground archaeology as the result of maintenance, operational traffic or secondary development. For the Project, it is assumed that once the Project has been completed, no further direct ground disturbance would occur. Whilst operational traffic is likely in the form of movement of vehicular transportation along the access, main, peripheral and internal roads as well as the laydown areas, this activity will be intermittent. Therefore, the assessment of operational stage impacts on sites of cultural heritage significance within the study areas has by-and-large been deemed minimal.

8.5 Summary of Decommissioning Impacts

It is anticipated that, on the assumption that no additional infrastructure or tracking will need to be created or constructed (see Section 8.6), there will be no additional impacts on buried or above ground archaeology as the result of decommissioning of the Project.

8.6 Construction, Operation and Decommission Assumptions

The construction, operation and decommissioning of the Project will follow general industry practices for Utility scale PV plants. As part of this, a Detailed Engineering assessment will be completed upon which construction, operation and decommission will be based. It will incorporate specific conditions and particularities of the site.

Whilst a design plan of The Project has been agreed, and some details on the construction and operation have been provided (see Section 8.2), in the absence of Detailed Engineering drawings at this stage, this assessment assumes a worst-case scenario. In other words, it is assumed that all features that fall within areas of proposed development will be removed.

Currently there are few details available with regards to the decommissioning of the Project. It is understood the decommissioning will occur after an estimated 20-35 year operational life-span of a typical utility scale PV plant. It is assumed that no additional infrastructure or

tracking will need to be created or constructed as part of the decommissioning stage, and therefore no risk of further impact to the heritage resource, that has not already been assessed. If this any of the tasks undertaken as part of the approach to deactivating the project or facility from service, and removal of permanent and temporary infrastructure differ to this, a separate assessment will be required.

8.7 EMBEDDED MITIGATION

8.7.1 Site Extent

The Project Design has been informed by preliminary E&S studies. As part of this, a number features of archaeological value were identified, and the design was remodelled to take account of these sites, leading to both changes in the overall project boundary and in the detailed design within it. The mitigation hierarchy – as required by PR8 - prioritises avoidance wherever possible[8].

As a consequence of this, the site boundary was modified to avoid the most sensitive portion part of #152, one of the best conserved/highest priority sites within the project area.

This initial adjustment was followed by a process of mapping and consultation between the cultural heritage team and the project designers, where the sites of highest sensitivity were identified (see Table 6 above) and the design adjusted to avoid them wherever possible.

The remodelling comprised of:

- the discarding of plans to grade/strip the land surface. The new plant design / layout will largely leave the natural topography of the site intact,
- avoidance of steep slopes where potentially damaging cut and fill activities would be necessary,
- raising the height of the panel mounting structures to ensure there is plenty of ground clearance, to minimise potential impacts to heritage features,
- redesign of internal roads, cable trenches and access roads to minimize impacts on archaeological features,
- micro-siting of MV stations to minimise overlap with archaeological features.

These actions have thus automatically been incorporated into this assessment, and the impacts have been significantly reduced as a result of this early mitigation effort.

Based on the latest design iteration (dating to August 2023), direct impacts on all sites of medium-high sensitivity have been avoided with the single exception of an enclosure, one part of site 55, that falls within the project central substation and storage area

[8] IFC, 2012, Guidance Note 8, Cultural heritage, Articles 11 & 12

8.8 ASSESSMENT OF EFFECTS

The table in Appendix 3 details Significance of Effects (prior to mitigation), taking impacts at each stage into account. Maps 3 presents these results geographically.

These can be summarised as follows:

8.8.1 Construction stage effects

Construction stage impacts, prior to any additional mitigation, result in:

- 0 assets experiencing an adverse 'Major' Significance of Effect,
- 10 assets experiencing an adverse 'Moderate' Significance of Effect,
- 47 assets experiencing an adverse 'Minor' Significance of Effect,
- 113 assets experiencing an adverse 'Negligible' Significance of Effect,

This is based on a worst-case scenario that the impacts would be of a nature that would either completely remove the asset or lead to a fundamental change in our ability to understand and appreciate the resource and its historical context, character and setting.

For this project, the higher effects occur where 'Medium-Low' or 'Medium-High' value heritage asset undergo a medium magnitude of impact; primarily as result of cumulative posts, and the likely associated installation/access impacts – which would result in a loss of heritage information if not mitigated.

In addition to those assets impacted by the PV support posts, there are a number assets that will be impacted by the construction of fences and gates and as a result of the construction of internal roads. Through re-design and consultation with the heritage specialists, these are occur primarily on 'Low' or 'Very Low' valued assets.

The assets with the highest overall significance of effect ('Moderate' outcome) can be found in the table in Appendix 3 (Assessment of Effects).

8.8.2 Operation stage effect

There are no identified operational impacts/effects.

8.8.3 Decommissioning stage effect

There are no identified impacts/effects that will arise from decommissioning.

9 EVALUATION, MITIGATION AND RESIDUAL EFFECTS

9.1 APPROACH TO MITIGATION

The 'mitigation hierarchy' as defined through the IFC and EBRD guidance can be summarised as follows :

i) Avoidance of impact through design (preservation of heritage resource in-situ), and/or
ii) Minimise impact (e.g. by moving/adjusting PV panel supports), and/or
iii) Monitor and Record impacted portion of the heritage resource, through feature-type specific methodologies (e.g. through sampling, evaluation, photographic record, 3d modelling or pre-construction excavation).
iv) Full documentation of affected cultural heritage resources through pre-construction excavation and/or other means.

An appropriate mitigation strategy aims to offset or minimise any negative effect. Measures to mitigate effects normally consist of design adjustments in order to allow archaeological resources to be protected and retained (preservation in situ) or, where this is not feasible, investigation and recording in advance of development (e.g. archaeological excavation) followed by analysis and reporting.

Where cultural heritage impacts can only be identified in broad terms either due to constraints on the nature/quality of baseline data or due to uncertainties regarding precise impacts (as in this case), then mitigation must be designed on a more generic basis.

For certain heritage assets, further non-intrusive surveys may be required in order to help clarify the nature, survival, condition and extent of any archaeological assets that may be affected. This will need to be carried out in advance of construction as a part of an additional pre-construction assessment, alongside the Engineering Procurement and Construction (EPC)'s detailed design stage. The results of this further evaluation would inform a more detailed mitigation strategy for the heritage asset.

Additional surveys, detailed mitigation plans, monitoring requirements and a Chance Finds Procedure will be set out in the Cultural Heritage Management Plan (see Section 9.7).

9.2 MITIGATION THROUGH DESIGN

The process of detailed design to avoid key features is ongoing and has largely avoided impacts on sensitive archaeological sites.

Additional design measures that should be considered in sensitive areas include the use of ground anchors, which remove the need for supporting PV post holes to be intrusively inserted into the ground. Further information on this design approach can be found in the

Planning guidance for the development of large scale ground mounted solar PV systems, by the Building Research Establishment Trust.[9]

9.3 EVALUATION

Once the design has been finalised, the remaining site of archaeological sensitivity affected by the proposed works (site #55) will require intrusive evaluation with targeted trial trenching. Evaluation should occur well in advance of the commencement of ground works, allowing mitigation fieldwork (through excavation or other methods to be set out in the CHMP) to be undertaken in advance of construction.

Any archaeological or heritage survey, or work would need to be undertaken in consultation with by the Armenian Ministry of Culture, and in accordance with an archaeological method statement approved in advance of works commencing (sometimes referred to as a Written Scheme of Investigation (WSI)).

9.4 PRE-CONSTRUCTION MITIGATION

The evaluation surveys outlined above should provide sufficient information to inform decisions about the need for mitigation documentation of these sites, proportionate to the extent of the impacts planned. Such measures could include the following in order of least to most intrusive:

- Record through photo/photogrammetry/non-intrusive methods
- Archaeological Watching Brief
- Sample Excavation (Trial trenching or Strip, Map, and Sample)
- Open-area Excavation

These works should, again, be undertaken before construction commences.
In addition to these site-specific measures, rectified photogrammetry of the whole site should be undertaken using a drone, with high-resolution aerial and ground-based photography of the 67 higher sensitivity sites sufficient to enable 3D modelling of these sites. The purpose of this will be to create a permanent high-resolution record of this important archaeological landscape before it is permanently changed by the construction of the Ayg-1 project.

In addition to this, robust, semi-permanent metal fencing should be erected around all of the higher value sites identified in Table 6, and all sites be marked very clearly with signs in Armenian (and other appropriate languages), before construction commences.

9.5 ADDITIONAL MITIGATION

There are no practical measures available for direct mitigation of the visual impact of the scheme on the settings of Dashtadem Fortress and Kristapor Church. However, the provision of information about the findings made during the project at either or both of these sites

[9] BRE 2013, pp13

would offset these impacts by creating awareness and appreciation of the cultural heritage significance of the area, in line with objectives of PR8.

9.6 MONITORING

All ground disturbance works during the stages of the Project will need to be monitored by appropriately qualified Cultural Heritage Monitors (CHM). Archaeological monitoring is defined as 'a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site where there is a possibility that archaeological deposits may be disturbed or destroyed'. The CHM will compile a report and ordered archive, as part of the post-investigation reporting (See Section 10).

The role of the CHM is to monitor construction work, not to carry out mitigation documentation works. A separate Appointed Archaeological Contractor with appropriate levels of experience and capacity will be required to carry out evaluation surveys and mitigation investigations.

9.7 CHANCE FINDS PROCEDURE

The EBRD and IFC requires, as part of the mitigation approach, that a Chance Finds Procedure (CFP) is in place for archaeological work and detailed within the CHMP. In paragraph 16 for the EBRD Performance Requirement 8 is states:

"*The client will ensure that provisions for managing chance finds, defined as physical cultural heritage encountered unexpectedly during project implementation, are in place. Such provisions shall include notification of relevant competent bodies of found objects or sites; alerting project personnel to the possibility of chance finds being discovered; and fencing-off the area of finds to avoid any further disturbance or destruction. The client will not disturb any chance finds until an assessment by a designated and qualified specialist is made and actions consistent with national legislation and this PR are identified.*"

The chance find procedure is a project-specific procedure that outlines actions required if previously unknown heritage resources, particularly archaeological resources, are encountered during project construction or operation. It is a process that prevents chance finds from being disturbed until an assessment by a competent specialist is made and actions consistent with the requirements are implemented.

The Chance Finds Process for the Project will be further detailed in the CHMP, including detailing the differing responses required in the event of archaeological discoveries of minor, moderate and major significance, as well as setting out the communications process and details of notifying the relevant authorities.

9.8 CULTURAL HERITAGE MANAGEMENT PLAN

The project's approach to the management of cultural heritage resources during the pre-construction and construction phases of the project will be set out in as much detail as possible in the Cultural Heritage Management plan. This will include:

- A description of CH sites within the project boundary and mitigation measure considered for each site;
- Structure of the team proposed for implementation of CHMP during construction works;
- Proposed plan for preconstruction assessment and mitigation;
- Consultations undertaken up to date with communities, and archaeology institutions/groups in Armenia;
- Proposed consultations with archaeological community/Ministry of Culture/other stakeholders; and
- A detailed Chance Finds Procedure

Given the widespread nature of archaeological resources on the development site – and the extent of additional surveys and mitigation works that will be required – it is recommended that an archaeological clerk of works should be appointed to manage the implementation of the CHMP.
Among other things, this person would be responsible for ensuring that:

- method statements of appropriate quality and details have been prepared and agreed with the relevant authorities,
- the contractor understands the requirements of the archaeological works,
- the archaeological programme is delivered according to agreed deadlines
- post-excavation analysis and reporting is carried out in line with international best practice.

9.9 RESIDUAL EFFECTS

For the assessment of the Significance of Effects before and after mitigation see Appendix 3. Mitigation actions are listed in order of preference according to impact assessment and heritage management best practice, with avoidance being the preferred option.
Residual effects (Significance of Effects, post-mitigation), are summarised in Appendix 3. Map 4 presents these results geographically.

Based on the mitigation approach indicated above, Construction stage impacts, result in:

- 8 assets experiencing an adverse 'Minor' Significance of Effect,
- 162 assets experiencing an adverse 'Negligible' Significance of Effect,

10 POST-INVESTIGATION REPORTING

10.1.1 Post-Investigation Assessments

Post-Investigation Assessments form part of the mitigation approach and assess, record, and document the outcome of the mitigation work (such as, the watching briefs, evaluations,

excavations, photographic records etc). The schedule and specific deliverables will be agreed with the relevant parties, including the Appointed Archaeological Contractor, the Principal Contracting Partner, and relevant authorities. Delivery of 'preliminary' reporting can be provided to allow progress to continue.

A comprehensive Technical Report will be produced by the appointed archaeological contractor within a reasonable time limit (for example 6 months) following completion of the on-site investigations. It will be submitted to the relevant authorities for approval/acceptance.

10.1.2 **Publication and dissemination**

Publication and dissemination of outcomes are an embedded element of the mitigation works. Publication usually does not occur until after the Project completion.
The publication format typically conforms to an agreed project design and specific published channels will be agreed with the client.
The final report will specify where every component of the archive is deposited.

10.1.3 **Archives, deposition, and ownership**

Archive deposition (of the outcomes) are also an embedded element of the mitigation works. The requirements for archive preparation and deposition of the outcomes of the mitigation works will be addressed at the outset of the Project and agreed as part of the CHMP.

All movable cultural and natural assets revealed in excavations are to be transferred to the relevant Governmental organisation nominated by Client at the end of the excavations.

The Client shall provide all support and facilities (including security of the cultural object storage facility) needed by the appointed archaeological contractor during the excavation period for rescue and protection of the cultural asset.

The proposed recipient museum or other approved repository will be contacted and arrangements for the deposition of the material archive will be detailed in the specification and/or works project design.

11 SUMMARY

The Proposed Development will take place in a sensitive and complex archaeological landscape with at least 170 identified tangible sites. These range in date from the Neolithic to the Medieval period. The Project site is located across generally flat land dissected by minor gorges and valleys. There is no intangible cultural heritage at risk of being impacted by the project; a result of the identified local communities confirming no currently utilisation of the area for cultural / historic purposes, or having any special connection with the land and location.

The Project layout design, whilst avoiding a large number of impacts through preliminary mitigation (avoidance through design), will impact on a number of heritage features. Additional detailed design should take place to minimise impacts on sensitive archaeological features. Additional methods of installing solar panels without requiring intrusive post installation should be considered, such as 'ground anchors' (posts supported by concrete blocks), which reduce archaeological impact and therefore favourable from a heritage-resource-protection perspective.

As the project design and layout stands, prior to mitigation there are no assets that would result in an 'Major' adverse effect, 11 that would result in an 'Moderate' adverse effect and 47 that would result in a 'Minor' adverse effect; the 'Moderate' being a result in all cases of a medium magnitude of impact on a site of 'Medium-High' or 'Medium-Low' value. These assets with a greater adverse overall significance of effect can be found in the table in Appendix 3 (Assessment of Effects)).

This is based on a worst-case scenario that the impacts would of a nature that would either completely remove the asset a fundamental change in our ability to understand and appreciate the resource and its historical context, character and setting.

These effects can, however, be reduced with appropriate, asset-type specific mitigation. Through adoption and incorporation of this mitigation, the overall effects will be reduced to 8 'Minor' and 162 'Negligible' residual effects.

This is, however, based on the understanding that the impact will be mitigated fully through either avoidance or documentation of the entire asset. It should also be noted that the adverse effect would not be offset entirely, as preservation by record using present day best-methods of record, cannot replace the loss of these heritage assets completely.

In reality this will result in a substantial programme of pre-construction of archaeological work. In order to minimise these works, an in-field, case by case assessment is recommended to enable construction to avoid or minimize impact on the heritage resources. This would be detailed in a Cultural Heritage Management Plan, which would address each specific asset (in particular those identified in this assessment with 'high' impact and 'moderate' heritage value) and include specific mitigation plans and effect monitoring protocols.

12 REFERENCES

BRE 2013, Planning guidance for the development of largescale ground mounted solar PV systems, Building Research Establishment Trust

The General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO), 17 October 2003, Convention for the Safeguarding of the Intangible Cultural Heritage Paris

EBRD, April 2019, *Performance Requirement 8 (Cultural Heritage).*

Historic England, 2016, *Preserving archaeological remains: Decision-taking for sites under development.* Swindon.

The International Finance Corporation (IFC) World Bank Group, January 1, 2012, *Performance Standard 8* (Cultural Heritage)

Yerevan, May 2023, *Report on Ayg-1 PV Plant Project – Intangible Heritage Study*

APPENDICES

1 Archaeological Survey Report
2 Gazetteer of Archaeological Significance
3 Assessment of Effects
4 Maps
5 Ayg-1 PV Plant Project – Intangible Heritage Study

APPENDIX 1 – ARCHAEOLOGICAL SURVEY REPORT

Study of the Resources having Historical-Cultural, Spiritual, Archaeological Significance for the land selected under the construction of solar power plant (Ayg-1 project) located in the Talin and Dashtadem communities of the Republic of Armenia

ARCHAEOLOGICAL SURVEY REPORT:

Ayg-1 PV Plant Project (Armenia)

ARCHAEOLOGICAL SURVEY REPORT: Ayg-1 PV Plant Project (Armenia)

Data sheet

Project Name:

- *Ayg-1 200 MW solar PV power* plant located *in* the Talin and Dashtadem communities of *Aragatsotn region, Armenia (the, "Project")*

Report Completion Date:

- 30th November 2022

Location: Project Site in *Talin and Dashtadem communities in the Aragatsotn Region of Armenia*

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Applicable Standards / Legislation

The reference standards used to carry out this study are 1) IFC Performance Standards, 2) EBRD Performance Requirements and 3) Applicable Armenian regulations and laws.

The Republic of Armenia contemplates certain laws for the protection of the heritage, such as:

- Réglementation sur la protection des monuments historiques en Arménie (1978).
- Law on Preservation and Utilization of Immovable Monuments of History and Culture and of the Historic Environment (adopted on the 11 of November 1989).
- Law of the Republic of Armenia about protection and use of immovable monuments of history and culture and the historical circle (1998).
- International legal instruments signed in the framework of the United Nations Educational, Scientific and Cultural Organization (2000).
- Decision N.438 on approving the order of state inventory, observation, protection, fixation, renovation, restoration and use of immovable monuments of history and culture (2002).
- Law on the protection and use of immovable monuments of history and culture and historical surrounding (amended 2003).
- Decision N.1643 on the establishment of list of especially valuable cultural values of the cultural heritage of the Republic of Armenia (2005).

Armenia also has signed and ratified several international conventions, such as:

- Convention concerning the Protection of the World Cultural and Natural Heritage, Paris (1972).
- European Convention on the Protection of the Archaeological Heritage, Valletta (1992).
- Convention on Biological Diversity (1992).
- European Landscape Convention, Florence (2000)
- Convention for the Safeguarding of the Intangible Cultural Heritage, Paris (2003).

Introduction: The aim of the project and the objectives of the archaeological survey

The Government of the Republic of Armenia aims to develop clean energy infrastructure in the country, as part of Armenia's aspiration for a low-carbon future. The Project will provide national energy security, reduce electricity costs, boost new industries, generate direct and indirect jobs, and put the country on the radar of international investors. The Project consists of constructing a 200- megawatt (MW) solar power plant in Armenia. It will be developed on a design, finance, build, own, and operate (DFBOO) basis. The Project will be implemented by "Masdar Armenia 1", a joint company set by Masdar and ANIF. The solar plant will be located on a land of around 500 hectares in the communities of Talin and Dashtadem (the "Project Site"). The area is high in solar radiation and the land is unusable for agricultural purposes.

Armenia is a region with a rich cultural heritage whose roots go through the depth of the centuries. About 33,000 historical and cultural monuments are found in 4,500 complexes with a total territory of 20,000 hectares.

The Protected Cultural Heritage in Armenia is defined as local or Republican. Especially important and significant are features of historical, architectural, scientific, artistic, and cultural value, of which there are 80 complexes (with about 400 Historic Structures of Architectural value). In the past, these were included in the USSR's list of the cultural and historical significance of all-Union value.

The UNESCO World Heritage List, which since 1963 has identified more than 630 historical features and Historic or Cultural Landscape all over the world, includes several Archaeological Sites on the territory of Armenia: Haghpat and Sanahin Monastic Complexes and old bridge, and the historical centers of Ejmiatsin, Zvartnots, and Geghardavank. Other Armenian Archaeological Sites have been proposed for the UNESCO World Heritage List: the Noravank Monastic Complex, the Persian Blue Mosque, and the historical capital of Armenia, Dvin. Therefore, it is prudent to conduct archaeological studies on the Project Site.

The objective of such studies are:

1. Identify the potential impacts of the Project on Cultural Heritage (Tangible and Intangible), whether Replicable, Non-Replicable, or Critical, and its main elements: Archaeological Sites, Historic Structures, Historic Districts, Historic-Cultural Landscapes, and Artifacts.
2. To provide archaeological input to an environmental impact assessment (EIA) and an environmental management and monitoring plan (EMP), both of which will be prepared by the joint company set by Masdar and ANIF, in conjunction with their advisors.
3. To undertake desk and site / field studies of the Archaeological Sites of the Project, identify the known and newly discovered Cultural Heritage, assess the impact of the Project on such Cultural Heritage, and develop recommendations on mitigation measures.

To understand the mitigation measures described below, it is necessary to list and define the categories of Cultural Heritage. These categories are internationally recognized and included in the Performance Standard 8 for Cultural Heritage (PS8), which serves as a framework for this study.

- Tangible Cultural Heritage:
    - Replicable Cultural Heritage.
    - Non-Replicable Cultural Heritage.
    - Critical Cultural Heritage.

  Subtypes:
        - Archaeological Sites.
        - Historic Structures.
        - Historic Districts.
        - Historic or Cultural Landscape.
        - Artifacts.

- Intangible Cultural Heritage

The most visible category in this study, that can potentially be impacted by the Project, is

the Tangible Cultural Heritage and its variations. The key terms are defined below, using the definitions provided in the PS8:

- Tangible Cultural Heritage: *Tangible cultural heritage is considered a unique and often non-renewable resource that possesses cultural, scientific, spiritual, or religious value and includes moveable or immovable objects, sites, structures, groups of structures, natural features, or landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural value.*
  - Replicable Cultural Heritage: *is defined as tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archaeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites and/or structures.*
  - Non-Replicable Cultural Heritage: *may relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the cultural heritage is unique or relatively unique for the period it represents, or cultural heritage is unique or relatively unique in linking several periods in the same site.*
  - Critical Cultural Heritage: *one or both of the following types of cultural heritage: the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes; or legally protected cultural heritage areas, including those proposed by host governments for such designation.*
- Intangible Cultural Heritage: refers to cultural resources, knowledge, innovations and/or practices of local communities embodying traditional lifestyles.

Assessment of archaeological findings are based on these categories, and mitigation measures are highlighted later in the report.

Brief geomorphological and historical-cultural description of the region

Each cultural phenomenon is being developed based on natural resources existing in the local area, which shape the whole package of activities, the mechanisms of social organization, and models of survival of the individuals of those cultures. The region where the Project is located is part of Mt. Aragats volcanic province (spread on the south- western fringes), shaped by a suite of several mafic lava flows and pyroclastic deposits which can be traced along the Karmrashen River caption and its tributaries (Maps 1 and 2).

In practice, this region is part of the wide Talin-Karmrashen Plateau which belongs to the Ararat Depression, overlooking the Araxes River valley. Mt. Aragats stratovolcano, Mt. Arteni, Mt. Ddmasar, and other eruptive centers are visible from there. The local morphology is distributed by high and low hills, which are characteristic of the pre-mountainous zones of central Armenia, as well as not deep gorges cut by modern seasonal water flows originating as a result of snowmelt water. Those were mainly formed during Late Pleistocene[1] and Early Holocene[2] climatic cycles, and their developments continue nowadays.

As a whole, the mentioned small water bodies, together with the hills shaped by intensive weathering of the slopes, and surfaces of rock formations played a significant role in the formation and development of the local Cultural Heritage, representing local landforms of exploitation and survival. They also served as a source of such significant construction materials like volcanic tuff, different types of basalts and dacite, which allowed incorporating the artificial features with the natural forms, creating Cultural Heritage elements such as kites, towers, enclosures, burial mounds, and other cultic elements (Figures 1-14).

According to our current knowledge and archaeological data, it is possible to identify the modifications that make up the Historic-Cultural Landscape in this area on the southern

[1] Also known as Upper Pleistocene or Tarantian Stage, currently defined as the time between c. 129000 and c. 11700 years ago.
[2] Current geological age. It began c. 12000 to 11500 years ago

fringes of Mt. Aragats. Thus, chains of Archaeological Structures called desert kites can be observed (created for hunting, trapping, animal husbandry, and cultic function) with supporting enclosures, as well as agglomerative (jellyfish, wheel, cells) and coral settlements, towers, and graveyards. Those Historic-Cultural Landscapes were shaped over millennia (at least from Lower Palaeolithic[3] to the Iron Age[4] onwards) and later on intensively exploited during the Medieval Period, serving as gardens and facilities for wine production. The same landscapes were also used in Soviet era for agricultural purposes. In the aforementioned periods (medieval and Soviet), many of the stone-built structures of the previous times were preserved. Recent archaeological investigations prove that Armenia and the Armenian Highlands are one of the most prominent areas of the ancient hunting and trapping systems, the "motherland and capital of the desert kites" and such structures are widespread in the Talin-Karmrashen Plateau (an area spanning over 150,000 hectares), within which the Project Site lies.

Scientific-research activities implemented for the study

To following type of scientific-research activities were conducted:

1. **Preliminary desk study.** Collection of information about the Cultural Heritage from unpublished (archival) and published literary sources, their identification with the list of the archaeological and historical monuments of the Aragatsotn Province. This desk study was conducted in 2021.

2. **Preliminary survey of the Project Site.** Fieldwork investigation including preliminary survey works was conducted during 2021. They were carried out with the boundary of the Project Site as well as close vicinity of the Project Site, fixed by the GPS system of coordinates. The aim of this survey was to identify and record archaeological elements of the landscape, i.e. structures, collection of surface finds, the study of sections, etc., and understanding the boundaries and spread of the cultural layers and their relationship with the area inside the Project Site. Additionally, complex analyses of the collected information in the context of the fieldwork results were undertaken. Such kind of

[3] Historic Period between c. 1.5 million to 200000 years ago
[4] Period between c. 1200-600 BC

analyses allows us to understand the meaning of the collected field information and to evaluate the informative potential of the Cultural Heritage, or Chance Finds if the Historic Structures are partly and not well preserved or are absent totally.

3. **Detailed survey of the Project Site.** The detailed survey of the Project Site was conducted between April and November 2022, with a team of researchers organized by the "Areni-1 Cave" scientific-research foundation. They were represented by 4 archaeologists, 1 GIS specialist, and 1 drone specialist. 2 members of Spanish archaeological company "Cortés Arqueología" also participated in the fieldwork activities as well as provided input for finalizing the methods of recording the discovered historical-cultural units. After finalizing an inventory of features, which may have historical-cultural, spiritual, or archaeological significance, the Project Site was photographed by a drone, which helped understand the process of formation of the cultural landscapes of the past. This also showed that natural degradation and prior construction activities in the area resulted in erase, damage and a loss of completeness of the cultural elements.

Results

1. **Main results of the desk study**

The main source referred to for composing the Cultural Heritage of the Project area was the State List of Monuments of the Aragatsotn Province of the Republic of Armenia (The State List of Immovable monuments of the History and Culture of the Aragatsotn Province of the RA. Adopted May 29, 2002, government order N628). In addition, published sources such as Badalyan and Avetisyan (2007); Asatryan (2004) (in Armenian) and many others, and unpublished reports were used. Additionally, the inventory and mapping of the recorded and excavated sites were obtained for Talin, Dashtadem, Ashnak, and Katnaghbyur communities, which cover all the communities in the vicinity of the Project Site

Information collected from the above-mentioned sources suggested that there are no

features with archaeological and historical-cultural significance known or recorded previously.

Lack of records can be either because of 1) the State Lists of Monuments of Armenia are very old and are composed of a very low level of methodology or 2) the area around the Project Site was never subjected to any archaeological study and excavations.

Only a short-term and preliminary recognition survey was implemented around the Project Site in the frame of the Armenian-Israeli project on the study of the kites on the southern fringes of Mt. Aragats in 2012 (the data is not fully published yet).

Cultural Heritage in regions around the Project Site

Even though no records were found in the desk study regarding the Project Site area, the known features elsewhere show the Historical-Cultural Landscape of the surroundings. It is not a surprise, because the southern fringes of Mt. Aragats (especially the Talin-Karmrashen Plateau), as it was stressed above, played a leading role in shaping the historical- cultural landscapes of the past for the whole of Armenian and also from the regional perspective. That is home to the famous Mt. Arteni obsidian source, one of the biggest in the region and intensively utilized from the Lower Paleolithic to nowadays. This mountain lies around 10 km northeast of the Project Site and the high- quality obsidian outcrops attracted humans from the dawn of history. World famous Satani-Dar Paleolithic site, which yielded the earliest known man-made artefacts in the area of the former Soviet Union is located on the southern slopes of Mt. Arteni. The recently discovered and excavated Middle Paleolithic site of Barozh-12 is also located in the vicinity of Mt. Arteni, showing activities of Neanderthals in this area for a very long time period (60-30 thousand years BP[5]).

The cultural development of this area continues at the final stages of the Stone Age[6] and the Bronze Iron Ages[7]. It is proven by the existence of Neolithic-Chalcolithic[8] workshops

[5] Before Present
[6] Historic period between c. 2.6 million years ago and c. 3300 BC
[7] Bronze Age (c. 3400-1200 BC); Iron Age (c. 1200-500 BC).
[8] Neolithic Period (c. 10000-5300 BC); Chalcolithic Period (period between the Neolithic and the Bronze Age, c. 5300-3400 BC).

near the obsidian outcrops, Chalcolithic settlements, and numerous Bronze through the Iron Age settlements and necropolis recorded and excavated. Among them are the Areguni Blur and Yerkaruk Blur workshops on the slopes of Mt. Arteni. The seasonal Neolithic-Chalcolithic site of Ashnak, seasonal dwellings, cultic structures and burials of Bronze to Iron Ages in Talin can be listed as the most important ones among many others. The area is also home to the economic and cultic landscapes for the timing of the Van or the Urartian kingdom (IX–VI centuries BC) as one of the important agricultural, horticultural, and farming centers of historical Armenia, rich with fertile soils, freshwater sources, and springs, vineyards, alpine meadows. Numerous Urartian rock-cut chambers are known in the region, and one of the most significant is located near the Dashtadem fortress. Classical period archaeological records are also well-known in the area. The first golden implements excavated in Armenia are known from the Hellenistic period burials in Ashnak.

The region kept playing a very important role as a political, economic, and cultural center also during the entire Medieval Period. Among the high number of architectural monuments and religious centers well known, the Talin Cathedral/Basilica (VI century AD) can be mentioned, as a jewel of Armenian early medieval architecture. Also famous is Khristaphor Monastery, numerous village remains, cemeteries, and khachkars are known in close proximity to the Project Site.

Altogether, the most important archaeological and historical-cultural feature in the region is the so-called Dashtadem fortress of the VII–XIX centuries AD, together with traces of a large settlement or series of settlements and historically shaped economic landscapes in the surrounding, which affected the formation of the ancient economy and political life. Most of the outer circuit wall dates to the last Qajar khans of Yerevan, at the beginning of the XIX century. However, the fortress is considerably earlier. The keep within is a bizarre structure, with half-round towers glued onto an earlier Armenian fortress probably of the VII–X centuries. Beneath the citadel, there are substantial cisterns. There is also a chapel of St. Sargis beside it, dated to the X century. An elegant Arabic inscription in Kufic letters on the E wall of the citadel keep reads: “May Allah exalt him. In the blessed month of Safar in the year 570 (September 1174) the lord of this strong fortress, the

Prince, the great Spasalar, the Pillar of the Faith, the Glorifier of Islam, Sultan son of Mahmud son of Shavur." Sultan ibn Mahmud, known to Arab historians under the Persian name Shahanshah, was the last of a fascinating clan of Kurdish adventurers, the Shaddadids, who entered Armenian history in 951 at the city of Dvin. The fortress passed under the rule of the Zakarian brothers Ivane and Zakare, who re-established Armenian power in Aragatsotn in 1198. The fortress was functioning until 1828, when Eastern Armenia was conquered by the Russian troupes. Russian military authorities decided that it was not corresponding to the military concepts of the time and the fortress lost its significance as a military point.

The most valuable feature of the archaeological means is the above-mentioned economic space surrounding the fortress. Traces of vineyards, orchards, and gardens are visible nowadays, which are mostly coming from the XII-XIV centuries AD and surviving until the Soviet era. The above-mentioned Zakarian brothers revived the economic life of the Aragatsotn province where a large amount of grape production and winemaking was established. Remnants of hundreds of High and Late Medieval period wine-producing facilities and complexes are still visible in the region, pair of which were excavated near the village of Ashnak by the Archaeologist Yesai Asatryan.

And finally, among the recently evaluated and discovered features of this cultural landscape are so-called "desert kites". Their study and record started in 2010 by the Armenian-French and Armenian-Israeli teams in the frame of Mt. Aragats kite study projects. Preliminary surveys recorded more than 72 kites on the southern fringes of Mt. Aragats, which is a very large amount for this specific area. Also, the preliminary excavations showed the time frame of their functioning – from the Neolithic period (VII Millennium BC) to the Middle Ages onwards. Also some short-term and test excavations allowed to stress preliminary conclusions regarding their function, which was previously thought to be hunting traps. It is clear now that kites vary by their shape and concept of construction and in addition to the hunting function, they also played a significant role in animal husbandry and domestication, breeding and training of military horses, ritual games, cultic performances, and others. In the Study Area, kite structures and related enclosures were not recorded in detail, but one or two were marked for future studies,

especially the one in Dashtadem, spread in close proximity to the project implementation area and some in neighboring Ashank and Katnaghbyur community areas.

Overall, more than 73 desert kites, or simply kites, and more than 30 agglomerative settlements have been evaluated and recorded in the country since 2010 and many more are present in the region. The structures of these kites and settlements and the accompanying enclosures have been found to be quite similar to each other and it could be argued that while kites in general hold archaeological / historical-cultural value, the lack of uniqueness or originality makes these structures rather common in the region. Additionally, it must be highlighted that over the years, several kites around the Project Site have been partially / fully destroyed, while more than 20 kites and all 30 settlements in other parts of the region have been well preserved and now conserved, thereby protecting the archaeological and historic-cultural value.

Additionally, as a reference, archaeological studies for the national highway in the region, near the Project Site, identified over 100 features were directly affected in a 5 km stretch.

2. Main results of the preliminary survey of the Project Site

The short preliminary survey was undertaken by a small group of archaeologists (3 by number) and one GIS specialist. Fieldwork activities took place in month of October 2021, taking 4 days. The boundary of the Project Site, which was provided by the client, was plotted on the 1:10.000 resolution maps and entered into ArcGIS-10.4 system. All the measured points in the field were then specified and allocated by using the ArcMap module. As a result the recorded points were reproduced on the map by their position in the space, specific landscape morphology (hilltop, slope, gorge, flat area, etc.). For each measured point also a specific archaeological data was recorded, including the finds or surface collections if such exist. The collected archaeological data reflects the type of the feature (i.e. open-air Archaeological Site, Historic Structures such as burials or tombs, dwellings, enclosures, towers, wall, fences, etc.) as well as the estimated preliminary dating (Paleolithic, Neolithic-Chalcolithic, Bronze-Iron Ages, Medieval). Additional information was collected regarding the state of preservation of the recorded feature and the surroundings (fully preserved, well preserved, badly preserved, hardly visible,

damaged, destroyed etc.). In addition, the aerial images provided by the client were used to target the spread limits and boundaries of large features and for obtaining the analyses of their state of preservation.

As a whole 34 survey points were selected during the fieldwork activities. The selection was done based on the location of the point by its position in the Project Site with an attempt to cover the entire area. Also, the point was selected based on a specific type of the feature for having the full picture of the variability in this place, as the state of preservation before the estimation of its cultural value as a source. In addition, the preservation of the surrounding landscape was taken into the consideration, especially important in the case of kite structures and enclosures. In general, all this information was collected to do future suggestions and solutions to save their historical- cultural value, if applicable.

3. Main results of the detailed survey of the Project Site

During the implementation of the detailed survey, the members of the team covered the entire Project Site by walking, and recording all the targeted features (Figures 15-20). The survey treks are shown in Map 3. For each feature identified, a special context sheet was used, in line with best international practices, recording the Number, Location, Date, Start time, Visibility, GPS coordinates as well as Graphic material (Photographic view from four sides), General Description, if applicable, and the numbers of the photographic images (Sheet 1). These sheets were subsequently used to assist in compiling this report.

It is worth highlighting some methodological approaches and observations from comparison of the recorded units and the drone imagery. The differences between altered and untouched portions of the land strongly differ from each other in the Project Site (Figure 21). There are two ways of alteration activities: by heavy machinery and by hand. The heavy machinery disturbance erased all the cultural features of the landscape, leaving flattened landmarks and collections of rocks and blocks, as some untouched portions of the land appearing as islands (Figure 21).

At the same time, modification by hand was implemented through rock collection by hand

power, as well as long walls which can be observed through collections of rocks or artificial mounds spread around in some areas of the Project Site (Figures 22-26). This makes it necessary to distinguish between Historic Structures and formations with no archaeological purpose resulting from human alteration (e.g., tombs or rock collections). It also becomes difficult to distinguish ancient features from modern ones. Very often the old walls were reused, new walls were created as a continuation of the old features, or new ones appeared atop the old ones forming some noticeable stratigraphy (Figures 25-26). In such cases, drone photography is very useful to draw conclusions (Figure 24). Features that still could not be concluded are labeled as "potential tombs" which would warrant some test excavations.

Cultural Heritage Assessment of findings from studies and surveys

In summary, 171 potential features were identified within the boundary of the Project Site (out of a total of 253 in the wider area, around the Project Site). These features are classified as one of the following:

1. Wall Fragments – destroyed portions of surface walls, either isolated, or as part of a kite, which were used for herding or hunting purposes. These fragments are spread across the Project Site and are commonly seen in the entire region of Talin-Karmrashen Plateau.
    - Given the abundance of such features, they are deemed to be Replicable Cultural Heritage, as each element is similar to the other, except in length and width, which has no unique significance in terms of the archaeological / historic-cultural value.
    - Additionally, since the rocks are less than 0.5m high and less than 0.5m wide, it is expected that they would not be significantly affected by the placement of mounting structures / solar panels.

Example of wall fragment

2. Enclosures – these features are similar to the walls, except that they are formed in a circle, enclosing the area. These structures were most likely used for herding livestock.
   - Given the abundance of such features, they are deemed to be Tangible, Replicable Cultural Heritage. All such features are similar, except in size / area covered, which has no unique significance in terms of the archaeological / historic-cultural value.
   - Additionally, since the rocks are less than 0.5m high, it is expected that they would not be affected by the placement of solar panels / mounting structures.

Example of enclosure

3. Tombs / burial mounds – stones placed in a manner that suggest covering graves.
   - These graves were found mostly in the northern part of the Project Site. It is not expected that vaults / structures would be found underground and most likely only

the deceased remains or perhaps objects would be present.

- On the Project Site alone, there are more than 30 such objects, and many more in the region of Talin-Karmrashen Plateau. As such, these features are classified as Tangible, Replicable Cultural Heritage. However, if any of these features shall be affected by the construction of the Project, they can be excavated and subsequently removed.

Example of tomb / burial mound

- Additionally, some collection of rocks seem similar to tombs or burial mounds, but it cannot be confirmed based on review of surface structure. These are classified as potential tombs and if affected by the Project, would warrant test excavations. In the event, remains are found, then they would be treated similarly to the tombs / burial mounds, and if not, then these objects can be removed during construction without any further need for action.

Example of potential tomb

4. Tower Structures – generally found on top of slopes / hills, these collection of rocks seemed to have provided a vantage point or higher ground for herding and / or hunting purposes.
    - In most cases, these structures sit atop a high slope area, which, based on the plant design for the Project, would be left undisturbed, given the lack of suitability of such landscape for construction of solar panels.
    - However, given the abundance of such towers, and lack of uniqueness, these structures are also classified as Tangible, Replicable Cultural Heritage.

Example of tower

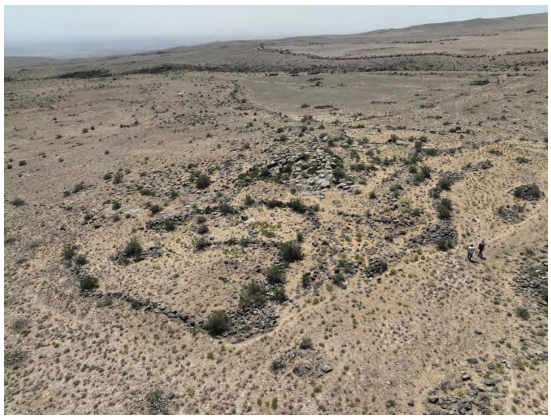
5. Kite structure – as highlighted earlier, kite structures are V shaped (or a combination of V shapes) enclosures typically accompanied with a tower at the end of the V, that served as a method of hunting from Neolithic through the Medieval period. This is well depicted by feature #250, which lies outside the Project Site and is well preserved. Since, as per our understanding, the access roads will not be constructed near the region of this kite, it would continue to be well preserved.
    - Apart from the above #250, there are three partial / smaller kite structures extending into the Project Site, however, the condition of these kites has already naturally deteriorated.
    - Additionally, there is an abundance of such features around the region, and hence classified as Tangible, Replicable Cultural Heritage.

Well preserved kite outside the Project Site

Smaller Kite partially on Project Site

6. Settlements

- Agglomerative settlements (jellyfish, wheels, or corrals), which are usually adjacent to the kite structures. Some are based on natural hills, some on flat landmarks, which may also reflect differences in times and function.
    - 10 such settlements were found around the Project Site, 3 of which lies outside the boundary.
    - However, given the abundance of such settlements in the region, these features are classified as Tangible, Replicable Cultural Heritage.
- Archaeological complex containing systems of dwellings and adjacent enclosures, agglomerative settlements, burial mounds, etc., which also occupy large portions of land. The features that form this complex are quite common in the area; however, their concentration in one specific area (#219) presents interesting archaeological phenomena.
    - Out of 2 such complexes identified around the Project Site, one (#249) is outside the boundary and shall not be affected by the construction of the Project (or the access road). While the other (#219) is mostly outside the boundary of the Project Site, but a few features cross over into the Project Site.
    - Similar to the above structures, given the abundance, these would also be deemed Tangible Replicable Cultural Heritage.


Example of Settlement on Project Site


Complex / Settlement outside Project Site

7. Others
    - Caves and rock shelters situated in the gorges and valleys, some of which have also artificial origin (rock-cut structures)
        - These are outside the Project Site and not affected by the Project.
    - Petroglyph (see the glossary) on shiny surfaces of the basaltic boulders or rocks appearing in close proximity to the kites and possibly reflecting their schematic distribution.
        - There was one such feature found on the Project Site, however, it is not deemed to be represent Critical Cultural Heritage.
    - Modern kchachkar (cross-stone), of which there is only one example on the Project Site and may have aesthetic and spiritual meaning for the local population.
        - This structure can be relocated to outside the Project Site boundary so as to preserve the structure and its probable value to the local communities, after consultation with the communities.
    - Obsidian tools and implements
        - Obsidian tools / pieces are commonly found around the region since one of the biggest sources of obsidian (Arteni mountain) is located not far from the Project Site (as highlighted above). However, in 5 areas in and around the Project Site, there was a concentrated collection of such pieces found, out of which 2 lie outside the boundary of the Project Site.
        - In addition to areas with concentrated collection, there were 3 Paleolithic-

Neolithic open-air sites found, which are attached to the natural cliffs or weathered shelters, on the flat rims of shallow gorges. They appear like a single find or concentrations of lithic artifacts. Most are reworked scatters, but some seem to preserve materials *in situ.*

- Due to their abundance, these features are classified as Tangible, Replicable Cultural Heritage.

Petroglyph

Cross Stone

Mitigation measures for features identified during the detailed survey of Project Site

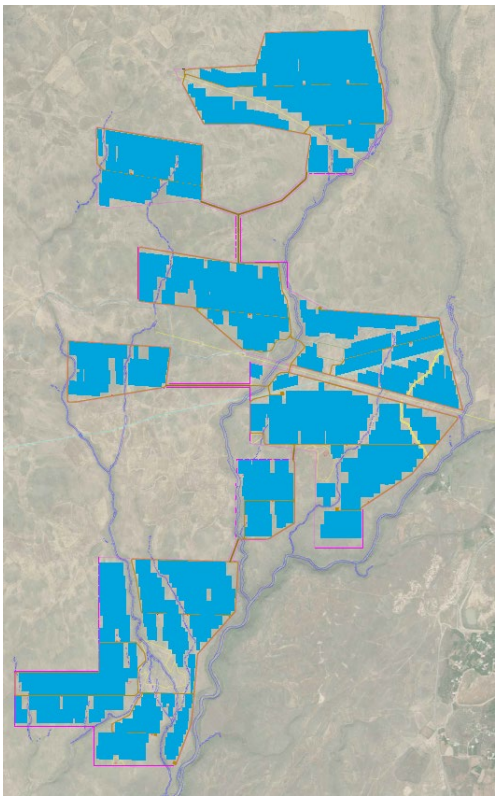
As highlighted in the previous section, none of the features identified during the preliminary and detailed surveys in and around the Project Site are Critical or Non Replicable. Nonetheless, to ensure minimal impact of the Project on Cultural Heritage and compliance with the relevant Standards (IFC Performance Standards / EBRD Performance Requirement) and Applicable Regulations and Laws, the following hierarchy of mitigation is recommended:

1. Amendment of location of the Project Site
    - Based on feedback from the Client, it is understood that discussions were held with the relevant authorities on amendment of the location Project Site. The conclusion of these discussions was that since the current Project Site was assigned to the Project through a presidential decree, after consultation and agreement of the nearby communities and the relevant ministries, no changes shall be made to the boundary of the Project Site.
2. Amendment of design of the Project

- Since the Project Site location cannot be amended, it was evaluated whether the plant design can be adapted to the features identified on the Project Site. Based on discussions with the Client, it is understood that initially it was expected that the entire Project Site would be cleared and / or levelled. However, post identification of the archaeological features, the design of the Project was amended to minimize the impact on these features. This was achieved in the following ways:
  i. Minimizing planned site clearance activities to only wherever unavoidable
  ii. Increasing the height of the mounting structure, such that the clearance from the ground is increased. This would allow most features (walls / enclosures etc.) to be respected
  iii. Clearance of plant layout from the gorges. This would allow many features that are found along the gorges to be undisturbed.
  iv. Avoiding, wherever possible, laying solar panels / mounting structures on high slope areas on the Project Site. This would allow structures (such as towers, which are mostly found atop natural slopes) to be undisturbed.
  v. Adapting internal roads and cable trenches, to the extent possible, such that they are built around the features
  vi. Re-evaluating the access road construction such that it minimizes the impact on the features
  vii. Placement of safety beacons on features within 5m of the access road after consultation / agreement with the communities

  The images below provide broad references of the expected design aspects based on the above measures:

Expected height of installation of solar panels.



Expected Plant Layout

Potential access roads. It is our understanding that the most likely route chosen shall be the yellow or teal option (on the Northern part of the Project Site)

3. Features outside the Project Site boundary:
    - Out of 253 features recorded, 82 lie outside the boundary (including the access road) of the Project. As such, these features are not expected to be affected and therefore, excluded from further analysis. The map below shows the Project Site boundary and the features that lie outside, clearly showing their position:

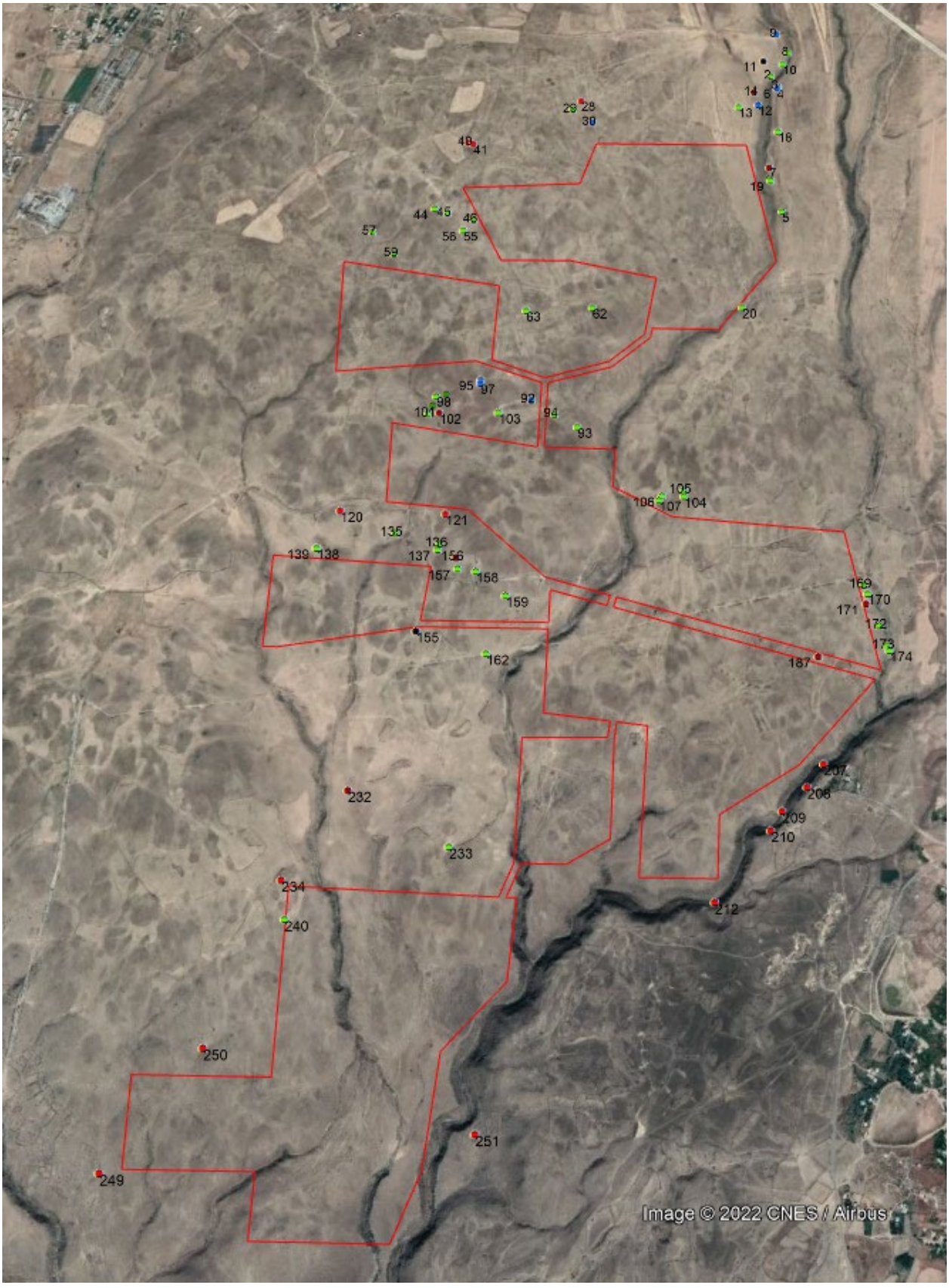


Image © 2022 CNES / Airbus

4. Specific Mitigation Measures for Wall Fragments & Enclosures

- Out of the remaining 171 features, 83 features are either wall fragments or enclosures, both of which, as highlighted above are not critical and are Tangible, Replicable Cultural Heritage, and additionally are not expected to be disturbed significantly by the construction of solar panels above the ground. Wherever such avoidance is not possible, these features can be removed without need for further action.

Total Features Identified	253
Features outside the boundary of Project Site	82
Features Inside	171
Wall Fragments and Enclosures (inside boundary of Project Site)	83
Remaining features	88

5. Specific Mitigation Measures for the remaining 88 features

- In relation to the remaining 88 features, specific mitigation measures are recommended as per the table below:

S. No.	Measure	Application
1.	Additional Study of the collection area	In relation to obsidian tools / implements found on Project Site, it is recommended to collect them for additional study and documentation.
2.	Test Excavations	In relation to "potential tombs", it is recommended to conduct a test excavation to evaluate whether there are remains / graves found. The result of the test excavation shall then apply to the remaining potential tombs.
3.	Partial Excavation and Documentation	In relation to Structures and Settlements that will be significantly affected by the Project, it is recommended to conduct a partial excavation. Documentation of the results of partial excavation shall allow recording of the feature, after which it can be removed.
4.	Full Excavation	In relation to Tombs that shall be affected by the Project, it is recommended to conduct a full excavation and transfer the findings to the relevant authorities.

5.	Preservation or Conservation	Where it is deemed that the feature represents Non-Replicable Cultural Heritage, it would be required to be preserved / conserved.

- Additional guidance for the measures are detailed below:
  i. Additional Study of the collection area: Appropriate specialists to visit the area and collect the obsidian tools and implements so that they can be studied further and documented in the laboratory
  ii. Test excavation or test pits: For the elements where it cannot be concluded whether it has a Cultural Value, an excavation unit used in the initial investigation of a site or area, before large-scale excavation begins, that allows the archaeologist to "preview" what lies under the ground. Based on the results of this type of sounding, the following actions will be decided, which are the same as the rest of the archaeological findings: the archaeological relevance can be dismissed, or opt to carry out a complete excavation
  iii. Partial excavation and documentation: In the case of findings identified as archaeological, but of which we do not know their true relevance, partial excavation and documentation work will be carried out to gather more information and record their characteristics
  iv. Full excavation: The digging up and recording of archaeological sites, including uncovering and recording the provenience, context, and three-dimensional location of archaeological finds. Once the excavations have been completed, the relevance of the archaeological findings can be assessed, and post documentation, the feature can either be removed or be excluded from any further action, as applicable.
  v. Preservation or Conservation: Where it is found that a feature has Tangible Non-Replicable Cultural Heritage, as per the guidance of PS8, the feature shall be persevered or conserved by way of redesigning the plant layout such that the feature is not affected by the construction of the Project.

Conclusions and future steps

Based on the archaeological analyses done in this survey, we conclude that despite findings of several potential archaeological features around the Project Site area, the Project can be safely implemented with appropriate mitigation measures in place. In our view, the Project, is not only of national importance, but also provides a benefit for Cultural Heritage, because no investment or archaeological intervention would have been carried out in the area otherwise.

Armenia, being a landlocked country and small in size, has very limited sites suitable for utility scale renewable energy projects. Several efforts in the past by private developers and development financing institutions to identify suitable sites have resulted in unfruitful exercise. As such, the Project Site cannot be modified. Furthermore, it is understood that the Government of Armenia assigned the site to this Project through a presidential decree, after consultation and approval of the affected communities and relevant ministries.

Further consultations with the affected communities has suggested that none of these communities, near the Project Site, currently utilize the area for cultural / historic purposes. Majority of the archaeological features are expected to lie outside the boundary of the Project Site / plant layout. The Client has already taken measures to mitigate the impact on Cultural Heritage by adapting the plant design. Mitigation measures for all the features that may get affected are summarized in the table at the end of this section of the report.

Further actions shall include submission of this report and findings (in addition to the EIA), to the Ministry of Education, Science, Culture, and Sports of the Republic of Armenia for approval. After the approval, a reliable Archaeological Works Plan (or Cultural Heritage Management Plan) should be prepared, which would include detailed procedures to be followed by the Client (or its contractors), including management of chance finds. Finally, the Client (or its contractors) would be expected to appoint appropriate specialists to ensure supervision of construction works and compliance with the Cultural Heritage Management Plan / System.

Table 1 – Summary of Mitigation Measures

S. No	Type	Interpretation / Reference	Regional Abundance	Classification	Mitigation Measure
1.	Various	82 Features outside the Project Site. Inventory #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 28, 29, 30, 40, 41, 44, 45, 46, 55, 56, 57, 59, 62, 63, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 120, 121, 135, 136, 137, 138, 139, 155, 156, 157, 158, 159, 162, 169, 170, 171, 172, 173, 174, 187, 207, 208, 209, 210, 212, 232, 233, 234, 240, 249, 250, 251, 252, 253	N.A.	Not Affected	N.A. Recommended to place Safety Beacon if feature lies within 5m of the access road.
2.	Wall Fragments	61 fragments of walls inside the Project Site Inventory # 21, 33, 36, 38, 47, 48, 49, 50, 54, 61, 64 ,65 ,67 ,68 ,72, 73, 74, 76, 81, 82, 83, 85, 86, 90, 108, 109, 110, 111, 112, 114, 115, 124, 128, 132, 133, 134, 140, 141, 144, 145, 146, 148, 149, 152, 153, 161, 164, 165, 168, 180, 182, 190, 197, 200, 203, 216, 223, 230, 242, 246, 247	Abundant across the region	Poor conservation status; Not Critical; Tangible Replicable Cultural Heritage;	To apply the following hierarchy: • Avoidance (not impacting the wall fragment) if possible; • Removal (without any additional action)
3.	Enclosures	22 such features inside the Project Site Inventory #31, 32, 43, 58, 66, 80, 88, 117, 126, 129, 147, 160, 166, 175, 179, 181, 183, 201, 211, 231, 236, 239	Abundant across the region	Not Critical; Tangible Replicable Cultural Heritage;	To apply the following hierarchy: • Avoidance (not impacting the wall fragment) if possible; • Removal (without any additional action)
4.	Cross Stone, or "Khachkar"	Inventory #184	N.A.	Not Critical;	Preservation or conservation (either on site by way of Safety Beacon or by relocation to outside Project Site) after consultation with communities
5.	Obsidian Tools / Implements	Inventory #130, 154, 163, 204, 217, 229	Abundant across the region	Not Critical; Tangible Replicable Cultural	Prior to removal, samples of such stones shall be collected for further study at the national archaeological

				Heritage;	institute. If excavation is done in the area, an archaeologist would directly supervise it.
6.	Tombs / Burial Mounds	Inventory #23, 24, 25, 26, 27, 42, 89, 125, 127, 142, 167, 176, 206, 218, 228, 235, 241, 243, 244, 245	Abundant across the region	Not Critical; Tangible Replicable Cultural Heritage;	If affected, full excavation is recommended prior to removal.
7.	Potential Tombs	Inventory #16, 34, 35, 37, 39, 53, 60, 71, 79, 84, 87, 189, 238	Abundant across the region	Not Critical; Tangible Replicable Cultural Heritage;	Test Excavation on #34 and 39 (to determine classification and measures for #16, 34, 35, 37, 39, 53, 60), #71 (to determine classification and measures for #71, 79,), and #84 (to determine classification and measures for #84, #87, #189 and #238).
8.	Kite	Kite Structure Inventory #77, 177, 202	Abundant across the region	Poor conservation status; Not Critical; Tangible Replicable Cultural Heritage;	To apply the following hierarchy for walls (if affected) associated with kite: • Avoidance (not removing the walls) if possible; • Removal after partial excavation of affected area (location of posts for trackers) and documentation To apply the following hierarchy for the towers (if affected) associated with kite : • Avoidance (not removing the walls) if possible; • Removal after full excavation and documentation
9.	Petroglyph	Inventory #143	None	Not Critical;	Preservation or conservation (either on site by way of Safety Beacon or by relocation to outside Project Site)
10.	Settlement	Traces of agglomerative settlement. Inventory #22, 78, 118, 221, 222, 237, 248	Abundant across the region	Poor conservation status; Not Critical; Tangible Replicable Cultural Heritage;	To apply the following hierarchy: • Avoidance (not removing the walls / enclosures) if possible; • Removal after partial excavation of affected area (such as location of the posts for trackers) and documentation
11.	Settlement	Archaeological Complex. While the main features are	None	Poor conservation	In relation to the complex – preservation or conservation.

		outside the Project Site boundary, wall fragments connected to the complex lie inside the Project Site. Inventory #219		status; Not Critical; Tangible Replicable Cultural Heritage;	In relation to the walls that lie within the Project Site, to apply the following hierarchy: • Avoidance (not impacting the walls or enclosure) if possible; • Removal after partial excavation and documentation
12.	Structure	Medieval rectangular structures. Inventory #191, 192, 193, 194, 195, 196, 198, 199, 205, 213, 224, 225, 226, 227	Abundant across the region	Poor conservation status; Not Critical; Tangible Replicable Cultural Heritage;	To apply the following hierarchy: • Avoidance (not impacting the structure) if possible; • If affected, removal after cleaning and documentation
13.	Structure	Cultic structures. Inventory #17, 69, 70, 75, 91, 150, 151	Abundant across the region	Poor conservation status; Not Critical; Tangible Replicable Cultural Heritage;	To apply the following hierarchy: • Avoidance (not impacting the structure) if possible; • Removal after partial excavation of affected area (location of posts for trackers) and documentation
14.	Structure	Towers. Inventory #51, 52, 113, 116, 119, 122, 123, 131, 178, 214	Abundant across the region	Poor conservation status; Not Critical; Tangible Replicable Cultural Heritage;	To apply the following hierarchy: • Avoidance (not impacting the structure) if possible; • Removal after partial excavation of affected area (location of posts for trackers) and documentation
15.	Structure	Other Structures Inventory #, 185, 186, 188, 215	Abundant across the region	Poor conservation status; Not Critical; Replicable Cultural Heritage	To apply the following hierarchy: • Avoidance (not impacting the structure) if possible; • Removal after partial excavation of affected area (location of posts for trackers) and documentation

30.11.2022

Boris Gasparyan	**Artur Petrosyan**	**Dmitri Arakelyan**
		
National archaeological expert	**National archaeological expert**	**National GIS expert**

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  - https://countrysafeguardsystems.net/sites/default/files/About%20protection%20a nd%20use%20of%20immovable%20monuments%20of%20history%20and%20 culture%20and%20the%20historical%20circle.pdf
  - https://anif.am/am/project/%d5%a1%d5%b5%d5%a3/
  - (http://www.parliament.am/legislation.php?sel=show&ID=1641&lang=arm).

Appendix

Glossary of Archaeological Terms:

Archaeological Sites: Concentrated and patterned physical remains of past human activity, especially human settlement. A site may include artifacts, plant and animal remains, structural remains, and soil features. It may be a large ancient city completely or partially buried by surface soils or other sediment or the ephemeral and superficial remains of a temporary nomad camp or other short-term activity. Sites may be underwater, including shipwrecks and flooded habitation sites. Although all sites, as well as isolated (off site) finds, are a record of human activity, the importance of an archaeological site may vary widely according to site type and condition. In general, while sites may be identified by surface remains or suggestive topography, the characteristics of a site and its cultural or scientific importance cannot be identified based on surface examination alone.

Artifact (artefact): A portable object that is created by past human activity and becomes part of an archaeological site or isolated archaeological find. Most archaeological artifacts lose substantial cultural and scientific value when removed from their "context" in the ground. Archaeological artifacts, in context or not, are most often the property of the national government. Their scientific collection and use is controlled through a permitting process administered by national heritage authorities. National law and international treaty forbid the sale and export of archaeological artifacts. An object removed from a historic structure will have the same legal status as an archeological artifact.

BP: Abbreviation for "Before Present."

Conservation: A branch of archaeology that deals with the stabilization, preservation, repair, reconstruction, and general management of material culture and natural resources.

Context: The immediate environment of an archaeological object including its association with other objects and features and its position within the stratigraphy of the site.

Ethnography: The detailed descriptive study of a particular contemporary culture, based mainly on observation and research conducted on location.

Feature: Any physical structure or element, such as a wall, post hole, pit, or floor, that is made or altered by humans but (unlike an artifact) is not portable and cannot be removed from a site. The significance of the object or group of objects may not lie in the objects themselves but rather in the relationship of the objects to each other.

Excavation: The digging up and recording of archaeological sites, including uncovering and recording the provenience, context, and three-dimensional location of archaeological finds.

Formation processes: Human-caused or natural processes by which an archaeological site is modified during or after occupation and abandonment.

GIS: Geographic information systems are software programs that allow archaeologists to organize, summarize, and visually display geographic and locational information.

Hunter-gatherers: A community or group that subsists primarily by hunting wild game and gathering wild plant resources.

Lithic: Of or pertaining to stone.

Obsidian: A glassy, volcanic rock, often black in color, was used in ancient times to produce extremely sharp blades.

Petroglyph: A figure inscribed onto a rock surface by grinding, chiping or incising.

Preservation: Actions or processes aimed at protecting a resource from change, deterioration or destruction in order to maintain the object in an intact state or to prevent its decay or decomposition.

Rescue Archaeology: The swift excavation and collection of artifacts at sites in immediate danger of destruction, usually by major land modification or construction projects (as in construction of a road or dam).

Site: Any place where human material remains are found; an area of human activity represented by material culture.

Test pit (also called test excavation in this report): An excavation unit used in the initial

investigation of a site or area, before large-scale excavation begins, that allows the archaeologist to "preview" what lies under the ground.

Type: In archaeology, a grouping of artifacts identified as distinct or created for comparison with other groups.

- Historic Structures: *Also referred to as historic monuments, this category includes above ground architectural features (e.g., house, temple, market place, church) that have reached a designated age or have other characteristics, such as association with an important event or person, that make them "historic" and therefore worthy of consideration as a heritage resource. As with archaeological sites, the importance of a historic structure will vary widely according to the age, type and condition of the structure. Some historic structures mayhave associated archaeological deposits thereby making them both historic structures and archaeological resources. A historic structure may be abandoned or occupied.*
- Historic Districts: *This is a contiguous assemblage of historic structures and associated landscape features that constitute a heritage resource extending over a larger area than any single structure. Integrity and thematic interest are the key considerations for defining and determining the importance of a historic district. Temple precincts, graveyards, urban neighborhoods, and sometimes entire villages or towns can be classified as historic districts. Historic districts may contain thematically un-related or "noncontributing" structures that may or may not merit protection in their own right. Historic structures and districts may require protection from direct physical impacts but should also be considered in their visual dimension. Possibly discordant construction in or near a historic district or structure might require special design considerations to mitigate "visual" impacts to heritage resources.*
- Historic or Cultural Landscape: *This is an area where traditional land-use patterns have created and maintained landscape features that reflect a particular culture, life-way, or historical time period that merits consideration as a heritage resource. A historic landscape may include historic monuments and archaeological sites as well. Integrity and uniqueness are most relevant for judging the importance of this type of resource. While a historic landscape may share aspects of a historic district, the term*

typically refers to a non-urban area with heritage value. This resource type may also include culturally important natural features such as sacred lakes, forests and waterfalls.

Example Sheet

CORTÉS	**ARCHAEOLOGICAL SURVEY SHEET**	**No.** 95

Project: Ayg-1		**Location:** head	**Date:** 18/04/2022
Coordinates:	40.359218 43.890663	**Start Time:** 12:46 PM	**Visibility:** high

Graphic Material

Northern View

Eastern View

Southern View

Western View

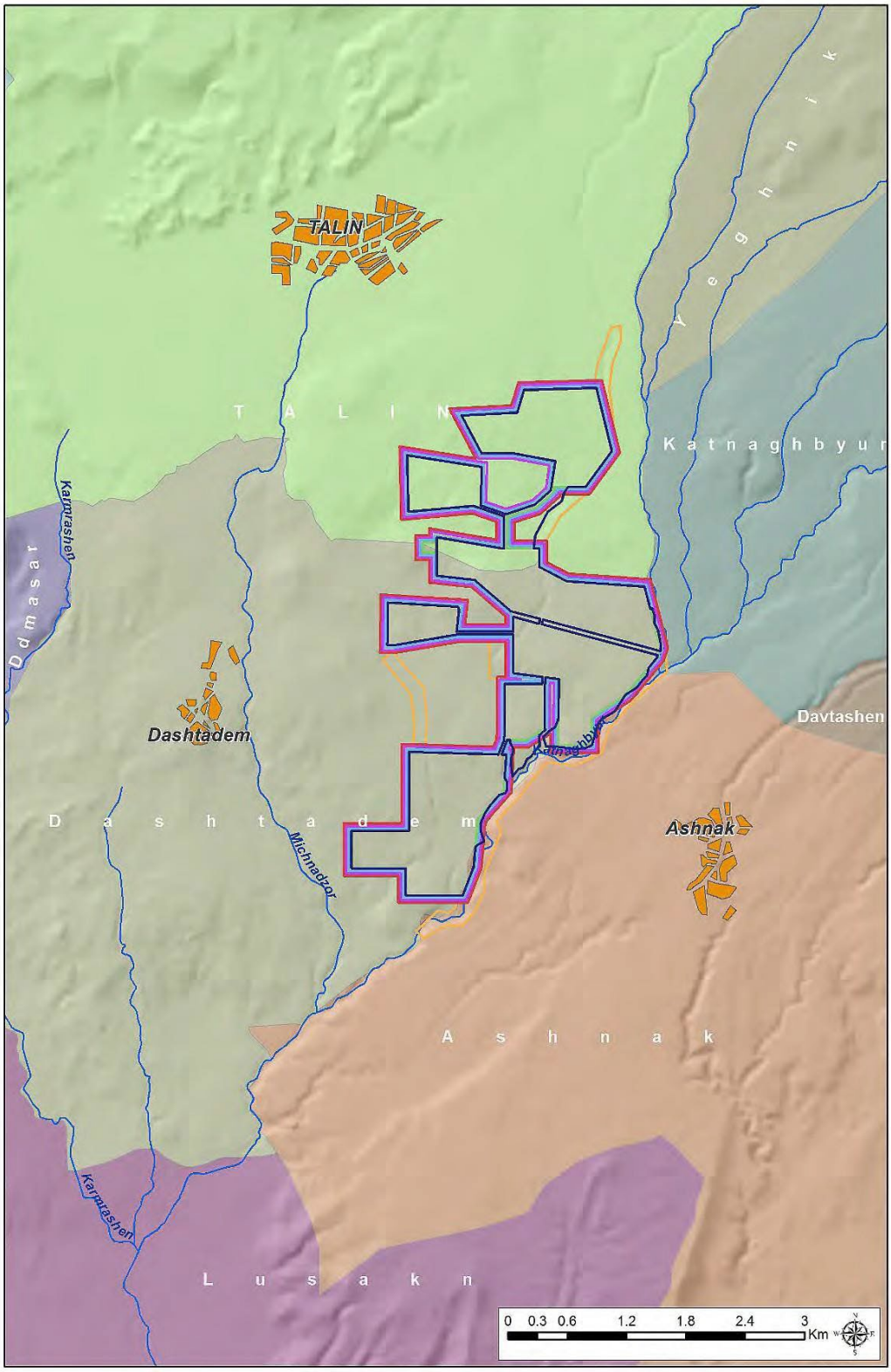
General Description: First in the group of collections of rocks, reminding tomb structures or potential tombs located on the slope of a hill. Time is unknown.

Additional Comments: Requiers test excavations. If it will come out a tomb, then all such nearby structures in the group need to be test excavated, if not, then the group has no cultural value.

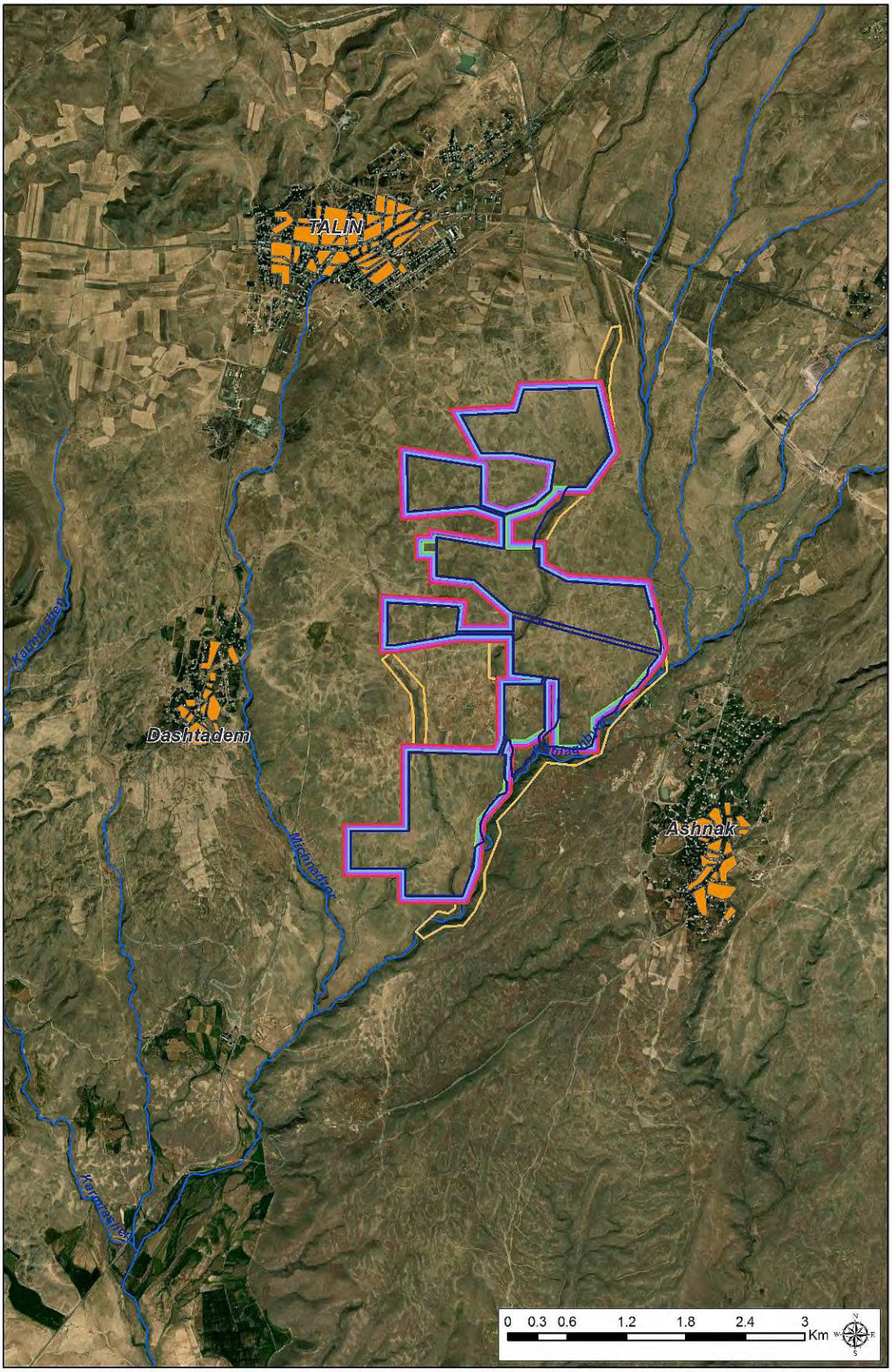
Results:

Photos No. DJI_0402, IMG_2123, IMG_2124, IMG_2125, IMG_3883, IMG_3884, IMG_3885, IMG_3886

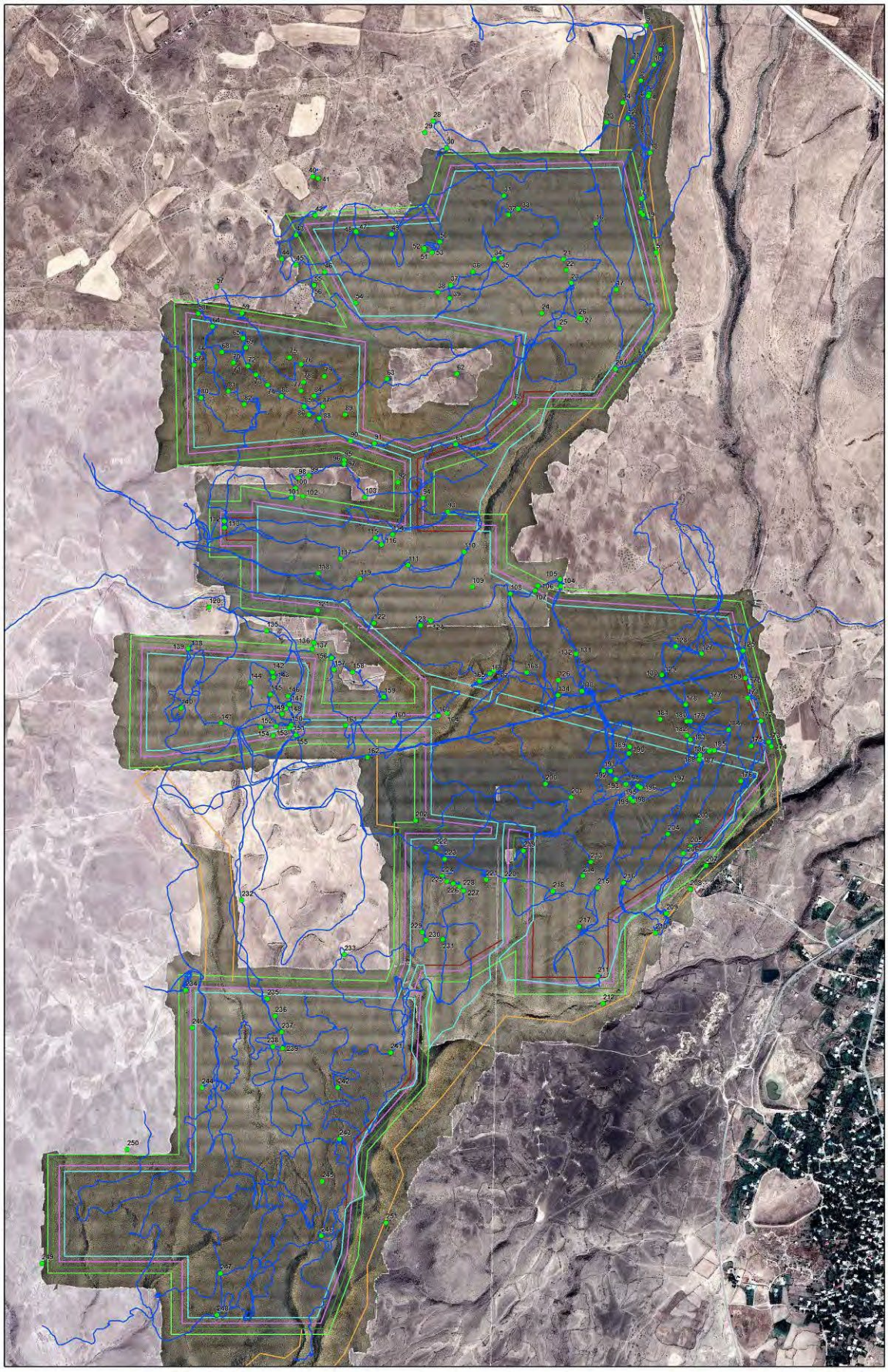
Maps



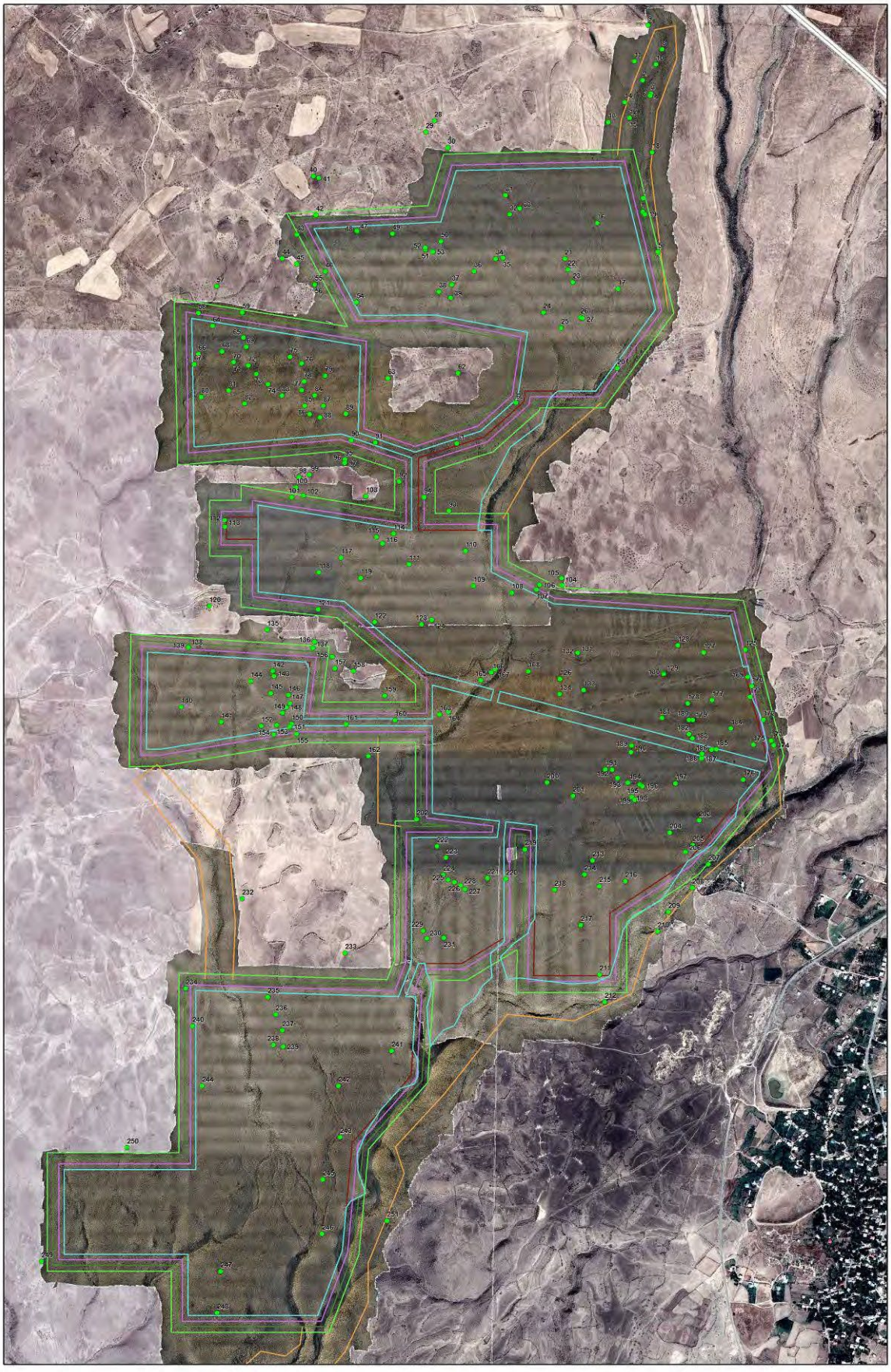
Map 1: The area, separated for the Project Implementation.



Map 2: The area, separated for the Project Implementation.



Map 3: reflecting the detailed survey treks implemented in the study area.



Map 4:, reflecting the recorded features during the detailed survey implemented in the study area, which may have historical-cultural, spiritual and archaeological significance.

Figures

Figure 1: Main view of the project implementation area from the north (Aerial Image).

Figure 2: Main view of the project implementation area from the north (Aerial Image).

Figure 3: Western view of the project implementation area (Aerial Image).

Figure 4: Eastern view of the project implementation area (Aerial Image).

Figure 5: View of the landscape of the project implementation area.

Figure 6: View of the landscape of the project implementation area.

Figure 7: Local canyons and gorges transporting seasonal snow melt water (Aerial image)

Figure 8: Local canyons and gorges transporting seasonal snow melt water (Aerial image).

Figure 9: Portion of local gorge transporting seasonal snow melt water.

Figure 10: Seasonal snow melt water stream in one of the local gorges.

Figure 11: Dried up portion of the local gorge.

Figure 12: Dried up portion of the local gorge (Aerial image).

Figure 14: Smoothed and polished rocks through natural impact in the local landscape.

Figure 13: Smoothed and polished basaltic rock in the local landscape.

Figure 15: The survey transportation.

Figure 16: Recording and fixing the cultural elements.

Figure 17: Recording and fixing the cultural elements.

Figure 18: Surveying the study area with the colleagues from Spain.

Figure 19: Recording an enclosure.

Figure 20: Measuring a wall (Feature 128).

Figure 21: Altered portions of the study area (Aerial image).

Figure 22: Difference between the altered and untouched portions of the study area (Aerial image).

Figure 23: Collections of rocks or artificial mounds appeared as a result of the alteration of the study area (Aerial image).

Figure 24: Tombs or burial mounds (archaeological objects), survived after the alteration.

Figure 25: Portions of walls of enclosures and kites (archaeological objects) survived after the alteration implemented in the study area (Aerial image).

Figure 26: Elements of kite heads (archaeological objects) survived after the alteration implemented in the area..

Figure 27: Feature 49. Portion of wall.

Figure 28: Feature 50. Portion of wall

Figure 29: Feature 72. Portion of wall.

Figure 30: Feature 110. Portion of wall.

Figure 31: Feature 114. Portion of wall.

Figure 32: Feature 115. Portion of wall.

Figure 33: Feature 123. Portion of wall with tower.

Figure 34: Feature 135. Portion of wall with tower.

Figure 35: Feature 157. Tower.

Figure 36: Feature 113. Tower surrounded by wall.

Figure 37: Feature 52. Foundations of a destroyed tower.

Figure 38: Feature 129. Hill enclosed by a wall (Cultic structure).

Figure 39: Feature 59. Hill enclosed by a wall (Cultic structure).

Figure 40: Feature 69. Hill enclosed by a wall (Cultic structure).

Figure 41: Feature 159. Hill, enclosed by a wall and with an artificial paved road leading to it (Cultic structure, Aerial image).

Figure 42: Feature 112. Portion of wall with an enclosure and tower.

Figure 43: Feature 100. Portion of wall with an enclosure and tower.

Figure 44: Feature 117. Portion of wall with an enclosure.

Image 18. Unit 117. Portion of wall with an enclosure

Figure 45: Feature 175. Portion of wall with an enclosure.

Figure 46: Feature 117. Portion of wall with an enclosure.

Image 18. Unit 117. Portion of wall with an enclosure

Figure 47: Feature 183. Large enclosure.

Figure 48: Feature 98. Large enclosure.

Figure 49: Feature 160. A system of enclosures.

Figure 50: Feature 55. A system of enclosures (Aerial image).

Figure 51: Feature 166. A system of enclosures.

Figure 52: Feature 58. Large enclosure (Aerial image).

Figure 53: Feature 58. Portion of wall reflecting the masonry technique.

Figure 54: Feature 244. Chain of enclosures with walls (Aerial image).

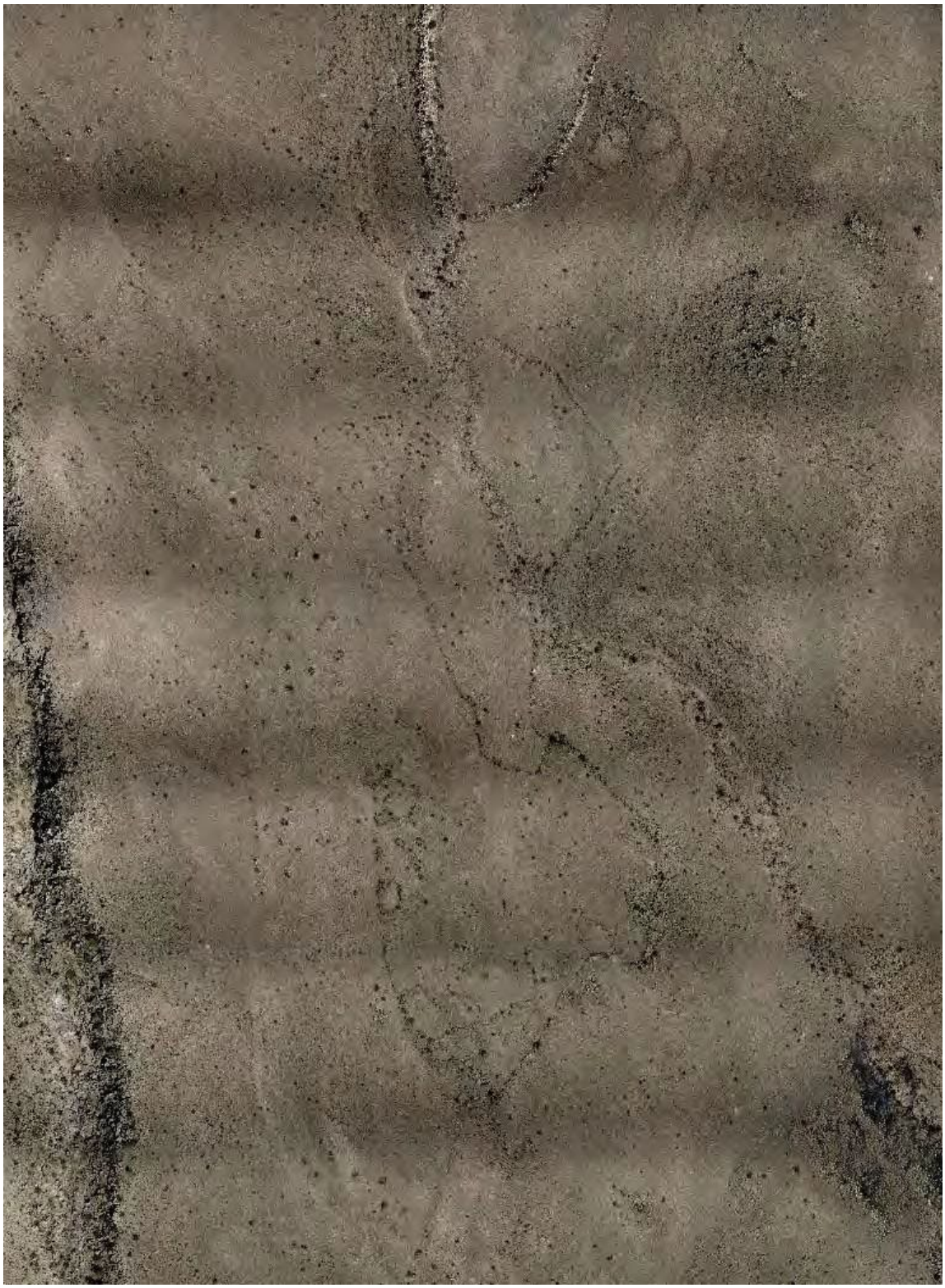


Figure 55: Feature 244. Chain of enclosures with walls (Aerial image).

Figure 56: Feature 77. V-shaped kite structure with towers on the arms (Aerial image).

Figure 57: Feature 78. Traces of an agglomerative settlement near the kite (Aerial image).

Figure 58: Feature 143. A hill with traces of cultic structures and petroglyph near a kite structure.

Figure 59: Feature 143. Petroglyph on the shiny surface of a basalt rock.

Figure 60: Feature 202. Preserved head of a kite structure with towers, enclosures and other structures (Aerial image).

Figure 61: Feature 202. Main tower of the kite structure (Aerial image).

Figure 62: Feature 250. Huge kite structure with preserved head and arms (Aerial image).

Figure 63: Feature 250. Huge kite structure with preserved head and arms (Aerial image).

Figure 64: Feature 245. A system of enclosures, walls, towers and tombs (burial mounds) spread in southern portion of the project implementation area (Aerial image).

Figure 65: Feature 245. A system of enclosures, walls, towers and tombs (burial mounds) spread in southern portion of the project implementation area (Aerial image).

Figure 66: Feature 245. A system of enclosures, walls, towers and tombs (burial mounds) spread in southern area.

Figure 67: Feature 245. A system of enclosures, walls, towers and tombs (burial mounds) spread in southern portion of the project implementation area (Aerial image).

Figure 68: Feature 245. A system of enclosures, walls, towers and tombs (burial mounds) spread in southern portion of the project implementation area (Aerial image).

Image 40. Unit 245. A system of enclosures, walls, towers and tombs (burial mounds) spread in southern portion of the project implementation area (Aerial image)

Figure 69: Feature 245. View of the southern ending (Aerial image).

Figure 70: Feature 245. Large tomb or burial mound on the corner of the enclosure, with a wall forming an angle and over passing the shield (Aerial image).

Figure 71: Feature 245. Wall over passing the shield of a large tomb or burial mound.

Figure 72: Feature 245. Wall over passing the shield of a large tomb or burial mound.

Figure 73: Feature 245. Large tomb or burial mound (Aerial image).

Figure 74: Feature 245. Large tomb or burial mound (Aerial image).

Figure 75: Feature 25. Large tomb or burial mound (Aerial image).

Figure 76: Feature 42. Large tomb or burial mound.

Figure 77: Feature 127. Large tomb or burial mound.

Figure 78: Feature 156. Large tomb or burial mound.

Figure 79: Features 191-196. Large tombs or burial mounds rubbed during the Medieval period (Aerial image).

Figure 80: Features 195. Large tomb or burial mound rubbed during the Medieval period (Aerial image).

Figure 81: Feature 9. Potential tomb.

Figure 82: Feature 95. Potential tomb.

Figure 83: Feature 87. Hidden tomb.

Figure 84: Feature 184. Modern kchachkar (cross stone).

Figure 85: Features 220-221. Agglomerative settlements (Aerial image).

Figure 86: Agglomerative settlement (Aerial image).

Image 62. Unit 234. Agglomerative settlement (Aerial image)

Figure 87: Feature 220. Agglomerative settlement (Aerial image).

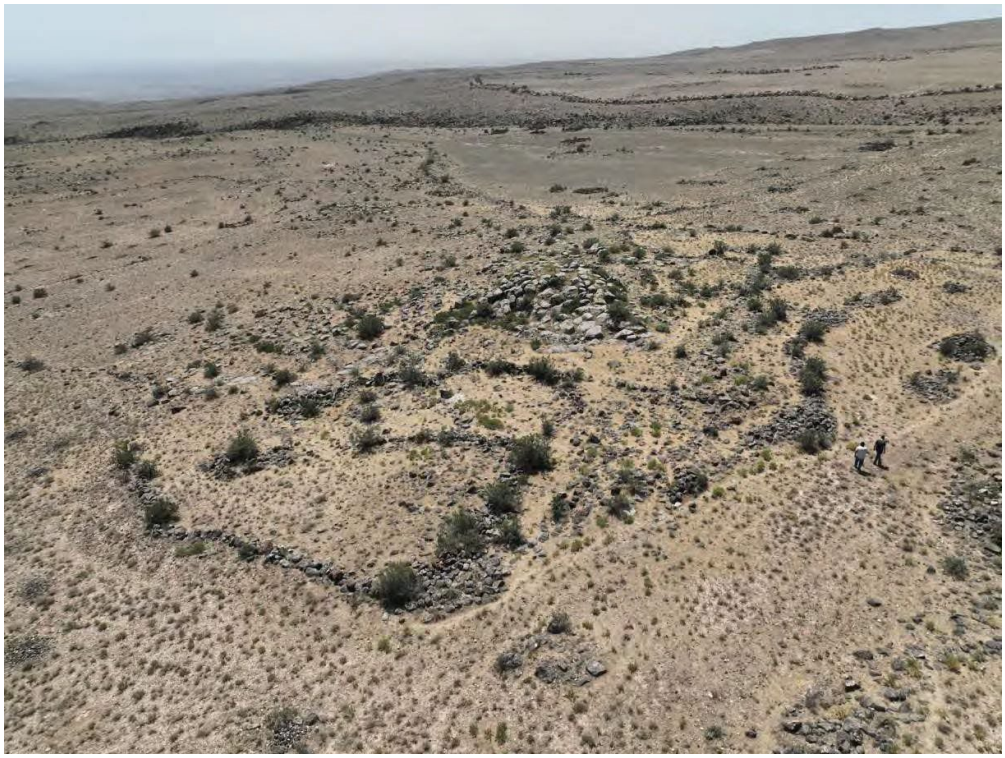


Figure 88: Feature 234. Agglomerative settlement (Aerial image).

Image 62. Unit 234. Agglomerative settlement (Aerial image)

Figure 89: Feature 237. Partly destroyed agglomerative settlement (Aerial image).

Figure 90: Feature 248. Agglomerative settlements (Aerial image)

Image 64. Unit 248. Agglomerative settlements (Aerial image)

Figure 91: Features 248. Agglomerative settlements (Aerial image).

Figure 92: Feature 248. Agglomerative settlements (Aerial image).

Image 64. Unit 248. Agglomerative settlements (Aerial image)

Figure 93: Feature 251. Settlement (Aerial image).

Figure 94: Feature 249. Complex of Dwellings and Enclosures (Aerial image).

Figure 95: Feature 219. Archaeological megacomplex (Aerial image).

Figure 96: Feature 219. Archaeological megacomplex (Aerial image).

Figure 97: Feature 207. Cave.

Figure 98: Feature 212. Cave.

APPENDIX 2 – GAZETTEER OF ASSET SIGNIFICANCE

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
1	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure reminding an enclosure, possibly related to the nearby kite. Time is unknown.
2	Wall fragments	Very Low	Replicable Cultural Heritage	Series of long walls with a simple masonry. Function is unknown. Most probably portions of kite structures, which lost their completeness after the melioration of the area.
3	Potential tomb	Medium-Low	Non-Replicable Cultural Heritage	Collection of rocks, reminding a tomb structure or a potential tomb located on the right side of a small gorge.
4	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
5	Enclosure	Medium-Low	Replicable Cultural Heritage	Rounded-shape structure incorporated into a long wall. Probably is an enclosure of a kite-structure.
6	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry spread around the slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
7	Potential tomb	Medium-Low	Non-Replicable Cultural Heritage	Collection of rocks, reminding a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
8	Wall fragments	Very Low	Replicable Cultural Heritage	Series of walls preserved on the high portions on the local relief and slopes of the hills. Probably parts of a large kite structure, existing after intensive melioration of the area.
9	Structure	Medium-Low	Non-Replicable Cultural Heritage	Structure, composed from rounded and linear walls which is located on a slope of a small hill. Function and timing is unknown
10	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost it completeness after the melioration of the area.
11	Wall fragments	Very Low	Replicable Cultural Heritage	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
				lost completeness after the melioration of the area.
12	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost it completeness after the melioration of the area.
13	Potential tomb	Medium-Low	Non-Replicable Cultural Heritage	Collection of rocks, reminding a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
14	Wall fragments	Very Low	Replicable Cultural Heritage	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
15	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated near a small gorge. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
16	Wall fragments	Very Low	Replicable Cultural Heritage	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
17	Cultic structure	Low	Non-Replicable Cultural Heritage	Rounded-shaped enclosure around a natural structure of basalt. Timing and function are unknown. Probably has a cultic meaning.
18	Wall fragments	Very Low	Replicable Cultural Heritage	Portions of long walls, with a simple masonry living an impression of a road, because of their partial preservation. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
19	Cultic structure	Low	Non-Replicable Cultural Heritage	Rounded-shaped enclosure around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is possible that the feature contains a hidden tomb.
20	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
21	Wall fragment	Very Low	Replicable Cultural Heritage	Preserved portion of a wall composed from large pieces of local rock (basalt) standing on the right side of a small gorge. Probably is also part of a kite structure destroyed during melioration and construction activities in the area.
22	Wall fragments	Very Low	Replicable Cultural Heritage	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
23	Wall fragments	Very Low	Replicable Cultural Heritage	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
24	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
25	Potential tomb	Medium-Low	Non-Replicable Cultural Heritage	Collection of rocks, reminding a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
26	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
27	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
28	Potential (hidden) tomb	Medium-Low	Non-Replicable Cultural Heritage	Collection of rocks near a natural hill formed by basaltic lava, which can be a hidden tomb. Timing is unknown.
29	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
30	Potential tomb	Medium-Low	Non-Replicable Cultural Heritage	Collection of rocks, reminding a tomb structure or a potential tomb. First in the group of similar structures located on the right side of a small gorge.

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
31	Wall fragments with tower	Medium-High	Non-Replicable Cultural Heritage	Portions of walls and small tower in the junction of the walls, with a simple masonry situated on a slope and top of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
32	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill along a seasonal water body. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
33	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
34	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
35	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry along the slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
36	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
37	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
38	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
39	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a high hill. Function

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
				is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
40	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area
41	Wall fragments	Very Low	Replicable Cultural Heritage	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
42	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
43	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
44	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local volcanic tuff and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
45	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated along a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
46	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
47	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
				completness after the melioration of the area.
48	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
49	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure reminding an enclosure located near the previous unit (No. 138). It has to be related to the nearby kite wall. Time is unknown.
50	Tower and Enclosure	Medium-High	Non-Replicable Cultural Heritage	Tower remnants standing inside of a large structure or enclosure. Timing and function are unknown.
51	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
52	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure reminding an enclosure located on the southern slope of a small hill. It has to be related to the nearby kite. Time is unknown.
53	Concentration of obsidian artifacts	Very Low	Replicable Cultural Heritage	Concentration of obsidian artifacts on a limited area, which belong to the Middle Paleolithic and Neolithic-Chlcolithic periods.
54	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
55	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure reminding an enclosure, possibly related to the nearby kite. Time is unknown.
56	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
57	Enclosure	Medium-Low	Replicable Cultural Heritage	Enclosure feature

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
58	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
59	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
60	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
61	Tomb	Medium-High	Non-Replicable Cultural Heritage	Tomb feature
62	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
63	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
64	Kite structure	Medium-High	Non-Replicable Cultural Heritage	Kite Structure
65	Tower and Wall	Medium-High	Non-Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Traces of the nearby small tower are prooving that most probably it is part of a kite structure, which lost its completness after the partial melioration of the area.
66	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure reminding an enclosure located on the northern slope of a small hill. It has to be

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
				related to the nearby kite. Time is unknown.
67	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
68	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
69	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local volcanic tuff and situated on a rim of a small gorge. Function is unknown. Most probably part of a small kite structure or an enclosure, which lost its completness after the partial melioration of the area.
71	Wall fragment	Very Low	Replicable Cultural Heritage	Collection of rocks. First in the group of similar structures located on the left side of a small gorge.
72	Enclsoures	Medium-Low	Replicable Cultural Heritage	Enclosures
73	Wall fragment	Very Low	Replicable Cultural Heritage	Wall fragment
74	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
75	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
76	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a long wall, with a simple masonry composed from local basalt and situated on the slopes of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
77	Wall fragment and tower	Medium-High	Non-Replicable Cultural Heritage	Portion of a long wall with an attached small tower, made from basalt located on the slope of a small hill. The tower is hravily ruined, and only the foundations are visible. Most propably it is part of a destroyed kite structure after the melioration works in the area.
78	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated along a small seasonal water stream. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
79	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure composed from big blocks of basalt, reminding an enclosure located near the previous unit (No. 182). It has to be related to the nearby kite wall. Time is unknown.
80	Concentration of obsidian artifacts	Very Low	Replicable Cultural Heritage	Concentration of obsidian artifacts on a limited area, which belong to the Neolithic-Chlcolithic periods and the Bronze Age.
81	Concentration of obsidian artifacts	Very Low	Replicable Cultural Heritage	Concentration of obsidian artifacts on a limited area, which belong to the Middle Paleolithic and Neolithic-Chlcolithic periods.
82	Wall fragment	Very Low	Replicable Cultural Heritage	Wall fragment
83	Potential (hidden) tomb	Medium-Low	Non-Replicable Cultural Heritage	Rounded-shaped stones paved near a top of a natural hill formed by basaltic lava. Timing and function are unknown. It is posible that the feature contains a hidden tomb
84	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated in a flatland. Function is unknown. It lost completness after the partial melioration of the area.
85	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
86	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
87	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure composed from big blocks of basalt, reminding an enclosure located near the previous unit (No. 200). It has to be related to the nearby kite wall. Time is unknown.
88	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on tops of small hill. Most probably is the continuation or part of a large kite structure (unit No. 177).
89	Concentration of obsidian artifacts	Very Low	Replicable Cultural Heritage	Concentration of obsidian artifacts on a limited area, which belongs to the Neolithic-Chlcolithic periods and the Bronze Age.
90	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a flatland near agglomerative settlement. Function is unknown. Most probably part of an enclosure system, which lost its completness after the partial melioration of the area.
91	Wall fragment	Very Low	Replicable Cultural Heritage	Portion of a double-face wall visible on top of flat surface. Probably part of a structure or a building. Time and function are unknown.
93	Wall	Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a flatland near the rim of a small gorge. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
94	Tomb	Medium-High	Non-Replicable Cultural Heritage	A medium size burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
95	Wall	Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a flatland on the right side of a gorge. Function is unknown. Most probably part of a kite structure and an enclosure system, which was partly damaged after the melioration of the area.
96	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
97	Wall fragment and Enclosure	Medium-Low	Non-Replicable Cultural Heritage	Portion of a long wall with an attached enclosure, made from basalt located on the slope of a hill. Most propably part of a

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
				destroyed kite structure after the melioration works in the area.
98	Wall	Low	Replicable Cultural Heritage	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a hill on the left side of a gorge. Function is unknown. Most probably part of a kite structure and an enclosure system, which was partly damaged after the melioration of the area.
99	Wall	Low	Replicable Cultural Heritage	Portion of a long wall with attached enclosures, made from volcanic tuff located on the flatlands. Most propably were used for keeping cattle in high or late Medieval periods, but some look like Bronze Age tombs converted into seasonal dwellings.
101	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure reminding an enclosure, possibly related to the nearby kite. Time is unknown.
102	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
103	Kite	Medium-High	Non-Replicable Cultural Heritage	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
104	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structures with a simple masonry located on a top of a small hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most probably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure the walls of which exist in close proximity.
105	Tomb	Medium-High	Non-Replicable Cultural Heritage	Collection of rocks, reminding of a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
106	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
107	Potential Tomb	Medium-Low	Non-Replicable Cultural Heritage	Collection of rocks, reminding a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
109	Structure	Medium-High	Non-Replicable Cultural Heritage	A complex presented by a series of walls on natural hills and surrounding areas. The function and timing is unknown. Probably can be a cultic or ritual complex, accompanied with some burials. More characteristic to the Middle Bronze Age.
110	Enclosure	Medium-Low	Non-Replicable Cultural Heritage	A large enclosure, with walls made from volcanic red tuff at some portions looking like a terrace and two rectangular-shaped structures in plan near the entrance. A unique structure, timing and function are unknown. Most probably was composed for cattle herding.
111	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
113	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
114	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
115	Enclosure	Medium-Low	Non-Replicable Cultural Heritage	A large enclosure, with walls made from local basalt-andesite. Two rectangular-shaped structures in plan exist near the entrance. A unique structure, timing and function are unknown. Most probably was composed for cattle herding.
116	Tomb	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped enclosure around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is possible that the feature contains a hidden tomb.
117	Settlement	Medium-High	Non-Replicable Cultural Heritage	Traces of an agglomerative settlement near the v-shaped kite structure (No. 77), probably from the same time period, which can not be defined without excavations.
118	Tomb	Medium-High	Non-Replicable Cultural Heritage	Collection of rocks near a natural hill formed by basaltic lava, which can be a hidden tomb. Timing is unknown.

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
119	Enclosure	Medium-Low	Replicable Cultural Heritage	A system of enclosures located near the seasonal river bed. Timing is unknown. Most probably the system was used as hearding unit, incorporated with the nearby kite structures
120	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
121	Enclosure	Medium-High	Non-Replicable Cultural Heritage	A system of enclosures located near the seasonal river bed. Timing is unknown. Most probably high and late Medieval periods. It was used as hearding unit and seasonal dwelling.
122	Structure	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped enclosure around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is possible that the feature contains a hidden tomb.
123	Tomb	Medium-High	Non-Replicable Cultural Heritage	Collection of rocks, reminding tomb structures or potential tombs among a group of similar structures located in the meliorated field. Time is unknown.
124	Enclosure	Medium-Low	Replicable Cultural Heritage	Enclosure located near the seasonal river bed. Timing is unknown. Most probably high and late Medieval periods. It was used as a seasonal hearding unit.
126	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure (small tower or enclosure) related with the kite wall (No. 115). The structure is heavily ruined, the collapsed stones are visible on the slopes. Suppose to be part of a large kite structure the walls of which exist in close proximity.
127	Enclosure	Medium-Low	Replicable Cultural Heritage	Rectangular-shaped structure incorporated into a long wall. Probably is an enclosure which belongs to a kite-structure.
128	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement on the top and the slopes of a hill. Time is unknown. Probably belongs to the Neolithic period.
129	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
130	Kite	Medium-High	Non-Replicable Cultural Heritage	Nearly complete, v-shaped kite structure, with long walls and towers at the starts of the arms on a slope of a hill.
131	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure the walls of which exist in close proximity (No. 124).
132	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.
134	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
135	Enclosure	Medium-High	Non-Replicable Cultural Heritage	An enclosure and a structure looking like a tomb located on the seasoanl river terrace in a small gorge. Most probably belongs to the Bronze-Iron Ages
136	Petroglyph	Medium-High	Non-Replicable Cultural Heritage	Petroglyph depicting a schematic drawing of a structure. Made by a metallic tool on a smooth and shiny surface of the local basalt rock. Such exist abudantly in the area. Time is unknown. More probably reflects shchematic disposition of the nearby kite or enclosure system.
137	Enclosure	Medium-Low	Non-Replicable Cultural Heritage	Enclosure feature
138	Tower	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped structure with a simple masonry located on a top of a natural hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.
139	Enclosure	Medium-Low	Non-Replicable Cultural Heritage	Enclosure feature

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
140	Enclosure	Medium-High	Non-Replicable Cultural Heritage	A system of enclosures located on the slope of a hill. Timing is unknown. Most probably high and late Medieval periods. It was used as hearding unit and seasoanl dwelling and was renovated several times.
141	Khachkar	Low	Replicable Cultural Heritage	A khachkar or cross stone standing on a basement built by stones and concrete. Modern construction erected by local inhabitatnts for comemorating an important event.
142	Structure	Medium-High	Non-Replicable Cultural Heritage	Rounded-shaped enclosures around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is posible that the feature contains a hidden tomb.
143	Tower	Medium-High	Non-Replicable Cultural Heritage	Tower Feature
144	Enclosure	Medium-Low	Non-Replicable Cultural Heritage	Large, rounded-shaped structure reminding an enclosure located near the previous unit (No. 174). It has to be related to the nearby kite wall. Time is unknown.
145	Tomb	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped structure with walls built from local basalt. Forth in the group of similar structures standing close to each other. More probably are remnants of an enclosure for keeping cattle or other domestic animals from high and/or late Medieval periods.
146	Tomb	Medium-High	Non-Replicable Cultural Heritage	Structures with walls built from local volcanic tuff. First in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.
147	Tomb	Medium-High	Non-Replicable Cultural Heritage	Tomb and enclosure feature
148	Tomb	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped structure with walls built from local volcanic tuff and basalt. Eighth in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.
149	Kite	Medium-High	Non-Replicable Cultural Heritage	Head of a complex kite structure with very well preserved towers, enclosers and other features located on the top and southern slopes of a hill. Arms are

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
				missing because of partial melioration of the area.
150	Tomb	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped structure with walls built from local volcanic tuff and basalt. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.
151	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
152	Settlement	Medium-High	Non-Replicable Cultural Heritage	Large Archaeological Complex composed around a natural rock formation, containing an agglomerative settlement, enclosures, structures and burial mounds. Judging from the surface collections was functioning from the Early Bronze Age to the late Medieval period and occupying a central place in the landscape.
153	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement situated near a seasonal river bed and formed by enclosures and structures. Time is not defined as of surface finds were not recorded.
154	Tomb	Medium-High	Non-Replicable Cultural Heritage	Series of structures spread on the top and slopes of a natural hill reminding a tower with walls, which also contains a tomb. Also it is posible the structure is the prototype of the earlist agglomerative settlement. Time is unknown, because of luck of surface finds.
155	Tomb	Medium-High	Non-Replicable Cultural Heritage	Series of structures spread on tops and slopes of a two natural hills reminding a tower with walls, which also contains a tomb. Also it is posible the structure is the prototype of the earlist agglomerative settlement. Time is unknown, because of luck of surface finds.
156	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement composed around a natural rock formation and formed by enclosures and structures. Time is not defined as of surface finds were not recorded.
157	Tombs	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped and devided into three portions structure with walls built from local volcanic tuff and basalt. First in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb,

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
				converted to a dwelling in high and/or late Medieval periods.
158	Structure	Medium-High	Non-Replicable Cultural Heritage	Rectangular-shaped structure with walls built from local basalt. More probably are remnants of an ecnclosure for keeping cattle or other domestic animals from high and/or late Medieval periods. Also it is posible that the stucture is built over Bronze-Iron Age tomb.
159	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement composed around a natural rock formation, formed by enclosures and structures. Judging from the surface collections was functioning from the Early Bronze Age to the late Medieval period.
160	Tomb	Medium-High	Non-Replicable Cultural Heritage	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure, with traces of disturbanse. More probably belongs to the Late Bronze-Early Iron Age.
162	Enclosure	Medium-Low	Non-Replicable Cultural Heritage	Large, rounded-shaped structure composed from big blocks of basalt reminding an enclosure and located near the rim of a gorge on a slope of a small hill. Time is unknown.
163	Enclosure	Medium-Low	Replicable Cultural Heritage	Large, rounded-shaped structure composed from big blocks of basalt reminding an enclosure and located near the rim of a gorge. Time is unknown.
164	Settlement	Medium-High	Non-Replicable Cultural Heritage	Agglomerative settlement composed around a natural hill and formed by enclosures and structures. Time is not defined, put possibly belongs to the Neolithic-Chalcolithic period as of surface finds are represented by many obsidian artifacts. The settlement was damaged after melioration of the area by heavy mechanism.
165	Settlement	Medium-High	Non-Replicable Cultural Heritage	Rounded and rectangular-shaped structures with walls built from local volcanic tuff and basalt standing next to each other. More probably are seasonal dwellings and units for keeping sheep-goat or cattle built in high Medieval period, based on abudant pottery fragments collected in the context.
165	Settlement	Medium-High	Non-Replicable Cultural Heritage	Rounded and rectangular-shaped structures with walls built from local volcanic tuff and basalt standing next to each other. More probably are seasonal dwellings and units for keeping sheep-goat or cattle built in high Medieval

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
				period, based on abudant pottery fragments collected in the context.
166	Enclosed area	Medium-Low	Non-Replicable Cultural Heritage	An enclosed area. Timing and function are unknown. Probably the system represents an element of a hearding landscape.
167	Tomb	Medium-High	Non-Replicable Cultural Heritage	Large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
168	Enclosure	Medium-High	Non-Replicable Cultural Heritage	Large system including enclosures, walls, towers and tombs related to each other and situated across of several gorges. Occupies huge area. Timing and function are unknown. Probably the system represents a specific feature of a prehistoric (Neolithic to Bronze-Iron Ages) hearding and cultic landscapes. No parallels are available.
169	Settlement	Medium-High	Non-Replicable Cultural Heritage	Aglomerative settlement, situated on a flat area and occupying a rim of a gorge. Timing is unknown. The settlement was heavily reconstructed in Medieval period, when the cell-type enclosures and structures were turned into shoe-shaped enclosures, but the site still keeps its scientific potential and value.
170	Enclosure	Medium-High	Non-Replicable Cultural Heritage	Large system including enclosures, structures and long walls situated on both sides of a gorge. Occupies huge area. Timing and function are unknown. Probably the system represents specific features of high Medieval agrucultural landscape, relecting boundaries of vineyards, wine producing facilities and seasonal dwellings.
171	Settlement	Medium-High	Non-Replicable Cultural Heritage	A system of three agglomerative settlements composed around natural hills and formed by enclosures and rounded structures. Time is not defined, but possibly belongs to the Neolithic-Chalcolithic period as of surface finds are represented only by obsidian artifacts. The unit is in perfect state of preservation and has no any signs of damage.
201	Enclosure	Medium-High	Non-Replicable Cultural Heritage	A system of rounded enclosures joined to a potential tower.

Gaz ID	Name/Feature Type	Heritage Significance	IFC Category	Description
202	Enclosed Area	Medium-Low	Replicable Cultural Heritage	A large enclosured area possibly forming part of the settlement further north-east.
204	Lithic Scatter	Medium-High	Non-Replicable Cultural Heritage	Concentration of obsidian artifacts on a limited area, which belong to the Middle Paleolithic and Neolithic-Chlcolithic periods. The abudance and concentration of finds are telling about a stratified open-air site existing in the area, which requiers excavations through test trenches.
205	Lithic Scatter	Medium-High	Non-Replicable Cultural Heritage	Concentration of obsidian artifacts on a limited area, which belongs to the Neolithic-Chlcolithic periods and the Bronze Age. There is a need to study the find area to understand where are the obsidian scatters are orignating from and to do some additional collections.
206	Lithic Scatter	Medium-High	Non-Replicable Cultural Heritage	Natural, small hill located closely to the rim of a gorge in front of which dence scatters of obsidian artifacts exist. Judging from the state of preservation and typology of the tools we have here a stratified late Middle Paleolithic open air site. In addition a complex of artifacts characteristic to the Neolithic period also exist in the collection, which can be ralated to some walls and structures visible around the hill, telling about reoccupation of the same site in Neolihic. The site has an exeptional value, which means that after some excavations for stratigraphy and dating, it requiers preservation and/or conservation.
207	Lithic Scatter	Medium-High	Non-Replicable Cultural Heritage	Flat area (probably a terrace) located closely to the rim of a gorge where dence scatters of obsidian artifacts collected. Judging from the state of preservation and typology of the tools it is possible have that here a stratified late Middle Paleolithic open-air site exists. In addition a complex of artifacts characteristic to the Neolithic period also is visible in the collection. The site has an important value, but test excavations are requierd to check the stratigraphic preservation of the site.

APPENDIX 3 – ASSESSMENT OF EFFECTS

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
1	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped structure reminding an enclosure, possibly related to the nearby kite. Time is unknown.
2	Wall fragments	Very Low	Medium	Minor	Negligible	Negligible	Series of long walls with a simple masonry. Function is unknown. Most probably portions of kite structures, which lost their completeness after the melioration of the area.
3	Potential tomb	Medium-Low	Medium	Moderate	Small	Minor	Collection of rocks, reminding a tomb structure or a potential tomb located on the right side of a small gorge.
4	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
5	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Rounded-shape structure incorporated into a long wall. Probably is an enclosure of a kite-structure.
6	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry spread around the slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
7	Potential tomb	Medium-Low	Negligible	Negligible	Negligible	Negligible	Collection of rocks, reminding a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
8	Wall fragments	Very Low	Medium	Minor	Small	Negligible	Series of walls preserved on the high portions on the local relief and slopes of the hills. Probably parts of a large kite structure, existing after intensive melioration of the area.
9	Structure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Structure, composed from rounded and linear walls which is located on a slope of a small hill. Function and timing is unknown
10	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost it completeness after the melioration of the area.
11	Wall fragments	Very Low	Negligible	Negligible	Negligible	Negligible	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
12	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost it completeness after the melioration of the area.
13	Potential tomb	Medium-Low	Negligible	Negligible	Negligible	Negligible	Collection of rocks, reminding a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
14	Wall fragments	Very Low	Negligible	Negligible	Negligible	Negligible	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
15	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry situated near a small gorge. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
16	Wall fragments	Very Low	Medium	Minor	Small	Negligible	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
17	Cultic structure	Low	Medium	Minor	Small	Negligible	Rounded-shaped enclosure around a natural structure of basalt. Timing and function are unknown. Probably has a cultic meaning.
18	Wall fragments	Very Low	Medium	Minor	Small	Negligible	Portions of long walls, with a simple masonry living an impression of a road, because of their partial preservation. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
19	Cultic structure	Low	Medium	Minor	Small	Negligible	Rounded-shaped enclosure around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is possible that the feature contains a hidden tomb.
20	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
21	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Preserved portion of a wall composed from large pieces of local rock (basalt) standing on the right side of a small gorge. Probably is also part of a kite structure destroyed during melioration and construction activities in the area.
22	Wall fragments	Very Low	Medium	Minor	Small	Negligible	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
23	Wall fragments	Very Low	Medium	Minor	Small	Negligible	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
24	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
25	Potential tomb	Medium-Low	Medium	Negligible	Small	Negligible	Collection of rocks, reminding a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
26	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
27	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
28	Potential (hidden) tomb	Medium-Low	Negligible	Moderate	Negligible	Negligible	Collection of rocks near a natural hill formed by basaltic lava, which can be a hidden tomb. Timing is unknown.
29	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
30	Potential tomb	Medium-Low	Small	Minor	Negligible	Negligible	Collection of rocks, reminding a tomb structure or a potential tomb. First in the group of similar structures located on the right side of a small gorge.
31	Wall fragments with tower	Medium-High	Medium	Moderate	Small	Minor	Portions of walls and small tower in the junction of the walls, with a simple masonry situated on a slope and top of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
32	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill along a seasonal water body. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
33	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
34	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
35	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry along the slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
36	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
37	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
38	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
39	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a high hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
40	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area
41	Wall fragments	Very Low	Negligible	Negligible	Negligible	Negligible	Portions of long walls, with a simple masonry. Function is unknown. Most probably parts of a kite structure, which lost completeness after the melioration of the area.
42	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
43	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
44	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local volcanic tuff and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
45	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated along a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
46	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
47	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
48	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
49	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped structure reminding an enclosure located near the previous unit (No. 138). It has to be related to the nearby kite wall. Time is unknown.
50	Tower and Enclosure	Medium-High	Negligible	Negligible	Negligible	Negligible	Tower remnants standing inside of a large structure or enclosure. Timing and function are unknown.
51	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
52	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped structure reminding an enclosure located on the southern slope of a small hill. It has to be related to the nearby kite. Time is unknown.
53	Concentration of obsidian artifacts	Very Low	Negligible	Negligible	Negligible	Negligible	Concentration of obsidian artifacts on a limited area, which belong to the Middle Paleolithic and Neolithic-Chlcolithic periods.
54	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
55	Enclosure	Medium-Low	Medium	Moderate	Small	Minor	Large, rounded-shaped structure reminding an enclosure, possibly related to the nearby kite. Time is unknown.
56	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
57	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Enclosure feature
58	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
59	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
60	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the melioration of the area.
61	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Tomb feature
62	Wall fragment	Very Low	Small	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
63	Wall fragment	Very Low	Small	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
64	Kite structure	Medium-High	Negligible	Negligible	Negligible	Negligible	Kite Structure
65	Tower and Wall	Medium-High	Negligible	Negligible	Negligible	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Traces of the nearby small tower are prooving that most probably it is part of a kite structure, which lost its completness after the partial melioration of the area.
66	Enclosure	Medium-Low	Medium	Moderate	Small	Minor	Large, rounded-shaped structure reminding an enclosure located on the northern slope of a small hill. It has to be related to the nearby kite. Time is unknown.
67	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
68	Wall fragment	Very Low	Negligible	Negligible	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
69	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local volcanic tuff and situated on a rim of a small gorge. Function is unknown. Most probably part of a small kite structure or an enclosure, which lost its completness after the partial melioration of the area.
71	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Collection of rocks. First in the group of similar structures located on the left side of a small gorge.
72	Enclsoures	Medium-Low	Negligible	Negligible	Negligible	Negligible	Enclosures
73	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Wall fragment

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
74	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
75	Wall fragment	Very Low	Medium	Moderate	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
76	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a long wall, with a simple masonry composed from local basalt and situated on the slopes of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
77	Wall fragment and tower	Medium-High	Negligible	Negligible	Negligible	Negligible	Portion of a long wall with an attached small tower, made from basalt located on the slope of a small hill. The tower is hravily ruined, and only the foundations are visible. Most propably it is part of a destroyed kite structure after the melioration works in the area.
78	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated along a small seasonal water stream. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
79	Enclosure	Medium-Low	Medium	Moderate	Small	Minor	Large, rounded-shaped structure composed from big blocks of basalt, reminding an enclosure located near the previous unit (No. 182). It has to be related to the nearby kite wall. Time is unknown.
80	Concentration of obsidian artifacts	Very Low	Negligible	Negligible	Negligible	Negligible	Concentration of obsidian artifacts on a limited area, which belong to the Neolithic-Chlcolithic periods and the Bronze Age.
81	Concentration of obsidian artifacts	Very Low	Negligible	Negligible	Negligible	Negligible	Concentration of obsidian artifacts on a limited area, which belong to the Middle Paleolithic and Neolithic-Chlcolithic periods.
82	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Wall fragment

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
83	Potential (hidden) tomb	Medium-Low	Negligible	Negligible	Negligible	Negligible	Rounded-shaped stones paved near a top of a natural hill formed by basaltic lava. Timing and function are unknown. It is posible that the feature contains a hidden tomb
84	Wall fragment	Very Low	Negligible	Negligible	Negligible	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated in a flatland. Function is unknown. It lost completness after the partial melioration of the area.
85	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
86	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a small hill. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.
87	Enclosure	Medium-Low	Medium	Moderate	Small	Minor	Large, rounded-shaped structure composed from big blocks of basalt, reminding an enclosure located near the previous unit (No. 200). It has to be related to the nearby kite wall. Time is unknown.
88	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on tops of small hill. Most probably is the continuation or part of a large kite structure (unit No. 177).
89	Concentration of obsidian artifacts	Very Low	Medium	Minor	Small	Negligible	Concentration of obsidian artifacts on a limited area, which belongs to the Neolithic-Chlcolithic periods and the Bronze Age.
90	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a flatland near agglomerative settlement. Function is unknown. Most probably part of an enclosure system, which lost its completness after the partial melioration of the area.
91	Wall fragment	Very Low	Medium	Minor	Small	Negligible	Portion of a double-face wall visible on top of flat surface. Probably part of a structure or a building. Time and function are unknown.
93	Wall	Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a flatland near the rim of a small gorge. Function is unknown. Most probably part of a kite structure, which lost its completness after the partial melioration of the area.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
94	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	A medium size burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
95	Wall	Low	Medium	Minor	Small	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a flatland on the right side of a gorge. Function is unknown. Most probably part of a kite structure and an enclosure system, which was partly damaged after the melioration of the area.
96	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
97	Wall fragment and Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall with an attached enclosure, made from basalt located on the slope of a hill. Most propably part of a destroyed kite structure after the melioration works in the area.
98	Wall	Low	Negligible	Negligible	Negligible	Negligible	Portion of a wall, with a simple masonry composed from local basalt and situated on a slope of a hill on the left side of a gorge. Function is unknown. Most probably part of a kite structure and an enclosure system, which was partly damaged after the melioration of the area.
99	Wall	Low	Negligible	Negligible	Negligible	Negligible	Portion of a long wall with attached enclosures, made from volcanic tuff located on the flatlands. Most propably were used for keeping cattle in high or late Medieval periods, but some look like Bronze Age tombs converted into seasonal dwellings.
101	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped structure reminding an enclosure, possibly related to the nearby kite. Time is unknown.
102	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
103	Kite	Medium-High	Negligible	Negligible	Negligible	Negligible	Portion of a long wall, with a simple masonry. Function is unknown. Most probably part of a kite structure, which lost its completeness after the melioration of the area.
104	Tower	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped structures with a simple masonry located on a top of a small hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most probably is a tower as of from the top all area is under

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
							visual control. Suppose to be part of a large kite structure the walls of which exist in close proximity.
105	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Collection of rocks, reminding of a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
106	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
107	Potential Tomb	Medium-Low	Negligible	Negligible	Negligible	Negligible	Collection of rocks, reminding a tomb structure or a potential tomb among a group of similar structures located on the slope of a hill. Time is unknown.
109	Structure	Medium-High	Negligible	Negligible	Negligible	Negligible	A complex presented by a series of walls on natural hills and surrounding areas. The function and timing is unknown. Probably can be a cultic or ritual complex, accompanied with some burials. More characteristic to the Middle Bronze Age.
110	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	A large enclosure, with walls made from volcanic red tuff at some portions looking like a terrace and two rectangular-shaped structures in plan near the entrance. A unique structure, timing and function are unknown. Most probably was composed for cattle herding.
111	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
113	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
114	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
115	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	A large enclosure, with walls made from local basalt-andesite. Two rectangular-shaped structures in plan exist near the entrance. A unique structure, timing and function are unknown. Most probably was composed for cattle herding.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
116	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped enclosure around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is possible that the feature contains a hidden tomb.
117	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Traces of an agglomerative settlement near the v-shaped kite structure (No. 77), probably from the same time period, which can not be defined without excavations.
118	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Collection of rocks near a natural hill formed by basaltic lava, which can be a hidden tomb. Timing is unknown.
119	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	A system of enclosures located near the seasonal river bed. Timing is unknown. Most probably the system was used as hearding unit, incorporated with the nearby kite structures
120	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped tomb structure with rocky-soil shield, preserved after the intensive melioration of the area. Time is unknown. Probably Late Bronze – Early Iron Age.
121	Enclosure	Medium-High	Negligible	Negligible	Negligible	Negligible	A system of enclosures located near the seasonal river bed. Timing is unknown. Most probably high and late Medieval periods. It was used as hearding unit and seasonal dwelling.
122	Structure	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped enclosure around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is possible that the feature contains a hidden tomb.
123	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Collection of rocks, reminding tomb structures or potential tombs among a group of similar structures located in the meliorated field. Time is unknown.
124	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Enclosure located near the seasonal river bed. Timing is unknown. Most probably high and late Medieval periods. It was used as a seasonal hearding unit.
126	Tower	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped structure (small tower or enclosure) related with the kite wall (No. 115). The structure is heavily ruined, the collapsed stones are visible on the slopes. Suppose to be part of a large kite structure the walls of which exist in close proximity.
127	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Rectangular-shaped structure incorporated into a long wall. Probably is an enclosure which belongs to a kite-structure.
128	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Agglomerative settlement on the top and the slopes of a hill. Time is unknown. Probably belongs to the Neolithic period.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
129	Tower	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.
130	Kite	Medium-High	Negligible	Negligible	Negligible	Negligible	Nearly complete, v-shaped kite structure, with long walls and towers at the starts of the arms on a slope of a hill.
131	Tower	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure the walls of which exist in close proximity (No. 124).
132	Tower	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped structure with a simple masonry located on a top of a hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.
134	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
135	Enclosure	Medium-High	Negligible	Negligible	Negligible	Negligible	An enclosure and a structure looking like a tomb located on the seasoanl river terrace in a small gorge. Most probably belongs to the Bronze-Iron Ages
136	Petroglyph	Medium-High	Negligible	Negligible	Negligible	Negligible	Petroglyph depicting a schematic drawing of a structure. Made by a metallic tool on a smooth and shiny surface of the local basalt rock. Such exist abudantly in the area. Time is unknown. More probably reflects shchematic disposition of the nearby kite or enclosure system.
137	Enclosure	Medium-Low	Medium	Negligible	Negligible	Negligible	Enclosure feature
138	Tower	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped structure with a simple masonry located on a top of a natural hill. The structure is heavily ruined, the collapsed stones are visible on the slopes. Most popbably is a tower as of from the top all area is under visual control. Suppose to be part of a large kite structure.
139	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Enclosure feature

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
140	Enclosure	Medium-High	Negligible	Negligible	Negligible	Negligible	A system of enclosures located on the slope of a hill. Timing is unknown. Most probably high and late Medieval periods. It was used as hearding unit and seasoanl dwelling and was renovated several times.
141	Khachkar	Low	Negligible	Negligible	Negligible	Negligible	A khachkar or cross stone standing on a basement built by stones and concrete. Modern construction erected by local inhabitatnts for comemorating an important event.
142	Structure	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded-shaped enclosures around a top of a natural hill formed by basaltic lava. Timing and function are unknown. Probably has a cultic meaning. Also it is posible that the feature contains a hidden tomb.
143	Tower	Medium-High	Negligible	Negligible	Negligible	Negligible	Tower Feature
144	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped structure reminding an enclosure located near the previous unit (No. 174). It has to be related to the nearby kite wall. Time is unknown.
145	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Rectangular-shaped structure with walls built from local basalt. Forth in the group of similar structures standing close to each other. More probably are remnants of an enclosure for keeping cattle or other domestic animals from high and/or late Medieval periods.
146	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Structures with walls built from local volcanic tuff. First in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.
147	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Tomb and enclosure feature
148	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Rectangular-shaped structure with walls built from local volcanic tuff and basalt. Eighth in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.
149	Kite	Medium-High	Negligible	Negligible	Negligible	Negligible	Head of a complex kite structure with very well preserved towers, enclosers and other features located on the top and southern slopes of a hill. Arms are missing because of partial melioration of the area.
150	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Rectangular-shaped structure with walls built from local volcanic tuff and basalt. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
151	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
152	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Large Archaeological Complex composed around a natural rock formation, containing an agglomerative settlement, enclosures, structures and burial mounds. Judging from the surface collections was functioning from the Early Bronze Age to the late Medieval period and occupying a central place in the landscape.
153	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Agglomerative settlement situated near a seasonal river bed and formed by enclosures and structures. Time is not defined as of surface finds were not recorded.
154	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Series of structures spread on the top and slopes of a natural hill reminding a tower with walls, which also contains a tomb. Also it is posible the structure is the prototype of the earlist agglomerative settlement. Time is unknown, because of luck of surface finds.
155	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Series of structures spread on tops and slopes of a two natural hills reminding a tower with walls, which also contains a tomb. Also it is posible the structure is the prototype of the earlist agglomerative settlement. Time is unknown, because of luck of surface finds.
156	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Agglomerative settlement composed around a natural rock formation and formed by enclosures and structures. Time is not defined as of surface finds were not recorded.
157	Tombs	Medium-High	Negligible	Negligible	Negligible	Negligible	Rectangular-shaped and devided into three portions structure with walls built from local volcanic tuff and basalt. First in the group of similar structures standing next to each other. More probably are remnants of a Bronze Age tomb, converted to a dwelling in high and/or late Medieval periods.
158	Structure	Medium-High	Negligible	Negligible	Negligible	Negligible	Rectangular-shaped structure with walls built from local basalt. More probably are remnants of an ecnclosure for keeping cattle or other domestic animals from high and/or late Medieval periods. Also it is posible that the stucture is built over Bronze-Iron Age tomb.
159	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Agglomerative settlement composed around a natural rock formation, formed by enclosures and structures. Judging from the surface collections was functioning from the Early Bronze Age to the late Medieval period.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
160	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	A large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure, with traces of disturbanse. More probably belongs to the Late Bronze-Early Iron Age.
162	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped structure composed from big blocks of basalt reminding an enclosure and located near the rim of a gorge on a slope of a small hill. Time is unknown.
163	Enclosure	Medium-Low	Negligible	Negligible	Negligible	Negligible	Large, rounded-shaped structure composed from big blocks of basalt reminding an enclosure and located near the rim of a gorge. Time is unknown.
164	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Agglomerative settlement composed around a natural hill and formed by enclosures and structures. Time is not defined, put possibly belongs to the Neolithic-Chalcolithic period as of surface finds are represented by many obsidian artifacts. The settlement was damaged after melioration of the area by heavy mechanism.
165	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded and rectangular-shaped structures with walls built from local volcanic tuff and basalt standing next to each other. More probably are seasonal dwellings and units for keeping sheep-goat or cattle built in high Medieval period, based on abudant pottery fragments collected in the context.
165	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Rounded and rectangular-shaped structures with walls built from local volcanic tuff and basalt standing next to each other. More probably are seasonal dwellings and units for keeping sheep-goat or cattle built in high Medieval period, based on abudant pottery fragments collected in the context.
166	Enclosed area	Medium-Low	Medium	Moderate	Small	Minor	An enclosed area. Timing and function are unknown. Probably the system represents an element of a hearding landscape.
167	Tomb	Medium-High	Negligible	Negligible	Negligible	Negligible	Large burial mound, covered with rock-soil shield. The chamber is possibly in the middle part of the structure. More probably belongs to the Late Bronze-Early Iron Age.
168	Enclosure	Medium-High	Negligible	Negligible	Negligible	Negligible	Large system including enclosures, walls, towers and tombs related to each other and situated across of several gorges. Occupies huge area. Timing and function are unknown. Probably the system represents a specific feature of

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
							a prehistoric (Neolithic to Bronze-Iron Ages) hearding and cultic landscapes. No parallels are available.
169	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	Aglomerative settlement, situated on a flat area and occupying a rim of a gorge. Timing is unknown. The settlement was heavily reconstructed in Medieval period, when the cell-type enclosures and structures were turned into shoe-shaped enclosures, but the site still keeps its scientific potential and value.
170	Enclosure	Medium-High	Negligible	Negligible	Negligible	Negligible	Large system including enclosures, structures and long walls situated on both sides of a gorge. Occupies huge area. Timing and function are unknown. Probably the system represents specific features of high Medieval agrucultural landscape, relecting boundaries of vineyards, wine producing facilities and seasonal dwellings.
171	Settlement	Medium-High	Negligible	Negligible	Negligible	Negligible	A system of three agglomerative settlements composed around natural hills and formed by enclosures and rounded structures. Time is not defined, but possibly belongs to the Neolithic-Chalcolithic period as of surface finds are represented only by obsidian artifacts. The unit is in perfect state of preservation and has no any signs of damage.
201	Enclosure	Medium-High	Negligible	Negligible	Negligible	Negligible	A system of rounded enclosures joined to a potential tower.
202	Enclosed Area	Medium-Low	Medium	Moderate	Negligible	Negligible	A large enclosured area possibly forming part of the settlement further north-east.
204	Lithic Scatter	Medium-High	Negligible	Negligible	Negligible	Negligible	Concentration of obsidian artifacts on a limited area, which belong to the Middle Paleolithic and Neolithic-Chlcolithic periods. The abudance and concentration of finds are telling about a stratified open-air site existing in the area, which requiers excavations through test trenches.
205	Lithic Scatter	Medium-High	Negligible	Negligible	Negligible	Negligible	Concentration of obsidian artifacts on a limited area, which belongs to the Neolithic-Chlcolithic periods and the Bronze Age. There is a need to study the find area to understand where are the obsidian scatters are orignating from and to do some additional collections.

Gaz ID	Heritage Asset Type (receptor)	Heritage Significance	Magnitude of Impact (prior to additional mitigation)	Significance of Effect (prior to additional mitigation)	Magnitude of Impact (post mitigation)	Significance of Effect (post mitigation)	Description
206	Lithic Scatter	Medium-High	Negligible	Negligible	Negligible	Negligible	Natural, small hill located closely to the rim of a gorge in front of which dence scatters of obsidian artifacts exist. Judging from the state of preservation and typology of the tools we have here a stratified late Middle Paleolithic open air site. In addition a complex of artifacts characteristic to the Neolithic period also exist in the collection, which can be ralated to some walls and structures visible around the hill, telling about reoccupation of the same site in Neolihic. The site has an exeptional value, which means that after some excavations for stratigraphy and dating, it requiers preservation and/or conservation.
207	Lithic Scatter	Medium-High	Negligible	Negligible	Negligible	Negligible	Flat area (probably a terrace) located closely to the rim of a gorge where dence scatters of obsidian artifacts collected. Judging from the state of preservation and typology of the tools it is possible have that here a stratified late Middle Paleolithic open-air site exists. In addition a complex of artifacts characteristic to the Neolithic period also is visible in the collection. The site has an important value, but test excavations are requierd to check the stratigraphic preservation of the site.

APPENDIX 4 – MAPS

Date Saved: 24/08/2023

N

Esri, Intermap, NASA, NGA, USGS, Esri, HERE, Garmin, Foursquare, METI/NASA, USGS, Esri, HERE, Garmin, FAO, NOAA, USGS, Esri, USGS, Maxar, Esri, HERE, Garmin, FAO, USGS, NGA

Title

Figure 1:
Project Location and High-level Layout

Client:

Masdar

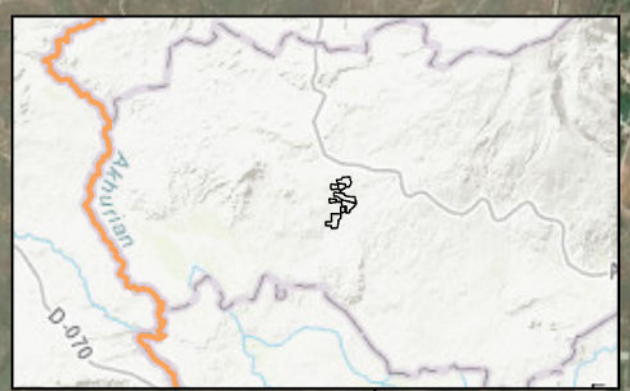
0 0.2 0.4 0.6 0.8

Kilometers

Date: 24/08/2023 Scale: @ A3

Drawn: MT Approved: CLQ

- Gate
- Weather Station
- Fence
- Fence cattle
- Gate
- M&C building and storage building
- MV Cables
- MV Station 3_Inv
- MV Station 6_Inv
- MV Station 8_Inv
- OHL
- PVcase Offsets
- PVcase PV Modules (optimised)
- Perimeter Road
- Storage Area
- Substation
- Water Pipe
- Weather Station



Date Saved: 24/08/2023

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Title: Figure 2: Gazetteer of Assets by Heritage Significance

Client: Masdar

0 0.25 0.5 0.75 1
Kilometers

Date: 24/08/2023 Scale: @ A3
Drawn: MT Approved: CLQ

Legend

Heritage Significance (location)
- High
- Medium-High
- Medium-Low
- Low
- Very Low

Heritage Significance (area)
- High
- Medium-High
- Medium-Low
- Low
- Very Low

- Project Boundary
- Project Study Area (100m buffer of the Project Boundary)

Date Saved: 24/08/2023

N

Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, Intermap, NASA, NGA, USGS, Esri, HERE, Garmin, Foursquare, METI/NASA, USGS, Esri, HERE, Garmin, FAO, NOAA, USGS, Esri, USGS

Title

Figure 3:
Outcomes of Significance of Effects
(Prior to Mitigation)

Client:

Masdar

0 0.3 0.5 0.8 1

Kilometers

Date: 24/08/2023 Scale: @ A3

Drawn: MT Approved: CLQ

Legend

Outcome of Effect (location)
- Major
- Moderate
- Minor
- Negligible

Outcome of Effect (area)
- Major
- Moderate
- Minor
- Negligible

- Project Study Area (100m buffer of the Project Boundary)
- Project Boundary

Date Saved: 24/08/2023

N

1544 m

Title

Figure 4:
Outcomes of Significance of Effects
(Post Mitigation)

Client:

Masdar

0 0.3 0.5 0.8 1

Kilometers

Date: 24/08/2023 Scale: @ A3

Drawn: MT Approved: CLQ

Legend

Outcome of Effect Post-Mitigation (location)

- Major
- Moderate
- Minor
- Negligible

Outcome of Effect Post-Mitigation (area)

- Major
- Moderate
- Minor
- Negligible

- Project Study Area (100m buffer of the Project Boundary)
- Project Boundary

Date Saved: 24/08/2023

N

Tombs and potential tombs
System of enclosures
Wall fragment
Wall fragments
Potential tombs
Potential tombs
Enclosure
Enclosure
Potential tombs
Wall fragment with enclosure
Wall fragment
Wall fragments
Tomb with enclosure
Wall fragment
Wall fragment
Wall fragment
Tomb
Tomb
Tower
Enclosure and towers
Area of Enclosure and towers
Cultic site (walls and enclosures)
Wall fragment
Wall
Kite Feature
Kite structure

0 0.3 0.5 0.8 1
Kilometers

Client: Masdar

Title: Figure 5: Assets at Risk, in close proximity to The Project

Date: 24/08/2023 Scale: @ A3
Drawn: MT Approved: CLQ

Legend

- Heritage Asset Outside of Study Area (Pt)
- Heritage Asset Outside of Study Area (Ply)
- Project Study Area (100m buffer of the Project Boundary)
- Project Boundary

Heritage assets (blue) are labelled based on the Archaeological Survey Report (ASR), undertaken by Areni 1 Cave Scientific Research Foundation in November 2022

Date Saved: 24/08/2023

N

E691
M3
M6
3060 m
H33
Lori
M1
M7
Akhuryan
Armenia
Shirak
Gyumri
Paambak Choy
Vanadzor
M8
Aghstev
H21
ARMENIA
3994 m
H29
Hrazdan
H75
Aragatsotn
Kotayq
M1
H6
M1
Yerevan
D-070
Armavir
M5
Echmiadzin
Yerevan
080-05
Araz
H8
Ararat
Igdir
Igdir
Ararat
D-975
Mount

Title
Figure 6:
Topography of the Project region

Client:
Masdar

0 8 16 24 32
Kilometers

Date: 24/08/2023 Scale: @ A3
Drawn: MT Approved: CLQ

Legend

- Country Boundary
- Project Boundary
- Project Study Area (100m buffer of the Project Boundary)

Date Saved: 09/08/2023

N

M9
H81
M1
Nerkin Talin
M9
1544 m
M9
M9
M9

Title: Figure 7:
The Zone of Theoretical Visibility (ZTV) from Dashtadem Fortress

Client: Masdar

Creator:

0 0.5 1 1.5 2
Kilometers

Date: 09/08/2023
Scale: @ A3
Drawn: MT
Approved: CLQ

Legend

- Dashtadem Fortress
- Area Visible from Dashtadem Fortress
- Area Visible from Dashtadem Fortress after installation of 3m high development
- Project Boundary
- Project Study Area (100m buffer of the Project Boundary)

Date Saved: 09/08/2023

N

Kakavadzor

M9

H81

Nerkin Talin

M9

M9

Figure 8:
The Zone of Theoretical Visibility (ZTV) from Kristapor Church

Client: Masdar

Creator:

0 0.5 1 1.5 2
Kilometers

Date: 09/08/2023
Scale: @ A3
Drawn: MT
Approved: CLQ

Legend

- Kristapor Church
- Area Visible from Kristapor after installation of 3m high development
- Area Visible from Kristapor
- Project Boundary
- Project Study Area (100m buffer of the Project Boundary)

APPENDIX 5 – AYG-1 PV PLANT PROJECT – INTANGIBLE HERITAGE STUDY

Report

Outline Scope

On Ayg-1 PV Plant Project – Intangible Heritage Study

May 2023/ Yerevan

TABLE OF CONTENTS

1. An introduction summary of The Ayg-1 PV Plant Project.

The Ayg-1PV Plant Project represents an important step towards a more sustainable and equitable future. It is an important renewable energy initiative. Generating electricity from solar power can have significant benefits for the environment and for local communities. By using land that is not suitable for agriculture, the Ayg-1PV Plant Project can help to mitigate land use conflicts and promote sustainable development. In addition, the creation of direct and indirect jobs can have positive economic impacts for the region. It's worth noting that solar power has many advantages over other forms of energy. Solar energy is clean, renewable, and widely available, making it an attractive option for reducing greenhouse gas emissions and addressing climate change. Furthermore, solar power systems can be modular and scalable, meaning that they can be easily adapted to different energy needs and can be installed in a variety of locations. The plant will span over 500 hectares, and will create numerous direct and indirect jobs. The Ayg-1 Solar Plant is being developed by a consortium of leading international companies with extensive experience in renewable energy and sustainable infrastructure. The project aims to harness the latest solar technology to create a sustainable and innovative development that meets the energy needs of the local community.

The Ayg-1 Solar Plant infrastructure and construction program is designed to provide a reliable and efficient source of renewable energy to the region. The plant will be constructed in two phases, each with its unique objectives and goals. The first phase will involve the installation of solar panels and other equipment necessary to generate energy. This phase will also include the construction of roads and other infrastructure required to support the installation process.

Overall, the Ayg-1 Solar Plant is an ambitious and forward-thinking project that will provide essential renewable energy to the Talin and Dashtadem pastures. The project is committed to sustainability and innovation, and aims to set new standards in renewable energy and sustainable infrastructure for years to come.

As part of the project's commitment to sustainability and innovation, an intangible heritage study has been conducted to identify and preserve the cultural heritage of the local community.

The intangible heritage study is an important aspect of the Ayg-1 PV Plant Project as it recognizes the value and importance of cultural heritage in sustainable development. By preserving the intangible heritage of the local community, the project is eager to build stronger relationships with the community, promote social cohesion, and contribute to sustainable development.

The intangible heritage study focuses on identifying the traditional knowledge, practices, and expressions that are unique to the four communities: Talin, Dashtadem, Katnaghbyur and Ashnak. The study aims the documentation and preservaition the intangible heritage of the local community, which is an important aspect of their cultural identity. It is also involves working closely with local community members to identify and document their traditional knowledge and practices. This includes conducting interviews with community members, which we will cover in more detail below**.**

2. A review of national legislation, international standards, treaties and conventions relating to intangible heritage

Currently, the state policy of the Republic of Armenia is directed to the preservation, safeguarding, and dissemination of the sector, which is regulated by the laws of the Republic of Armenia and UNESCO International Conventions.

The preservation of intangible cultural heritage is one of the main directions of the state cultural policy of the Republic of Armenia. In recent years, there has been a resurgence in this area, with trends of respect, intimacy and new interpretations of the intangible cultural heritage among the

youth. This is reflected also in the increasing number of NGOs performing preservation activities for a song, dance, handicraft, craftsmanship, folk theater groups and heritage, and various events. Republic of Armenia has a number of laws, standards, treaties, and conventions relating to intangible cultural heritage[1]. Some of the key ones are:

- The Republic of Armenia ratified the UNESCO 2003 Convention for "The Safeguarding of Intangible Cultural Heritage" in 2006[2], and various local and international projects are being implemented to preserve, safeguard and disseminate intangible cultural heritage in the frame of the convention.
- Law on on the basis of cultural legislation of RA, adopted November 20, 2002.[3]
- Law on Intangible Cultural Heritage[4]: In 2009, Armenia adopted a law on intangible cultural heritage, which aims to safeguard, promote, and transmit Armenian intangible cultural heritage.[5]

In the same year a professional council on the issues of intangible cultural heritage safeguarding was established under the RA Minister of Culture in 2009 which, in cooperation with scientific and educational organizations, developed and submitted for Government approval standards for the inventory of RA intangible cultural heritage.

- On March 11, 2010, the RA Government approved the Decision № 310-A[6] "On Defining the Criteria for Preparing the Lists of Intangible Cultural Values and Approving the List of Intangible Cultural Heritage Values. The basis for the process of registration of the intangible cultural heritage in the territory of the Republic of Armenia, the study of the

[1] Intangible cultural heritage is the integrity of customs, traditions, rites, representations and expressions, knowledge and skills as well as the instruments, objects, artifacts and cultural spaces associated therewith as materialized carriers of intangible cultural heritage - that the public, groups and, in some cases, individuals recognize as part of their cultural heritage.
[2] https://ich.unesco.org/doc/src/00009-HY-PDF.pdf
[3] https://cis-legislation.com/document.fwx?rgn=10672
[4] https://www.arlis.am/Annexes/4/INT_HERITAGE_en.pdf
[5] On 7 October 2009, the RA National Assembly adopted the Law on "Intangible Cultural Heritage". The law regulates the legal relations arising from the processes of preservation, safeguarding, and development of intangible cultural heritage, including issues of identification, documentation, research, application, recreation, teaching, dissemination of intangible cultural values, protection of the property rights over such values, maintenance of intangible cultural heritage of the Republic of Armenia, international cultural cooperation, cultural communication between peoples of foreign countries and those of the Republic of Armenia, it defines the procedure for participation of natural and legal persons in this sector, as well as the powers of state bodies.
[6] https://www.arlis.am/DocumentView.aspx?docid=120099

situation, as well as the first list of intangible cultural heritage values were established. On January 20, 2011, the RA Government approved the Decision №6-N[7] on "The Criteria for Preparing the Lists of Intangible Cultural Heritage in Need of Urgent Safeguarding, and the List of Intangible Cultural Heritage Values Based thereon".

- On March 1, 2012, the RA Government approved the Decision №241-N[8] on "Approving the criteria for defining cultural spaces and published the list of cultural spaces." It includes two cultural spaces. Then, in 2019 the appendix has been renewed (The appendix was completed on 12.09.19 N 1302-H)[9].

Those are the main legislative and legal acts of the Republic of Armenia that deal with intangible cultural heritage[10] and which presented in the list above, but it is possible to find other legal acts[11] that deal with this field either. Within the process of preservation of Armenian intangible cultural heritage values, the following applications (7 domains) are inscribed on the representative list of the UNESCO Intangible Cultural Heritage of Humanity[12]:

1. "Duduk and its Music" (2008),
2. "Armenian Cross-Stones Art. Symbolism and Craftsmanship of Khachkars" (2010),
3. "Performance of the Armenian Epic of "Daredevils of Sassoun or 'David of Sassoun" (2012),
4. "Lavash - the Preparation, Meaning and Appearance of Traditional Bread as an Expression of Culture in Armenia" (2014),
5. "Kochari Traditional Group Dance" (2017),
6. "Armenian Letter Art and its Cultural Expressions" (2019).
7. "Pilgrimage to the St. Thaddeus Apostle Monastery" (2020).

[7] https://www.arlis.am/DocumentView.aspx?docid=128637
[8] https://www.arlis.am/DocumentView.aspx?DocID=74224
[9] https://www.arlis.am/DocumentView.aspx?docid=134827
[10] The research and preservation issues of intangible cultural heritage of Armenia are mostly covered by The National Academy of Sciences of the Republic of Armenia, Institutes of Archaeology and Ethnography, Arts, Literature, Language; "Hovhannes Sharambeyan Folk Art Center", "Museum of Literature and Arts named after Charents"; the Cabinet of Folk Arts and the chair of Armenian folk music at Komitas State Conservatory of Yerevan. The Chairs of Folklore, Ethnology, and Culturology at Yerevan State University.
[11] https://int-heritage.am/en/legal-acts/
[12] https://www.unesco.org/en/countries/am

Considering the above, mentioned list, we will emphasize the main domains in the 4 communities that are the object of our study, which are synchronized and are included in the list of the UNESCO Intangible Cultural Heritage of Humanity.

3. Methodology for the intangible heritage study including definitions of study area.

4.

With constant and permanent changes in the geopolitical situation in this region (Republic of Armenia and surroundings) and due to the security of Armenian culture, it has become evident over the past years the way of preservation, presentation and implementation of tangible and intangible cultural heritage.

It is understandable that with constant and permanent changes in the geopolitical situation in the region, there is a need to prioritize the preservation, presentation, and implementation of tangible and intangible cultural heritage for the security of Armenian culture.

Preserving cultural heritage, both tangible and intangible, can play an important role in maintaining a sense of identity, continuity, and resilience in the face of cultural threats and disruptions. This may include efforts to protect historic sites, buildings, and artifacts, as well as traditions, customs, languages, and knowledge systems that are unique to Armenian culture.

In addition to preservation, the presentation and implementation of cultural heritage can also help to promote cultural exchange, understanding, and appreciation. This may involve showcasing Armenian cultural heritage through museums, exhibitions, festivals, and other cultural events, as well as incorporating traditional practices and knowledge into modern contexts and applications.

The preservation of cultural identity for the Armenian people is not only a cultural problem, but also, first of all, a problem of preserving national identity. Taking into account the fact that the formation of independent statehood in the Republic of Armenia is based not only on the political demand of the Armenian people to live independently, but also the preservation of national identity for Armenians, it is of vital importance. In addition to geopolitical processes, any investment project can have both positive and negative effects on community residents. In this

case, since the problem is related to the non-usable areas in the neighborhood of adjacent land, which are pastures, they cannot damage or have a negative impact on the intangible cultural heritage of the area**.**

Through the study we are trying to identify the intangible cultural heritage of the local community: which should identify the intangible cultural heritage of the local community in and around the project area. This may include traditional knowledge, rituals, practices, beliefs, songs, dances, storytelling, crafts, and other forms of intangible heritage that are practiced and transmitted within the community.

It is commendable that through the study, efforts are being made to identify the intangible cultural heritage of the local community in and around the project area. This is an important step towards recognizing and preserving the cultural practices and traditions that are unique to the community.

Intangible cultural heritage can take many forms and may include traditional knowledge, rituals, practices, beliefs, songs, dances, storytelling, crafts, and other forms of intangible heritage that are practiced and transmitted within the community. By identifying and documenting these practices and traditions, it becomes possible to raise awareness and appreciation for the cultural richness and diversity of the community.

Furthermore, recognizing and preserving intangible cultural heritage can also help to promote intercultural dialogue, respect for diversity, and social cohesion. It can also contribute to sustainable development by providing opportunities for cultural tourism and cultural entrepreneurship, as well as supporting the transmission of traditional knowledge and skills to future generations.

Armenia is known for its rich cultural heritage, including intangible heritage that is transmitted from generation to generation through oral traditions, music, dance, crafts, and other cultural practices. Some examples of intangible heritage in the *Talin, Ashnak, Katnaghbyur* and *Dashtadem* of Aragatsotn province include the following:

Armenian **traditional music**, which includes various genres such as Sharakan[13], Ashoughakan[14], and Gusanakan[15]. The music is performed during different cultural events such as weddings, funerals, and religious ceremonies.

Armenian **traditional dance**, which includes various regional styles such as ***Kochari,*** Yarkhushta, and Shalakho. The dances are usually performed in groups and are accompanied by music.

Traditional crafts such as carpet weaving, pottery, and woodcarving, which have been passed down from generation to generation.

Traditional cuisine, which includes dishes such as khorovats (barbecue), dolma (stuffed grape leaves), and lavash (flatbread).

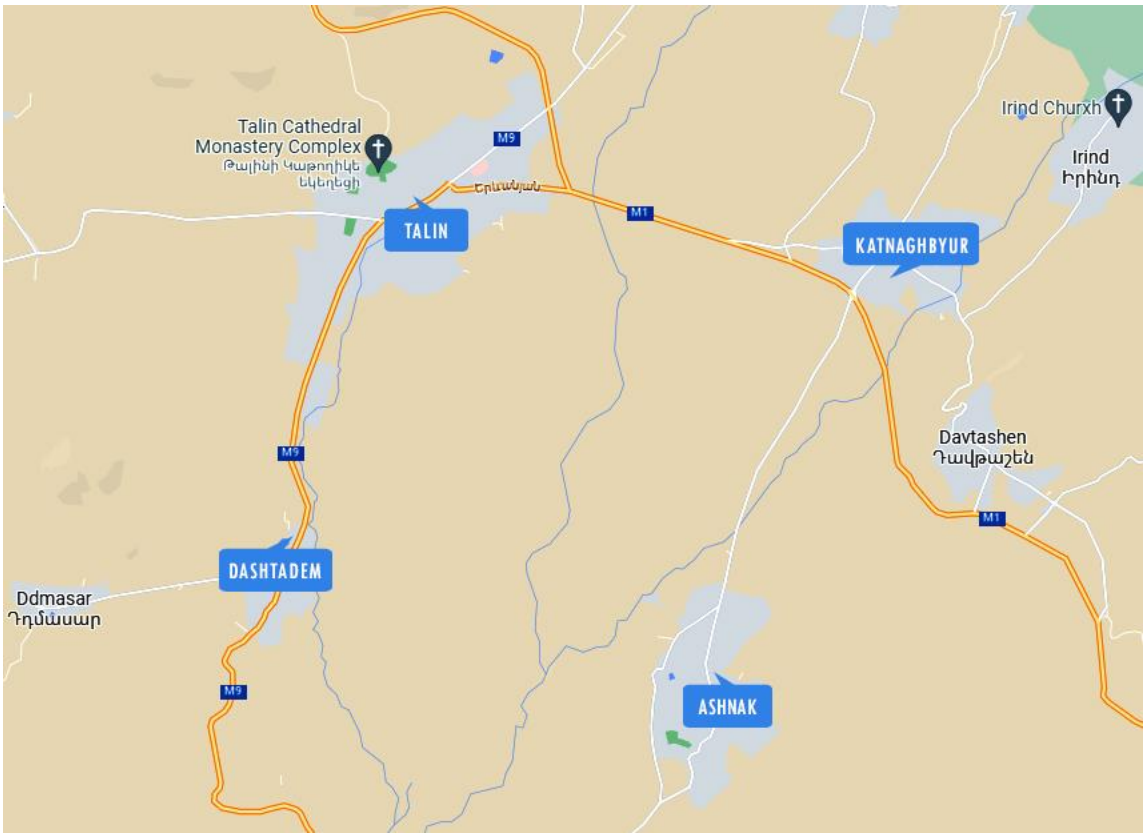
Cultural heritage is not limited to material objects only. It is a closely interconnected set of tangible and intangible heritage, and it is no coincidence that in any new project, the impact on one component of heritage can have both a positive and a negative impact on the other as well.

Beforehand, let's briefly present the current descriptions of the four communities in the vicinity of the Ayg-1PV Plant Project and the situation and characteristics of the surrounding communities **(Picture N 1).**

[13] Armenian liturgical sacred songs used during Holy Mass of the Armenian Apostolic Church.

[14] Ashughakan- the musical language of being a blend of several musical traditions (primarily Armenian national music, called ashugh. [Bardic-style]

[15] Gusanakan is a music style which comes from a word gusan which means a creative and performing artist – singers, storytellers, and professional folk actors in public theaters of medieval Armenia. The word “gusan” is first mentioned in early Armenian texts of V century. According to some scholars the word Gusan derives from the Armenian govasan “praiser”.



Talin is a town in the Aragatsotn region of Armenia, located north-west of the Ayg-1PV Plant Project and like many other communities, it has a rich intangible cultural heritage that is closely tied to the daily lives of its residents.

One example of the intangible cultural heritage in Talin is traditional Armenian dance. The town is home to several dance groups that practice and perform a wide range of traditional Armenian dances, including the ***Kochari*****,** *Yarkhushta*[16] and *Shalakho*. These dances are often performed at weddings, festivals, and other cultural events in the community.

The community in Talin is deeply connected to its intangible cultural heritage and takes great pride in preserving and promoting its cultural traditions.

Overall, the intangible cultural heritage in Talin is an important part of the town's identity and is cherished by its residents. It plays a vital role in connecting the community to its past, present, and future, and serves as a source of pride and inspiration for generations to come.

[16] Yarkhushta is an Armenian folk and martial dance associated with the highlands of the historical region of Sasun in Western Armenia.

Dashtadem is a village in the Aragatsotn Province of Armenia located west of the Ayg-1PV Plant Project. Like many other communities Dashtadem has its own intangible cultural heritage, which refers to the living traditions, knowledge, skills, and customs passed down from generation to generation within a particular community.

One example of the intangible cultural heritage in Dashtadem is traditional Armenian music. The village has a long history of musical culture, with many locals practicing and performing traditional Armenian instruments such as the **duduk,** the *zurna*, and the *tar*. The villagers also have their own unique style of singing, which has been passed down through the generations.

Another example of the intangible cultural heritage in Dashtadem is traditional Armenian cuisine. The village is known for its delicious food, which is often made using locally grown ingredients such as herbs, vegetables, and fruits. Some of the most popular dishes include dolma, khorovats (barbecue), and khash (a traditional Armenian soup made from cow or sheep feet).

The community in Dashtadem is closely connected to their intangible cultural heritage, and many of the village's traditions and customs have been preserved through the efforts of local residents. For example, the village hosts an annual festival to celebrate its cultural heritage, featuring traditional music, dance, and food. The festival is an important event for the community, providing an opportunity for locals to come together and share their cultural traditions with visitors from around the world.

Katnaghbyur is a village in the Aragatsotn region of Armenia, located north-east of the Ayg-1PV Plant Project. The village has a rich intangible cultural heritage that is closely tied to the daily lives of its residents. One example of the intangible cultural heritage in Katnaghbyur is traditional Armenian embroidery. The village is known for its skilled artisans who produce intricate and colorful embroidery designs on various fabrics, such as tablecloths, pillowcases, and traditional Armenian costumes. Many of these embroidery designs have been passed down through generations and are still practiced and taught by local families today.

Another example of the intangible cultural heritage in Katnaghbyur is traditional Armenian cuisine

The community in Katnaghbyur is deeply connected to its intangible cultural heritage and takes great pride in preserving and promoting its cultural traditions.

Overall, the intangible cultural heritage in Katnaghbyur is an important part of the village's identity and is cherished by its residents. It plays a vital role in connecting the community to its past, present, and future, and serves as a source of pride and inspiration for generations to come.
Ashnak is a village in the Aragatsotn region of Armenia, located south-east of the Ayg-1PV Plant Project. In comparison with the above mentioned 3 communities (Talin, Dashtadem, Katnaghbyur,) it has a unique intangible cultural heritage. Since in 2019, Ashnak village/community has been included in the RA Government approved Decision №241-N "Approving the criteria for defining cultural spaces." The appendix was completed on 12.09.19 N 1302-H.)[17]
An outstanding intangible cultural heritage in Ashnak is traditional Armenian music. The village is known for its skilled musicians who play a wide range of traditional Armenian instruments,

[17] https://www.arlis.am/DocumentView.aspx?docid=134827
The historical village of Ashnak was one of the largest settlements in the Aragatsotn province of the Ayrarat region (formerly also Ashnak). The first written mention of autumn dates back to the 5th century. Narrator Yeghishe mentions that it was a large settlement, a winter residence of the king and a military station. A 4th-5th century church exists in the village, which was renovated in recent years. South of the village is located a castle of 2-1 millennium. The ruins of the fortress-summerhouse of the Armenian king Arshak 2nd and many other ancient sites have been preserved in the territory of the village. Early Stone Age tools were found, which according to archaeologists are around 15-17 thousand years old.
1918-1920 Ashnak was resettled by survivors of Western Armenian (nowadays territory of Turkiye) emigrants from dozens of villages in Sasun province of Western Armenia (mainly from Pirshenq, Mshgegh, Mkteng, Chrtnik, Khabljoz, Baloenq, Hosnout, Talhor, Gomq, Goshak, Qachrenq and other settlements). Settlers brought with them to Ashnak the culture of the Taron world, especially the Sasno and Msho dances and songs, which were created in pre-Christian times. "Dance of Ashnaktsi" is one of the unique values of Armenian intangible cultural heritage. In 1926 the ethnographic dance group "Sasun" was formed, which in 1957 was recognized as the winner of the international youth festival held in Moscow and was awarded a gold medal.
The people of Ashnaksi are not only the bearers of traditional song and dance, but also epic writing, dialect, traditional material and spiritual culture. The stories of the tellers of Ashnakts community are included in the epic "Sasna Tsrer".
In the community the House-museum of Gevorg Chaush operates, where every year on May 27, the martyrdom day of Haydukapet Gevorg Chaush is celebrated with great pomp.
Located in the foothills and having the life-giving water of Aragats, Ashnak grows the best apricots in the world, which all Armenians know about from Gevorg Emin's famous poem "The Dance of the Compatriots".
Ashnak village is located at an altitude of 1420 m above sea level, at the foot of Aragats mountain, about 60 km away from the capital. 2016 according to data, Ashnak has around 3000 inhabitants. Many cultural and state figures, scientists, writers were born in autumn. The village has about 4,000 hectares of land, of which 400 hectares are arable land, 120 hectares are homesteads, and the rest are pastures. The population is engaged in animal husbandry and gardening. Apricot cultivation is a promising and dominant branch of autumn economy. The village is well-maintained, gasified, but there is a lack of irrigation and drinking water. Residents of the community also complained about the latter.
In Ashnak there is a high school, a kindergarten, a cultural center, a banquet hall, a medical center and a newly built chapel.

including the **duduk**[18]**,** *the tar*, and *the kamancha*. These instruments are often played at local weddings, festivals, and other cultural events, and are an important part of the village's cultural identity.

Another example of the intangible cultural heritage in Ashnak is traditional Armenian dance. The village is home to several dance groups that practice and perform a wide range of traditional Armenian dances, including the **Kochari**[19], *Shalakho*, and *Yarkhushta.* These dances are often performed at weddings, festivals, and other cultural events in the community.

The community in Ashnak is deeply connected to its intangible cultural heritage and takes great pride in preserving and promoting its cultural traditions. The village hosts several annual festivals and events that celebrate its cultural heritage, including the Ashnak Music Festival, which showcases the village's rich musical traditions, and the Ashnak Dance Festival, which highlights the region's unique dance heritage.

Overall, the intangible cultural heritage in Ashnak is an important part of the village's identity and is cherished by its residents. It plays a vital role in connecting the community to its past, present, and future, and serves as a source of pride and inspiration for generations to come.

The data on permanent population living in the above 4 communities can be seen in **Table 1.**

Table 1

N	Name of the community	Number of permanent population as of January 1, 2022, person[20]	Area km2
1	Talin	4 042	4.4 km2
2	Ashnak	1 348	4.4 km2

[18] Duduk and its music. Inscribed in 2008 on the Representative List of the Intangible Cultural Heritage of Humanity (originally proclaimed in 2005).
More particular information about it can be found here: https://ich.unesco.org/en/RL/duduk-and-its-music-00092

[19] Kochari, traditional group dance. Inscribed in 2017 on the Representative List of the Intangible Cultural Heritage of Humanity.
More particular information about it can be found here: https://ich.unesco.org/en/RL/kochari-traditional-group-dance-01295

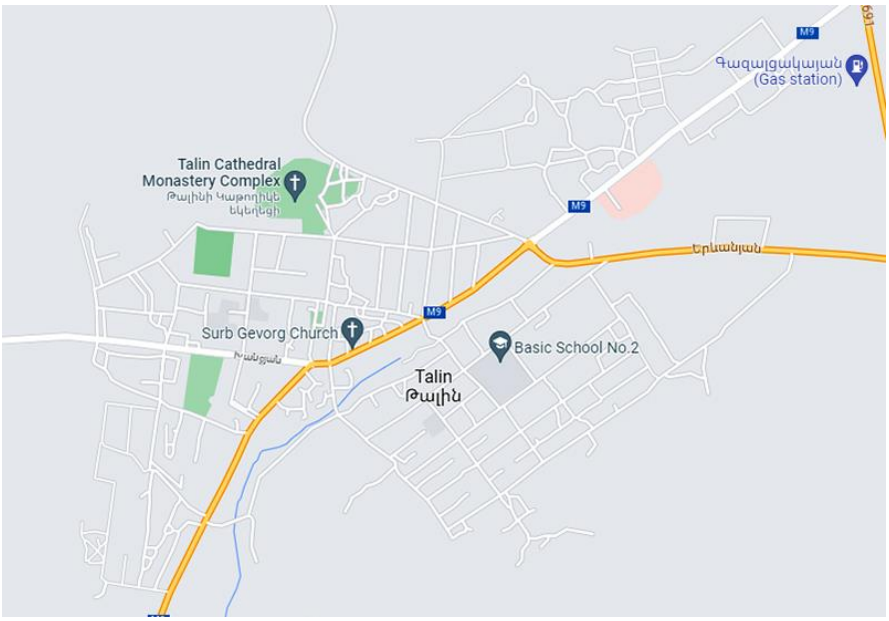
[20] https://armstat.am/file/doc/99533598.pdf

3	Katnaghbyur	1 189	1288 km2
4	Dashtadem	556	3.28 km2

5. A summary of resources intangible cultural heritage including communities.

It is essential for any development project to consider the potential impacts on intangible cultural heritage and to engage with local communities to understand their cultural practices and traditions. This can be helpful to identify potential impacts and develop strategies to mitigate them, such as preserving cultural sites or providing alternative spaces for cultural practices to continue. For the most comprehensive and important study prerequisites, we mapped the four communities and conducted interviews with the residents.

Community 1 Talin



Interviewee 1

Personal information

Name, Surname

Mnats Yenoqyan

Age 18

Occupation student

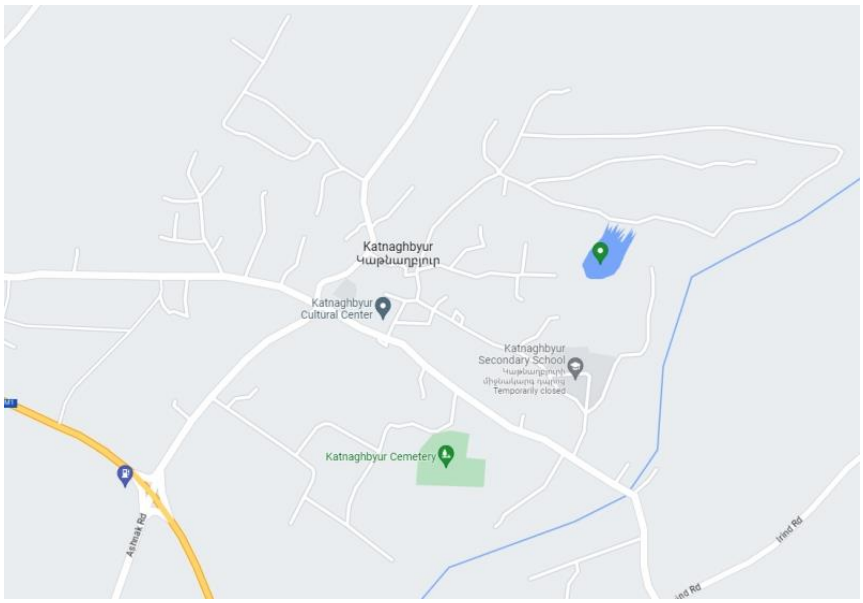
Profession

Place of Residence Talin

He has a positive opinion about the project of AYG, but he insists that it should not exceed the norms and standards.

He thinks that there are no intangible values in that area, at the same time he claims that it is not a pasture, it is an unusable area.

Community 2 Katnaghbyur



Interviewee 2

Personal information

Name, Surname

Yeghishe Amiryan

Age 54

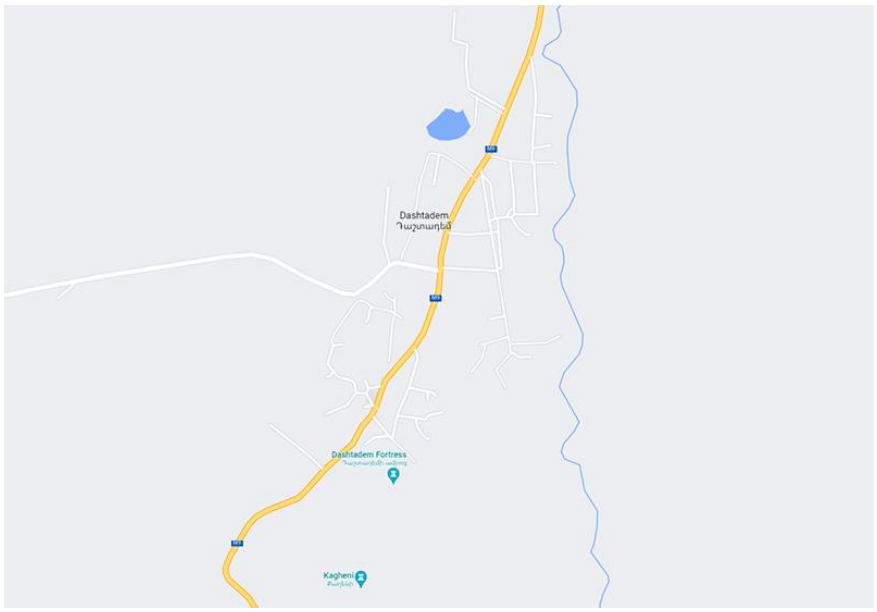
Occupation Pedagogy, teacher

Profession educator

Place of Residence Katnaghbyur

Times have been changed and believes that such development projects are very important for the communities, also believes that the place is unusable and there are no preserved years in terms of intangible heritage.

Community 3 Dashtadem



Interviewee 3

Personal information

Name, Surname

Ashot Davtyan

Age19

Occupation Student

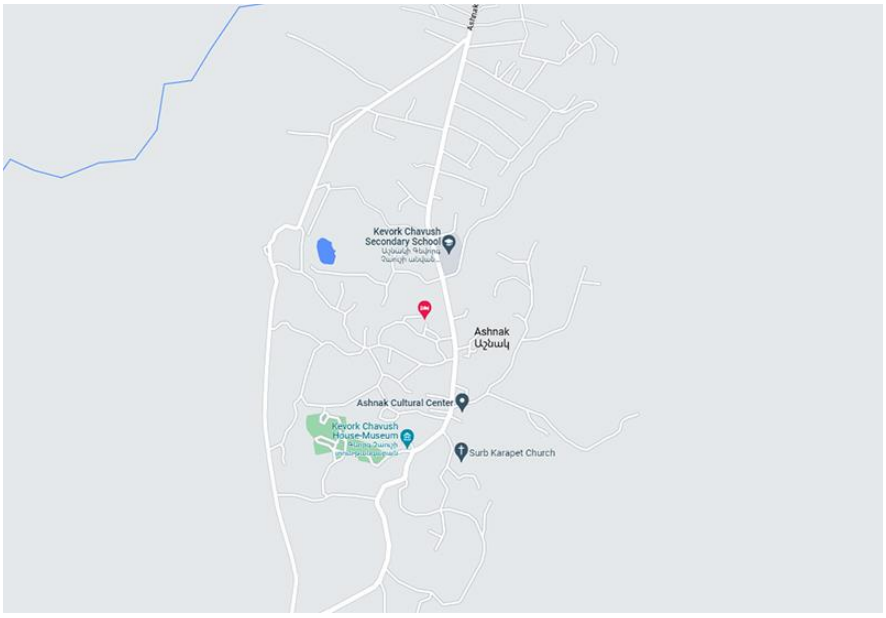
Profession

Place of Residence Dashtadem

Emphasizes the latest technologies and smart house ideas and believes that there are no intangible heritage objects in wastelands,(he means Ayg1 land)) basically what is preserved is preserved in the community.

Community 4 Ashnak

Interviewee 4



Personal information

Name, Surname

Lernik Melqonyan

Age 71

Occupation retired

Profession

Place of Residence Ashnak

He complains that there is a water problem, that area does not even serve as a pasture, It's a wasteland. He says that his ancestors came here from Western Armenia, but he does not remember that that area or surroundings have ever served as an intangible cultural space of pilgrimage.

However, based on the interviews it seems to suggest that the residents view that land(area) as a place that is considered unusable. Additionally, it appears that the residents do not have any attachment to the cultural heritage of the area, and do not express concern of existence of any intangible cultural heritage. While it is possible that there may not be any intangible cultural heritage associated with the land, and as it is known the historical and cultural significance of the area also its not played a significant role in the community's history or have symbolic meaning. Summarizing we can state it seems that the residents view the area as unusable and do not have any attachment to the cultural heritage of the area, including any intangible cultural heritage.

6. **Overview of intangible heritage resources (UNESCO domains)**

Intangible heritage resources are cultural expressions, practices, and knowledge that are transmitted from generation to generation and are rooted in communities' cultural identity. These resources may be affected by various factors, including natural disasters, cultural changes, urbanization, globalization, and economic development. The impact of these factors on intangible heritage resources may vary depending on the context, the type of heritage, and the community's perception of its value. Based on this report, it appears that the planned constructions in the distinct location of pastures for The Ayg-1PV Plant Project will not have a direct impact on the intangible cultural heritage of the surrounding communities and cannot affect to it. However, it is important to note that the objects included in the UNESCO list that are preserved only in the communities may still be of cultural significance and should be considered in any decision-making process related to development in the region. It is important to balance the needs of economic development with the preservation of cultural heritage to ensure a sustainable future for the region.

Nevertheless, there are objects included in the UNESCO list that are preserved only in the communities, [Table 2] this suggests that there may be important intangible cultural heritage elements that are not as visible or widely known as other cultural heritage elements. These objects represent unique cultural practices, traditions and knowledge that are specific to the communities in which they are preserved. The consultations show that the communities that preserve these objects don't even afraid to lose it, since they still keep cultural significance of that and pass through generation to generation.

In general, within the process of preservation of Armenian intangible cultural heritage values, the following applications (7 domains) are inscribed on the representative list of the UNESCO Intangible Cultural Heritage of Humanity:

1. "Duduk and its Music" (2008),
2. "Armenian Cross-Stones Art. Symbolism and Craftsmanship of Khachkars" (2010),
3. "Performance of the Armenian Epic of "Daredevils of Sassoun or 'David of Sassoun" (2012),

4. “Lavash - the Preparation, Meaning and Appearance of Traditional Bread as an Expression of Culture in Armenia” (2014),
5. “Kochari Traditional Group Dance” (2017),
6. “Armenian Letter Art and its Cultural Expressions” (2019).
7. “Pilgrimage to the St. Thaddeus Apostle Monastery” (2020).

Table 2 (UNESCO domains)

Intangible Cultural Heritage				
Domain	**Category (examples)**	**Associated cultural tangible heritage**	**Name of the object inscribed in the UNESCO list**	**Name of the Community**
Traditional craftsmanship	Building	Plant/tree cultivation, sand/clay/**stone** quarries, construction tools	**“Armenian Cross-Stones Art. Symbolism and Craftsmanship of Khachkars” (2010)**	**TALIN KATNAGHBYUR DASHTADEM ASHNAK**
	Potting	Clay quarries, workshops, ceramics		
	Furniture making	Trees & plants cultivated/managed to provide raw materials	**“Duduk and its Music” (2008)**	**ASHNAK**
	Metallurgy	Furnaces, crucibles, slag		
Oral traditions & expressions	Legends, storytelling	Artistic depictions, texts	**“Performance of the Armenian Epic of “Daredevils of Sassoun or 'David of Sassoun”(2012)**	**TALIN KATNAGHBYUR DASHTADEM ASHNAK**

Performing arts	Song**, <u>dance</u>,** theatre	Performance spaces, costume, masks	**“Kochari Traditional Group Dance””(2017)**	**ASHNAK**
Social practices, rituals and festive events	Rites of passage	Sacred groves, personal adornment		
	Funerary traditions	Places of burial, ancestral shrines		
	Worship	Places of worship, shrines, votive offerings, sacred trees/rivers/rocks		
Knowledge and practices concerning nature and the universe	Migration patterns	Traps, weapons, zooarchaeological remains		
	Fish spawning/migration	Fish traps, water management features		
	Seasonal changes	Building materials, design, orientation		
	Astronomy/astrology	Stone/wood circles, artistic expression		

In summary, intangible cultural heritage of the 4 communities cannot be affected by the “Ayg-1” project as there is no special connection with the land and location and overall, the protection and promotion require special supportive policies and programs which recognize the cultural and economic value.

7. Outcome of meaningful consultation identifying affected intangible heritage

It is important for any development project to consider the potential impacts on intangible cultural heritage and to engage with local communities to understand their cultural practices and traditions. This can help to identify potential impacts and develop strategies to mitigate them, such as preserving cultural sites or providing alternative spaces for cultural practices to continue. In general, however, any construction or development project has the potential to impact the intangible cultural heritage of a site. Intangible cultural heritage refers to practices, expressions, knowledge, and skills that are passed down from generation to generation and are an integral

part of a community's cultural identity. These can include traditions, customs, rituals, music, dance, storytelling, and many other forms of cultural expression.

For example, if Ayg 1 project involves the destruction of a traditional gathering place or the displacement of a community that has practiced certain cultural traditions for generations, it could have a significant impact on the intangible cultural heritage of the site. However, in this case, it cannot be considered as an obstacle and have an impact on the land, because as the interviews show this area is uncultivated land and has no special connection with the intangible cultural heritage.

It could be harmful if only in this context the pastures in question were considered to be special pastures handed down from generation to generation or used, full of traditions.

Since, pastures are important cultural landscapes that have been shaped by humans for centuries. They are often associated with traditional pastoral activities, such as grazing, herding, and milk production. As such, pastures can hold significant intangible cultural heritage.

One example of intangible heritage in pastures is the traditional knowledge of pastoralists. This includes their knowledge of the landscape, the behavior and care of animals, and the production of dairy products. It is often passed down from generation to generation and is a crucial aspect of pastoral communities. However, in this case, the above-mentioned pastures are not considered and classified as similar pastures, because these are completely unusable lands. Even considering them as agricultural lands is not realistic, since a land is considered unusable for agriculture, it can not l hold intangible cultural heritage associated with traditional agricultural practices, knowledge, and social and cultural practices. The residents of the community also confirmed that these are not pastures but unusable land.

Summarizing, we can conclude that the interviews conducted with the residents of the neighboring communities, the research done show that there is no connection to intangible cultural heritage in the area due to a lack of important cultural memory or inherited elements.

Although, as the research shows, there are distinct intangible heritage elements in the surrounding communities, which are included in the state lists and the works of their conservation and study and popularization are being carried out. This suggests that there may be a wider cultural context to the region. The lack of important cultural memory in the specific area

being studied necessarily mean that there are no intangible cultural heritage elements concrete at AYG 1 area.

Overall, it is important to recognize the significance of Armenian cultural heritage, identifying and preserving intangible cultural heritage is an important task that can help to promote cultural diversity, respect for tradition, and sustainable development in the project area and beyond.

It may be worthwhile if there is a special need, to examine the broader cultural context of Aragatsotn region, including other communities and their intangible heritage elements, to better understand the cultural landscape of the area nearby and wider surroundings.

Furthermore, it is important to consider the impact of development on the preservation of cultural objects and sites. In this case, the land where Ayg 1 is planned to be constructed has no connection to the intangible cultural objects.

It is important to engage in open and respectful dialogue with communities and stakeholders to identify mutually beneficial solutions that take into account both the cultural significance of the object and the development needs of the community.

Ayg-1 PV Plant Project can not affect the intangible cultural heritage of the site.

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*The descriptions in the report do not imply the expression of any opinion whatsover on the part of any NGO, company or others concerning the legal status of any community or territory. The interviews were done with proffessional approach by Gevorg Orbleyan and in general the report has been prepered by expert Gevorg Orbelyan (with the background of museologist).

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