

**Preparation of the nomination of the Object
"Rock paintings of the Shulgan-Tash Cave"
into the UNESCO World Heritage List**



The Shulgan-Tash Cave is widely known in the academic community as Kapova Cave, in Russia it possesses the status of the object of cultural heritage of federal importance. The monument is considered as one of the oldest excursion caves in Russia. Annually up to 40 thousand tourists come to visit it in Burzyansky District of the Republic of Bashkortostan. On January 30, 2012, the UNESCO World Heritage Committee decided to include the natural and cultural complex "Bashkir Ural", which includes the archeological monument of the paleolithic period - the Shulgan-Tash Cave, to the preliminary UNESCO World Heritage List in nomination "combined object of natural and cultural heritage". Later, government of the Republic of Bashkortostan decided to prepare a separate nomination of the Object under the name "Rock paintings of the Shulgan-Tash Cave"

The Object "Rock paintings of the Shulgan-Tash Cave" is supposed to be nominated in two categories, according to which it should:

(i) be the masterpiece of the creative genius of a man;

(iii) be unique or at least exclusive evidence of cultural traditions or existing or disappeared civilization

The project of the Object promotion and inclusion into the World Heritage List is of immense importance for the people of surrounding localities. Strong promotion of projects for the development of the recreational infrastructure of the Object contributes to the creation of additional jobs, preservation of traditions and revival of folk crafts. In 2017 settlements, adjacent to the Object, were provided with cellular coverage and high-speed Internet. In 2018 federal and regional enterprises will start construction of motor roads, provide increased power supply and gas infrastructure development of Murat-Tugai, Gadelgareevo and Irgizly villages areas

The idea of the "Rock paintings of the Shulgan-Tash Cave" Object inclusion into the UNESCO World Heritage List has become a powerful stimulus for activating its scientific study and creating a reference management system

Leading scientific institutions of Russia and Bashkortostan have joined the development of the nomination: the Institute of Archeology of the RAS (Russian Academy of Science), the Institute of the History of Language and Literature of the Ufa Scientific Center of the RAS, the All-Russian Karpinsky Geological Institute, Ufa Institute of Biology of the RAS and many others

Graffiti and wall contamination removal works were carried out



Works was supervised by an art restorer, specialist in preservation and restoration of rock and wall paintings Eudald Guillamet (Andorra). Starting from fall 2015, 5 expeditions for cave cleaning have been performed. 824 readable graffiti were removed



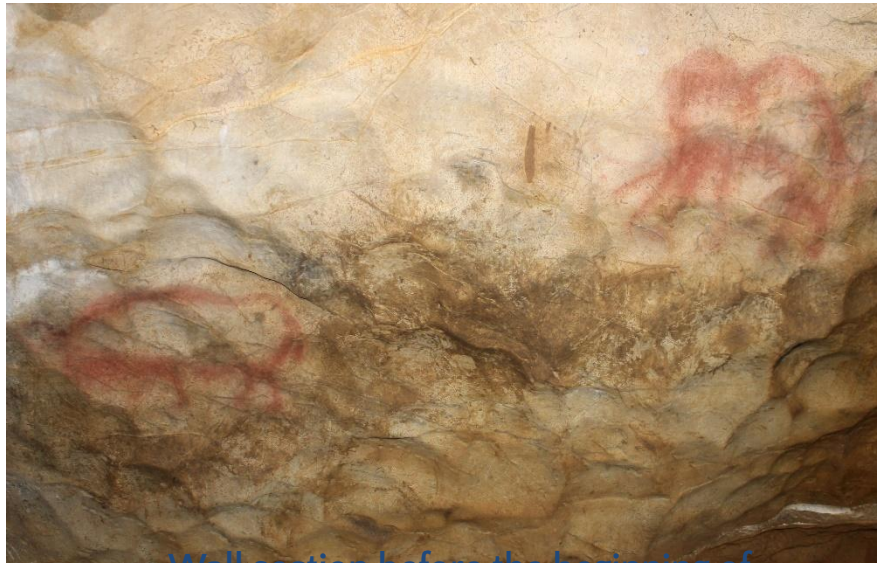
Wall section before the beginning of works



The same wall section after completion of works

Results of contamination removal from the walls of the hall of Paintings

For a long time the Shulgan-Tash Cave was opened for free visiting. Anyone had the opportunity to go to the originals of rock paintings. As a result, many visitors left a lot of fingerprints and dirty clothes marks near the paintings. All these were removed in June 2017. In the course of works the restorers did not touch the paint layer of the paintings themselves. Now the paintings are not separated by dirty spots and look like entire compositions



Wall section before the beginning of works



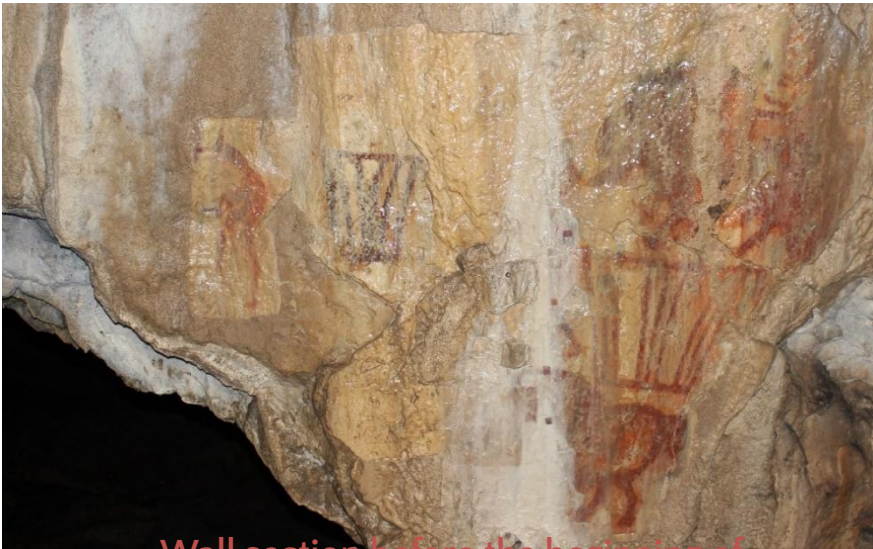
The same wall section after completion of works

In 2018, by the decision of the Government of the Republic of Bashkortostan, the Shulgan-Tash Cave halls containing ancient paintings are officially closed for tourist visits

Works on calcite clearing of the composition "Horses and Signs" were continued

The composition of ancient paintings "Horses and Signs" of the Chaos Hall was opened in the second half of the 1970s by the expedition of the Institute of Archeology of the USSR Academy of Sciences under the leadership of the famous archaeologist O.N. Bader

In 2017, on the left flank of the composition was opened the image of a two-humped camel, made in the interval of time period from 14,5 to 40 thousand years ago



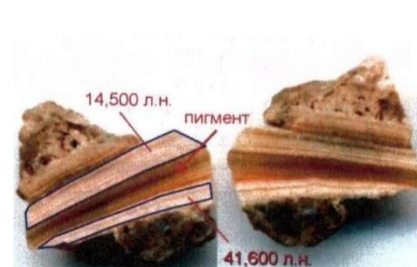
Wall section before the beginning of works



The same wall section after completion of works

Works on specification of the age of rock paintings has been carried out

The radiocarbon dates of the age of cultural deposits, containing traces of paintings and fragments of colorful images, refer to the time period of 14-19 thousand years ago



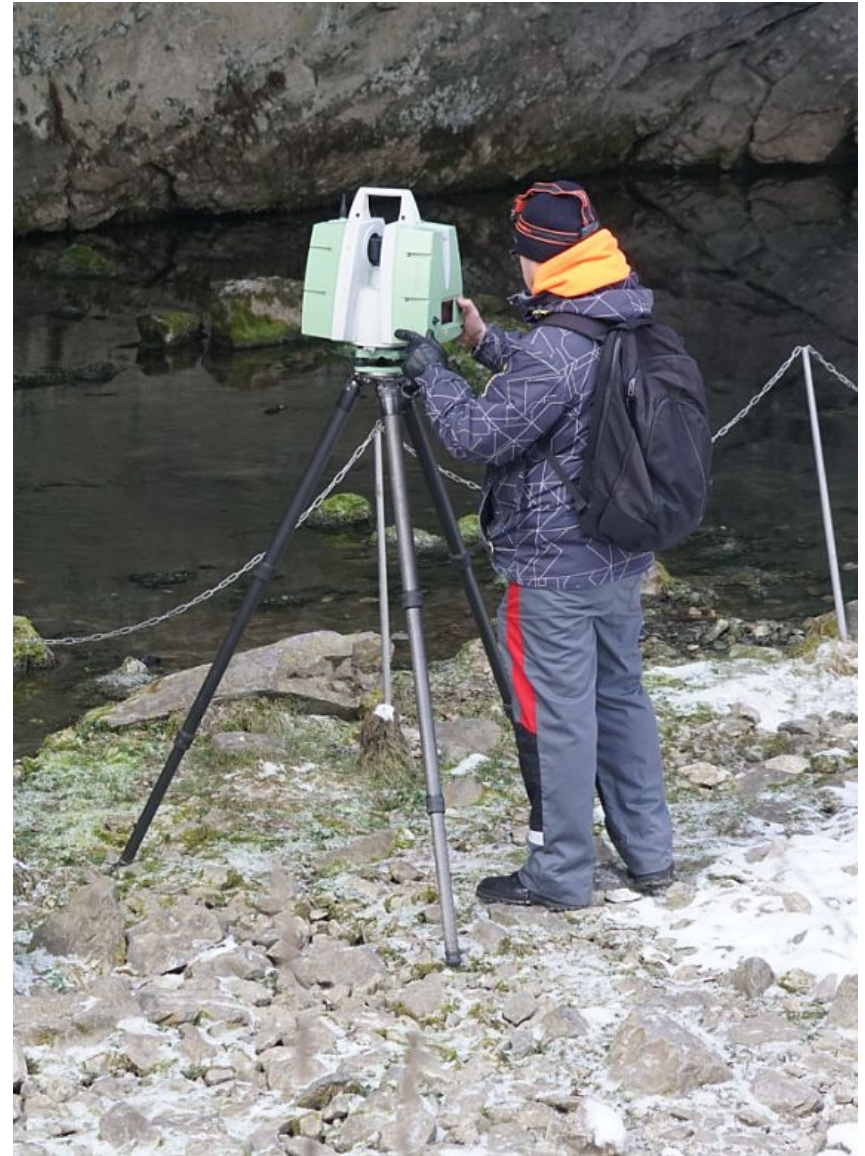
According to the uranium-thorium dating the paintings are dated within the interval from 44 to 14.5 thousand years ago

Works on 3D scanning of the cave cavity were carried out

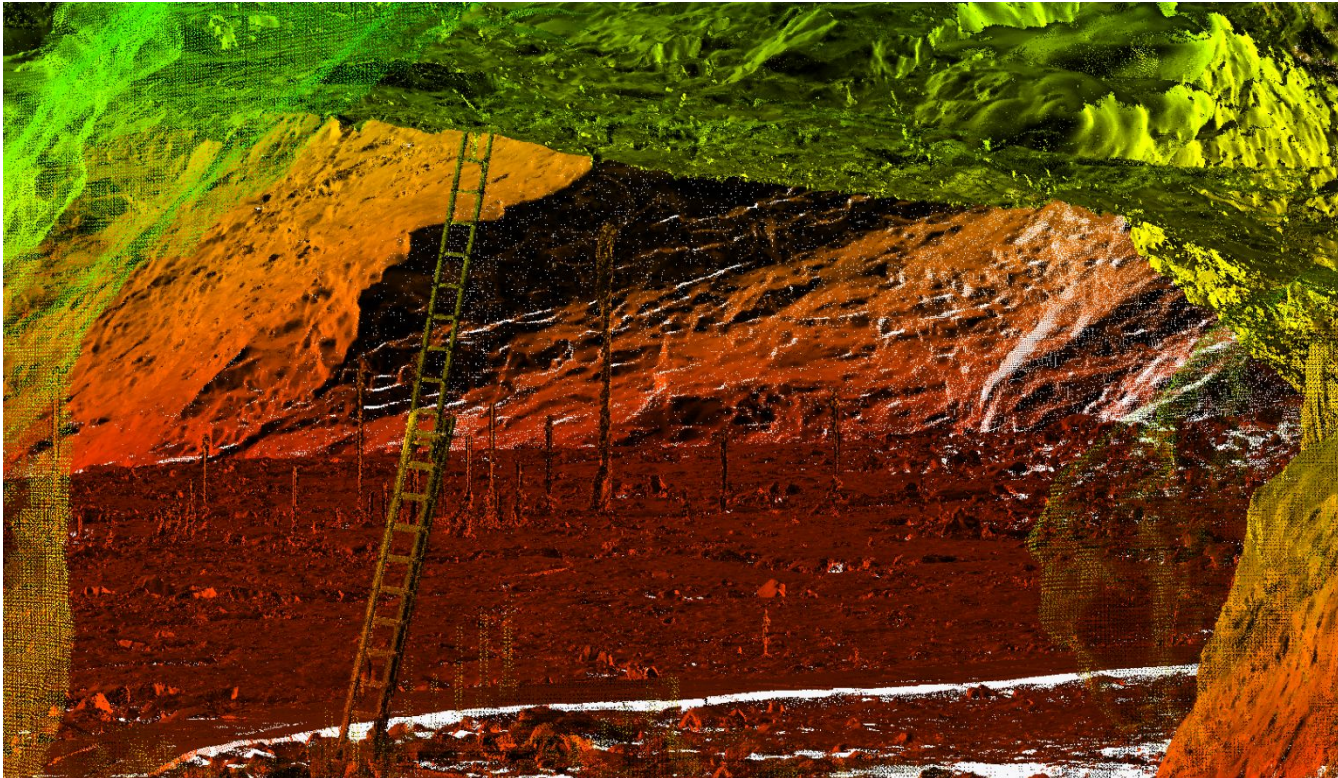


Specialists have the following tasks:

- Laser scanning of the cave cavity;
- Multi-angle shadow photography of rock paintings with subsequent photogrammetric processing;
- Airborne laser scanning of the surface relief of the cave massif and the territory, as well as the buffer zone of the Object;
- Creation of 3D model of the cave;
- Training the personnel of the management institutions the most important principles of work with three-dimensional model



The results of 3D scanning will be presented at the upcoming IV International Symposium "Museumification of Historical and Cultural Heritage: Theory and Practice" (June 21-24, 2018)



The 3D model will become the basis for conducting natural-scientific monitoring of the Shulgan-Tash speleosystem. Scientists will try virtually simulate natural processes, taking place in the cave

Using Onset HOBO, USA, loggers and sensors (microclimate, hydrological mode), Tinytag "Stalagmate", Great Britain (infiltration water), CORA, Austria (carbon dioxide) and so on, an electronic monitoring system for the cave was developed



Recorders
U30-NRC-VIA-10-S100-000



Sensors CO₂
TEL -7001



Atmospheric pressure
sensors S-BPB-CM50



Temperature and
humidity sensors
S-THB-M008



Date-loggers
HOBO Pro v2 U23-001

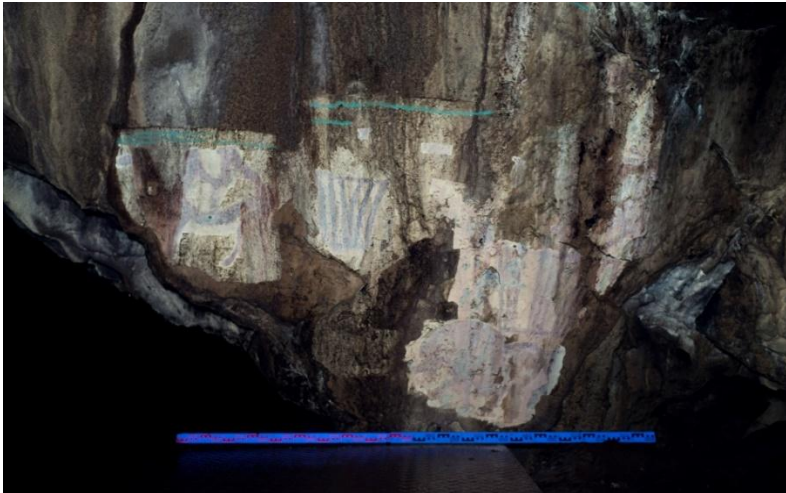


Water temperature
recorders HOBO Pro
v2 U22-001

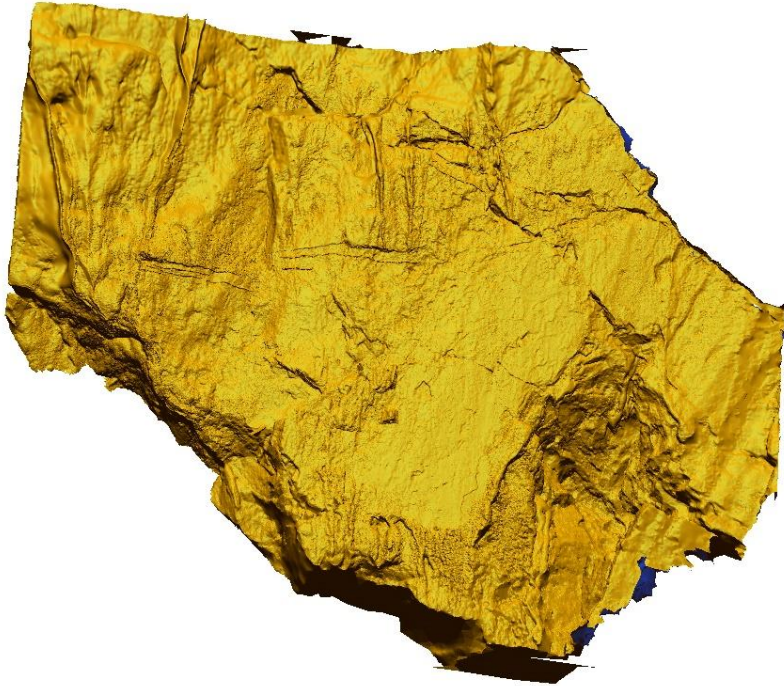
Monitoring of dynamic geo-ecological parameters of the "Shulgan-Tash" spelecosystem is performed in the following directions:

1. The level of the Blue, Round, Great Upper and Far Lakes is measured;
2. The flow rate of Shulgan river and its tributaries (r. Karan, Kharala, Anton);
3. The level of mineral content (hydrochemical composition) of surface waters associated with the "Shulgan-Tash" karst system is measured;
4. A year-round collection of meteorological data in the buffer zone of the Object is performed;
5. Periodic collection of data on microclimatic parameters of the karst cavity of the Object is carried out:
 6. Air temperature;
 7. Air humidity;
 8. Water temperature;
 9. Walls temperature;
10. Ground temperature;
11. Air velocity and direction;
12. Radon concentration;
13. Carbon dioxide concentration;
14. Atmospheric pressure;
15. Monitoring the number and composition of the "Shulgan-Tash" karst system microbiota and associated surface waters.

During the year 2017 personnel of the Institute of Archeology of the Russian Academy of Sciences started works on studying the rock paintings by non-destructive methods



Recording and creation of 3D models of wall sections with rock paintings was performed



Copies of walls sections with ancient paintings will be created. These copies will take the central exposition of the designed Historical and Cultural Museum Complex "Shulgan-Tash"

Replacement of old and collapsing stairs was carried out



The Shulgan-Tash has a complex morphology of karst cavities. Painting of the paleolithic period is located on the first and second floors of the cave. Access to the originals of the paintings is complicated by passage through areas of blocky piles and ascent to the second floor of the cave

In 2018 the tracing of the most difficult sections of the route will be completed. The installation of ladders and stairways is carried out to provide safety of employees performing monitoring of the cave and protect its archaeological cultural layer



Strong campaign aimed at promotion of the Shulgan-Tash is being carried out

The International Symposium on the issues of safekeeping and preservation of rock paintings is held not far from the cave on the annual basis

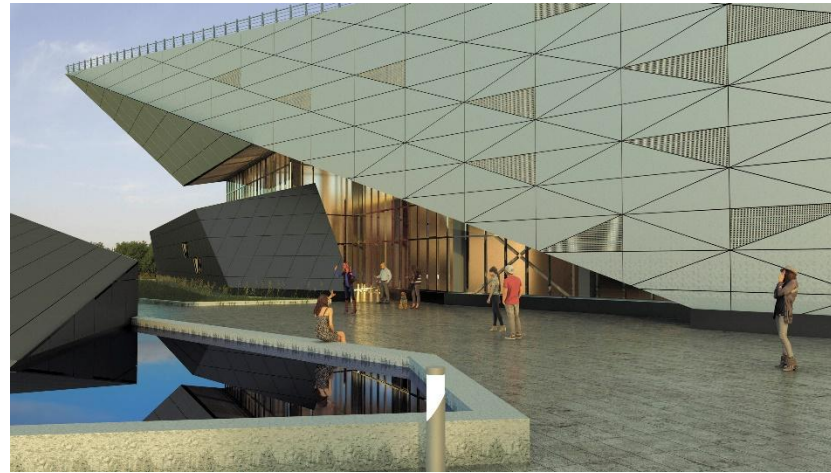
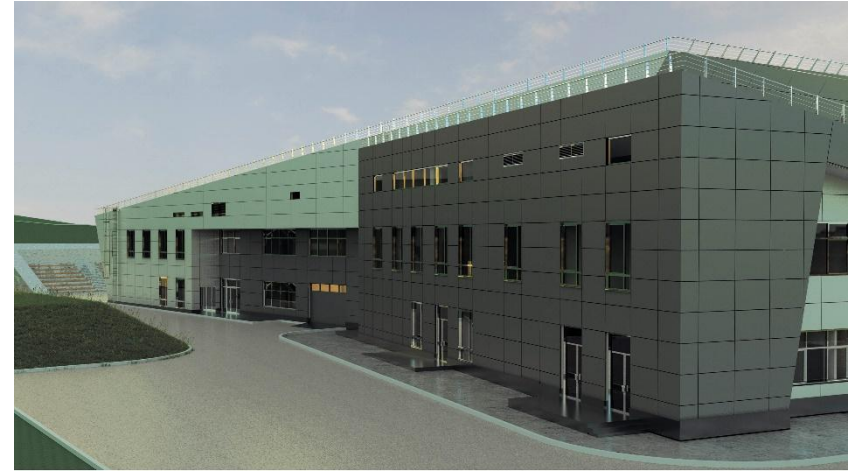


Monographs, collections of scientific articles, popular scientific books are published. The unique line of souvenirs is being developed

The project for the construction of the Historical and Cultural Museum Complex "Shulgan-Tash" is prepared

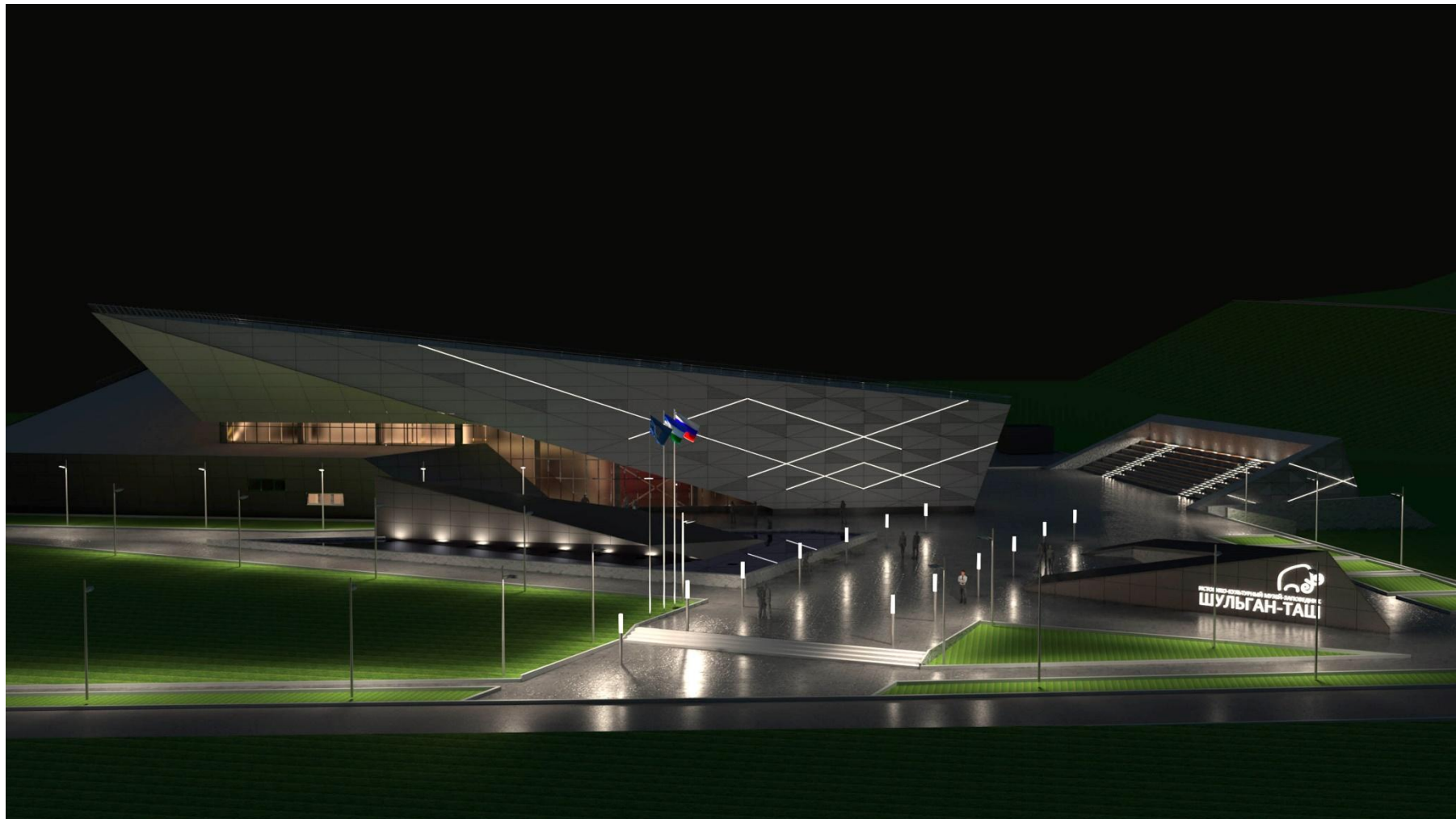


The project is aimed at reducing the anthropogenic load on the Shulgan-Tash cave



In addition to the wide-ranging exposition, the museum will also include archaeological and natural scientific laboratories, child scientific center, cafe, lecture halls for holding exhibitions and conferences, administrative building of the management organization

By the decision of the Expert Council on Budget Investments of the Republic of Bashkortostan dated September 4, 2017, the museum complex is included into the list of 100 objects of culture, education, sports, housing and public utilities which should be built during 2017-2019



Security and management system of the Object "Rock paintings of the Shulgan-Tash Cave" is built in accordance with the legislation of the Russian Federation and Convention for the Protection of the World Cultural and Natural Heritage:

- The subject of the Object protection is approved;
- The boundaries of the Object territory are approved;
- The buffer zone of the Object is developed;
- Special protection historical and cultural territory within the boundaries of the Object territory was determined;
- Special institution for management of the Object was established.

The cave is located within special protection natural and historical and cultural territories. The buffer zone of the Object is the special-use area. That contributes to regeneration of the natural landscape. The buffer zone has a great recreational potential

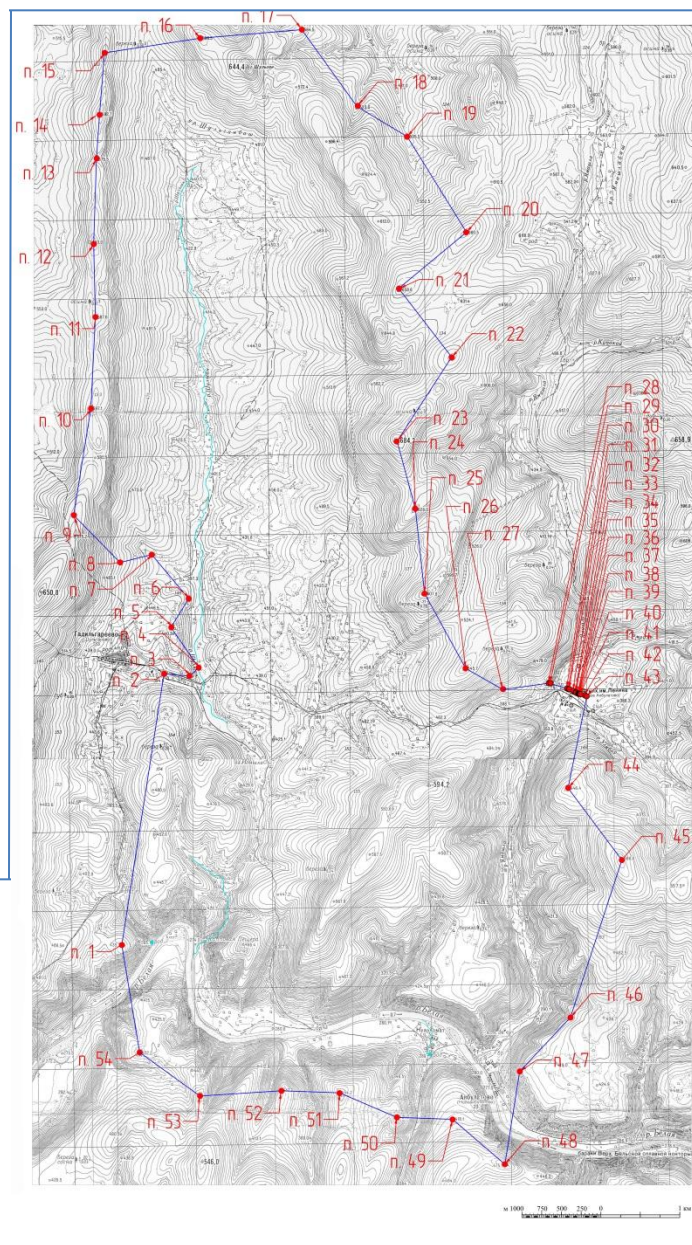
The buffer zone of the Object (Sight place «The Earth of Ural-batyr»)

The total area of the Object is **294.5593 hectares**

The total area of the buffer zone is **6262.8127 hectares**

The local population carrying out cattle-breeding and beekeeping activities within this territory is involved into the management of the buffer zone

Higher educational institutions of Bashkortostan conduct preferential, targeted training of specialists from the local population, who in future will form the basis of personnel of the management organization of the Object



Условные обозначения:



– границы ОКН "Земля Урал-батыра";



– поворотные точки границ ОКН "Земля Урал-батыра";