

REPUBLIC OF ALBANIA
MINISTRY OF INFRASTRUCTURE AND ENERGY
REGIONAL INNOVATION CENTRE OF THE EUROPEAN INSTITUTE OF
INNOVATION AND TECHNOLOGY FOR RAW MATERIALS

Elbasan, 28.08.2026

TERMS OF REFERENCE

ANEX I

**For the Contracting of Geotechnical Drilling Services for Sample Collection at the
Tailings Dam of the Former Copper Processing Plant, Kurbnesh**

*OSF-WB Project Phase 2, Contract No. SG08747 – Activity 1.2 "Limited Field Sampling
Programme"*

1. General Information

RIC Albania (the Regional Innovation Centre EIT RawMaterials, Albania) is implementing the project "Enhancement of Regional Collaboration in Critical Raw Materials (CRM) and Circular Economy in the Balkans" (OSF-WB Contract No. SG08747, dated 30.06.2026). Under Activity 1.2 of the Activity Plan, a field sampling campaign is planned at the tailings dam site of the former Copper Processing Plant, Kurbnesh, by means of drillings.

2. Context and Site Description

The Kurbnesh tailings dam is located in the village of Kurbnesh, Mirditë Municipality, Lezhë County, in a mountainous area at an altitude of approximately 700–800 m, near the Uraka stream. It was formed as a result of the operation of the Kurbnesh copper mine (1956–1994) and the associated processing plant, which processed sulphide copper ore from the Kurbnesh mine and from other nearby mines. The structure comprises two adjoining dams, built without engineering standards or drainage systems, containing waste rock and flotation tailings with a high sulphide content. The facility has been abandoned since the early 1990s, with no rehabilitation intervention, and continues to generate acid drainage water (pH ~3) that discharges into the Uraka stream.

Due to the different supply periods of the processing plant (approximately 20 years from the Kurbnesh mine alone, followed by approximately 13 years of additional supply from the Kurbnesh, Perlat, Rrenjolla and Gjegjan/Kukës mines), the mass of tailings deposited in the dam is heterogeneous with depth. This requires sample collection through drilling that penetrates every layer/level of the dam, in order to ensure a truly representative sample.

3. Objective of the Works

The objective is to carry out geotechnical drilling at the points defined in the Kurbnesh tailings dam, with sample collection at 100% recovery, to enable the chemical and mineralogical analyses that will determine the content of valuable and critical raw material elements (CRM) in the material, and which will consolidate the results of the first phase of the project.

4. Scope of Work and Technical Specifications

- The drilling method shall be rotary drilling with Hollow Stem Auger (HSA), mounted on a truck or track-mounted rig (RIG), operating dry, without the use of water or drilling fluids.
- The drilling depth ranges from 2.5 m to 18.1 m (maximum depth), according to the points defined in Annex 1 (map) and the table in Section 5.
- The internal diameter of the auger is required to be a minimum of 3.25 inches, to enable internal sampling.
- The drill bit shall have tungsten carbide teeth, suitable for layers cemented by oxidation.
- The sampling method shall be continuous sampling every 1 m, using a Split-Spoon Sampler or inner tube, with 100% material recovery, without mixing between different layers.
- Each drilling point must be recorded with GPS coordinates, photographs and a brief description (colour, texture, moisture, oxidation, visible mineral phases), under the responsibility of the supervising geologist from the Regional Innovation Centre for Raw Materials, present on site at all times together with the project's local expert.

5. Handling, Isolation and Storage of Samples

The handling of samples in the field, from their extraction from the sampler to delivery to the laboratory, is the full responsibility of the contracted operator (the drilling company), under the supervision of the Centre's geologist. The economic operator must apply the following protocol:

5.1 Sampling Frequency and Preparation for Analysis

- Sampling is carried out continuously every 1 m during drilling (Section 4).
- For analysis purposes, every 2 m (two consecutive 1-metre intervals) are quartered and combined into a composite sample of ~2 kg (1 kg/m + 1 kg/m), with the aim of halving the number of laboratory analyses.
- During quartering, an additional 1 kg/m will be set aside for mineralogical analyses and beneficiation tests.
- The reserve material remaining after each quartering will be stored separately for each 1 m interval, to be used in case of doubt or ambiguity regarding any sample.

- The expected number of samples for analysis is approximately 50.
- The targeted analyses include: moisture, particle size distribution, copper content (total Cu and oxidized Cu, in order to distinguish the "sulphide" content recoverable by flotation from the "oxide" content requiring acid leaching treatment), cobalt, arsenic, silver, gold, and.

5.2 Quality Control Samples (QA/QC)

The operator must include in the shipment to the laboratory, without identifying them to the laboratory:

- 3 (three) standard samples, powder with a pre-known element content, to verify the measurement accuracy of the laboratory.
- 3 (three) blank samples, material without the content of the elements under study (e.g. pure quartz), to verify non-contamination from the laboratory mill.
- 3 (three) duplicate samples, two samples from the same interval, to verify the homogeneity of preparation.

5.3 Isolation and Protection of Samples

- Immediate isolation: as soon as the sample comes out of the sampler, it is immediately placed in a thick plastic bag (special sampling bag) and sealed hermetically.
- Protection from oxidation: removing the air from the bag before sealing, to prevent further oxidation of sulphide minerals (e.g. chalcopyrite) during transport.
- Moisture preservation: samples are not left in the sun; they are kept in closed plastic boxes, in the shade, until delivery.
- Double labelling: a hidden code written with indelible marker on the outside of the bag, as well as a second paper label placed inside a smaller protective bag, within the sample itself.

5.4 Mandatory Equipment Base

The operator must provide, as part of the offer and the contracted service, at least the following equipment:

- Thick plastic tarpaulins, for homogenizing the material without contaminating it with tailings from the surrounding environment.
- Small stainless steel shovels, for dividing the material according to the quartering method.
- Geological hammer, for breaking up parts cemented by oxidation.
- Thick "Ziplock" sampling bags, capacity 2–3 kg, with a white field for writing.
- Thick "Ziplock" sampling bags, capacity 20 kg, for storing the reserve material.
- Indelible markers/pens (black, permanent), moisture-resistant.
- Portable hand-held scale (digital), up to 5 kg, for checking the weight of each sample.
- Plastic boxes with lids, for transporting the bags without leaving them under sunlight.

- Alcohol spray and cloth, for cleaning equipment (shovels, hammer) between each sampling, to avoid cross-contamination.
- Two ordinary shovels and one pickaxe.

The cost of this equipment base and of implementing the protocol in Section 5 is considered included in the price per linear metre of drilling offered by the operator.

6. Location and Drilling Points

The works will be carried out at the tailings dam near the former Copper Processing Plant, Kurbnesh. The position and designed depth of the 11 drilling points (BH-1 to BH-11) are given in the table below and on the attached topographic map (Annex 1 – "Topographic map of Kurbneshi Dam", scale 1:1.000).

No.	East (X, m)	North (Y, m)	Elevation (m)	Designed depth (m)
BH-1	4423725.72	4627476.53	780.80	18.1
BH-2	4423707.30	4627396.65	780.10	13.1
BH-3	4423677.98	4627312.00	778.10	8.9
BH-4	4423758.58	4627426.42	764.80	7.1
BH-5	4423699.63	4627088.47	764.30	9.5
BH-6	4423691.41	4627443.30	780.50	11.0
BH-7	4423667.86	4627367.63	779.50	2.5
BH-8	4423674.61	4627501.38	781.50	9.65
BH-9	4423655.14	4627435.43	781.00	4.7
BH-10	4423632.05	4627350.04	779.20	4.2
BH-11	4423679.10	4627081.59	764.60	4.6
			Total	93.35
Reserve (additional point proposed by the geologist)				6.65
			TOTAL	100.0

The operator must take care that, in case of the physical impossibility of reaching any point, the position is moved to the nearest suitable point, in coordination with the project's supervising geologist, while preserving the point distribution pattern as much as possible.



Annex 1. Topographic map of the Kurbnesh Dam, showing the positioning of the 11 drilling points (BH-1 – BH-11).

7. Requirements for the Operator

- The operator must be a legal entity licensed to carry out drilling/geotechnical works in Albania, with documented previous similar experience (geotechnical/geological drilling, preferably in mine waste or fine-grained materials)
- The operator must have or provide equipment (RIG) suitable for drilling with Hollow Stem Auger in accordance with the specifications of Section 4.

- The presence of a supervising geologist at all times during drilling and sample collection is mandatory. The supervising geologist will be from RIC Albania and will be present on site at all times during the works, together with the project's local expert.
- The technical specifications of the equipment must also be confirmed/approved by a drilling expert and a project geology expert prior to the start of the works.

8. Documentation and Reporting

- Drilling log for each point, with depth, general lithology and remarks.
- Double labelling of samples and maintenance of the chain of custody until delivery to the laboratory/RIC Albania.
- Photographic documentation for each drilling point and sample.
- Final summary report of the field works, submitted within 3 days of completion of the works.

9. Timeline

Calculation of procedural deadlines:

Commencement of field works: 17.09.2026, immediately after signing of the contract.

Duration of field works: 5 (five) working days, depending on field conditions.

Delivery deadline: Within 20 days from signing of the contract

10. Budget

The budget ceiling for this service (drilling + sampling) is USD 10,000 including VAT (ten thousand dollars)

11. Submission of Offers

Interested operators must submit their technical-financial offer, accompanied by the CV and company profile for similar services, in response to the attached Invitation to Tender, no later than 10.09.2026, by post, to the address: RIC Albania, University "Aleksandër Xhuvani", "Ismail Zyma" Street, Elbasan.