

LTD „BUILD-EXPERT“  
A type inspection body  
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GAC-IB-0121  
GS ISO/IEC 17020:2012/2013

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Accreditation certificate NGAC-IB-0121  
Inspection report N FT-641/11/19-I641/3  
Date of issue: 21.12.2019  
Date of inspection: 25.11÷21.12.2019

Identification of the inspection object:  
The Georgian-Armenian border, Engineering -Geological  
part of the territory for construction of Bagratashen  
bridge on the river Debeda

*I confirm,*  
Director, professor\_\_\_\_\_ M. Tsikarishvili

The seal and the signature are applied

Inspection report  
(The expert conclusion)

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Customer identification	LTD “Tunel Sad Ariana” I/C 40624937 Director: Behnood Yousefian
Reporting Basis	Application N641/11/19-I641 (25.11.2019) Agreement N C-641/11/19-I641 (25.11.2019)
Accreditation Affair:	Inspection of Engineering -Geological part
The task of inspection	The Georgian-Armenian border, inspection of Engineering -Geological part of the project of Bagratashen bridge on the river Debeda

Tbilisi  
2019

CONTENT

1. Executors of Inspection.....	3
2. Material submitted for inspection.....	3
3. Normative documents .....	3
4. Research Part.....	5
5. Conclusion.....	13

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## **Executors of Inspection**

We, Inspection Officers are warned by the heads of inspection body and are responsible for conducting inspections impartially, properly conducting research, and protecting the confidentiality of any information received or generated during the inspection

Inspector: **Ilia Tskhomelidze** signed

## **Presented Materials**

Engineering-Geological Research Report.

## **Normative literature**

1. Technical Regulations on Construction on the Territory of Georgia (Resolution N 71 of the Government of Georgia dated January 15, 2014):  
--Technical Regulation-- - "Foundations of Buildings and Constructions"  
(Appendix No2); -  
--Technical Regulations - Construction Climatology (Appendix N5)
2. СНиП 1.02.07-87 "For the Construction of Engineering Exploration Works";
3. PH 01.01.-09 Seismic construction;
4. SN and sec. IV-5-82 Earthworks;
5. SN and sec. 2.02.02-85 Foundations of hydraulic structures; 6. SN and sec. 2.02.03-85 timber foundations;
7. PH 02.01-08 Foundations of Buildings and Buildings
8. SN and sec. 2.02.01-83 Engineering studies for construction
9. Resolution of the Government of Georgia No257;
10. B-E - TP-G05 / 16 inspection methods and procedures

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## **Research part**

For inspection it has been presented the Georgian-Armenian border, the Engineering-Geological Research Report for the Bagratashen Bridge Project on the river Debeda. Engineering-geological works on this site were performed by "Zamiran Consulting Engineer" in July 2018, on the order of "Tunel Sadd Ariana co".

The purpose of the expertise is to determine the compliance of the submitted documentation with the requirements of the standards and normative documents in force for conducting engineering-geological surveys in Georgia.

Documentation depicting the engineering-geological surveys submitted for examination is bound in one album and consists of: - front page--1 p., title page with the names of the director and engineer-geologist - 1p., content--1 p., technical assignment -1,5p., correspondence-1p., introduction-2,5 p., General description of geo-environment - 6,5 p., special section - 7,5 p., conclusions and recommendations -3 p,

Text appendices present results of laboratory examination of soil - 2 p., Test results on the ground shift - 7 p., ground compression test results - 7 p.

Graphic appendices present Geological Lithological Columns of Wells Engineering-Geological Sections - 8 p, totally-- 48 p.

The introduction notes that work has been done on the Georgian - Armenian border River, for the bridge project on the river Debeda. The purpose of the study is set, number of wells, depths, methods of field and laboratory studies are drawn, 4 wells to a depth of 17.8 m, standard penetration tests (SPT), compressive and shift examinations, pre-symmetrical tests in wells, wells are marked on maps, and the photo material shows the drilling and pre-symmetrical test processes.

Geomorphology and geology indicate that the study area is located on the Laval Plateau, which is cut into by the river Debeda. Tectonically, the Armenian side is located in the wrinkled zone of Armenia-Kapan, and the Georgian side is in the sub-zone of the Lesser Caucasus.

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pg. 4/from pg.6

The geological structure and stratigraphy of both the Armenian and Georgian parts are generally discussed. It is indicated that 1 well is drilled on the Georgian side and 3 wells on the Armenian side.

Based on field and laboratory work, four layers are separated, and the tables show the characterization of the soil and the physical-mechanical properties of the layers in the wells.

**Layer N 1** - Clay of semi-solid consistency, **N 2** - Clay of solid consistency. **Layer N 3** Large Ground Soil and **Layer N 4** - Basalts.

Ground water was only observed in one of the wells N 3.

The conclusions and recommendations provide recommendations on the type and foundation conditions. The annexes describe the methods of field and laboratory studies, samples of undisturbed structure were taken by ground-taker, standard field penetration tests were held, soil moisture density, mineral particle density, atoms, thresholds, salinity, soil particle density were determined in stationary labs, chemical analysis of the soil was carried out. Logarithmic, compressive and shift test graphs, with layout of topo-plans of wells and slabs, wells columns with indications of absolute benchmarks, depths and layers capacity, engineering geological slabs with wells depths are presented.

The Georgian-Armenian border, on the river, the results of the engineering-geological research for the Bagratashen Bridge project on the river Debeda are in compliance with the requirements of the normative documents in force in Georgia. The inspection of the account has no claim and is given a positive valuation.

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pg.5/from pg.6

## Conclusion

The Georgian-Armenian border, on the river, the results of engineering-geological research for the Bagratashen Bridge project on the river Debeda meet the requirements of the normative documents in force in Georgia. The Engineering Geological research report gives a positive assessment and recommendation for its implementation.

See Research part.

Inspection report is made by:

**Inspector:** / I. Tskhomelidze / signed

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Inspection report is technically checked by:

Acting as Technical **Manager:** / I. Tskhomelidze / signed

The inspection report is administratively verified by:

Head of the inspection body: / M. Tsikarishvili / signed

The seal is applied.

GAC

**LEPL “United National Accreditation Agency -  
Accreditation Center ”**

**Certificate of Accreditation**

**GAC -IB-0121**

confirms, that

**A type inspection body of  
LTD “BUILD-EXPERT”**

**Located:** Tbilisi, Mirotadze str. N1, apt.N 4

Has been evaluated and meets the national standard

**Requirements of GS ISO / IEC 17020: 2012/2013**

**Accredited in the following field:** 1. Inspection of facility cost estimate; 2. Inspection of works performed on site (including form N 2); 3. Inspection of the facility or part of the facility, construction, repair, installation, dismantling, reconstruction, restoration; 4. Technical supervision of the construction works - inspection; 5. Assessment / inspection of compliance with the design of the construction site project (buildings, structures, hydraulic structures, bridges, tunnels, roads and other linear structures) or part of the project, including: engineering-geological survey / conclusion; Constructive part; Engineering networks: (electricity supply, weak currents) and their technological part; Engineering networks: water supply, sewage, drainage) and their technological part; Engineering networks: (ventilation, air conditioning, heating) and their technological part; The architectural part; Additional fields of accreditation: 6. Inspection of adequacy of pricing of the facility; | (See Appendix - "Accreditation Area").

General Director of  
the Accreditation Center:                      signed

Registration Date:  
August 14, 2017

Is valid:  
April 01, 2020

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