

Bi-annual Environmental Monitoring Report

Project name: Kobuleti Bypass Road Section KM12+400-KM31+259

ADB Project No: 41122-043
ADB Loan/Grant No: 2560-GEO, 2843-GEO
PIU Name: Roads Department of Georgia
Country: Georgia



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Project Start Date: 26th November 2013
Project End Date: 25th June 2018
Reporting Period: Jul - Dec 2018

April 2019

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1. INTRODUCTION

1.1 Preamble

1. This report represents the Bi-annual Environmental Monitoring Review (BAEMR) for Kobuleti Bypass Road Lot II.
2. The project has now been completed and this report represents the pre-final submission relating to Environmental Monitoring. The report provides information since the last Semi-Annual EMR (SAEMR) and additional information relating to implementation statuses of corrective actions revealed during the site monitoring and audit in terms of environmental safeguard application.

1.2 Project background

3. The Kobuleti Bypass section is part of the so-called Adjara Bypass Project along the Poti – Batumi – Sarpi road located the western Black Sea coast of Georgia. The project road also forms part of the main road corridor East-West Highway between Azerbaijan and Georgia. Its connection with the Black Sea ports of Batumi and Poti and the tourist beaches in Kobuleti makes this road an important trade and tourism road for Georgia. Information and data on the Project Road has been extensively elaborated in the EIA documents for the project.
4. Section KM12+400-KM31+259 of Kobuleti Bypass Road Lot II has been constructed between May 2013 – June 2018 time period.
5. Implementation of infrastructural projects negatively impacts on environment as we are all aware. Construction of highways specially impacts on all components of the natural environment, during which changing of landscape, fragmentation of soil surface, losing of fertile layer of soil, elimination of green cover and migration ways of animals, changing of river bed and pollution of surface water, reducing of living area of birds and fishes may also occur.

1.3 Main Stakeholders of the Project

6. Environmental monitoring is overseen by the Roads Department, through a special unit called the Resettlement and Environmental Protection Unit. This unit reviews the EIAs and EMPs related to the Roads Department projects and perform monitoring of compliance of the contractor's performance with the approved EMPs, EIAs, environmental standards and other environmental commitments of the contractor. Environmental monitoring in the field was among the work scope of the Engineer (DOHWA), and the tasks of actual monitoring was undertaken by two (2) national environmental specialists. Spot surveys and assessments of environmental situations and conditions of the project site were conducted to ascertain compliance of the Contractor to the EIA's EMP. Variances from the established baseline environmental parameters were noted and brought to the attention of the Contractor for corrective measures. Whenever necessary, certain modifications on the work program were recommended to assure compliance on the part of the Contractor (Sinohydro Ltd, China).
7. The Contractor had assigned an environmental, health and safety Director who was responsible for environmental compliance based on the project EMP (found in the EIA). Likewise, the Contractor has prepared Site-Specific EMP (SSEMP) which served also as their guide for their own self-monitoring of the construction's environmental aspects. This is to ensure an efficient monitoring activity at all times.
8. Environmental issues arising from the construction activities were immediately be brought to the attention of the construction supervision team to coordinate efforts in order to immediately mitigate impacts, protect the environment, and safeguard the health and welfare of the local communities. All these are to be conducted within the framework of the overall construction management and supervision. Aspects in the environmental monitoring were reported in a monthly, quarterly and bi-annual basis to the

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RD (PIU) and ADB.

9. Main organizations involved in the project and related to environmental safeguards are presented in the **Table 1** below:

Table 1. List of contracts under the Project

Organization		Name of main staff and Environmental Specialist	Contact data (including phone and web-site) and address of the organization
Funding organization	Environmental Specialist, Portfolio, Results, Safeguards and Gender Unit (PSG), CWRD.	dlang@adb.org	
	ADB/RETA International-Regional Environmental Safeguards Consultant	Keti Dgebuadze	Tel: +995 322 250619 Mob: +995 577 232937 E-mail: ketdgeb@yahoo.com kdgebuadze.consultant@adb.org
	Associate Safeguards Officer Georgia Resident Mission Asian Development Bank	Nino Nadashvili	+995 595 070442 nnadashvili@adb.org
Employer	Road's Department	Gia Sopadze Head of Environmental Division	Tel: (+995) 599 93 92 09 E-mail: sopgia@hotmail.com
		Luiza Bubashvili Environmental Safeguard Consultant under ADB & EIB Financed Projects	Tel: (+995) 595 21 91 41 E-mail: likabubashvili@yahoo.com
Contractor	Sinohydro Corporation Branch in Georgia	Mr. Zhong Zhenmin Head of HSE Division	Tel: (+995) 591 999 802 E-mail: 627872532@qq.com

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Organization		Name of main staff and Environmental Specialist	Contact data (including phone and web-site) and address of the organization
Consultant	Dohwa	Tengiz Lagidze Local Environmental Specialist	Tel: (+995) 595 93 96 30 E-mail: ten_iver@yahoo.com

1.4 Project progress for the reporting period

10. As mentioned above, In 26.06.2018 the project has been completed and there is a Defect Liability period started on 26.06.2018 till 26.06.2019. During the reporting period (Jul-Dec 2018) Contractor has been implemented corrective actions revealed by the SC representatives and ADB Mission.

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2. ENVIRONMENTAL MONITORING

11. As stated in the Environmental Monitoring Plan of the EIA Report¹ the Contractor should undertake quarterly parametric monitoring of (i) noise and vibration; (ii) surface water quality; (iii) drinking water quality; and (iv) air quality.

12. Actually, air quality and noise parametric monitoring was carried out on the monthly basis, vibration level in case of necessity, but surface water quality monitoring in case if rivers were affected due to bridge construction activities.

2.1 Framework for Environmental Monitoring

14. The environmental monitoring and management activities for the project was based on the Environmental Impact Assessment (EIA) Reports drafted for the project road component namely the Environmental Impact Assessment Report. Based on the EIA's EMP the environmental concerns which need to be monitored and managed are as follows.

Table 2: Environmental Aspects for the Management and Monitoring

Environmental Aspect	Subtopics	Frequency & Location
1. Protection of Flora	1.1 Endangered species	Along the entire road section– twice a month.
	1.2 Vegetation clearance	
2. Protection of Fauna	2.1 Construction activities	Along the entire road section– twice a month.
	2.2 Poaching	
3. Protection Fisheries	3.1 Construction of Bridge Substructure	At the bridges: #2 (Riv. Achkva), #4 (Riv. Kintrishi), #5 (Riv. Kinkisha), #7-#8 (Riv. Dekhva), #11 (Riv. Chakvistskali) – once a month.
	3.2 Construction works in the rivers and on the surrounding lands.	
4 Waste Management	4.1 General Waste	Campsites: Choloki, Ochkhauri, Laituri, Bobokvati, Chakvi – once a month.
	4.2 Spoil	
	4.3 Hazardous Waste	
5. Fuels and Hazardous Goods Management	5.1 Fuels and hazardous goods.	Campsites: Choloki, Ochkhauri, Laituri, Bobokvati, Chakvi – once a month.
6. Water Resources Management	6.1 Hazardous Material and Waste	Campsites and surface water near bridges: #2, 4, 5, 7, 8, 8.1, 9, 11 – once a quarter.
	6.2 Discharge from construction sites	
	6.3 Construction of Bridges/drainage structures in streams/rivers	
	6.4 Soil Erosion and siltation	
	6.5 Construction activities in water bodies	

¹ Government of Georgia. MORDI-Department of Roads. February 2012. Environmental Impact Assessment

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Environmental Aspect	Subtopics	Frequency & Location
7. Drainage Management	7.1 Excavation and earth works, and construction yards	Along the entire road section—once a month.
	7.2 Fresh road cuts may immediately trigger intensive erosion during construction and drastic increase of sedimentation	
	7.3 Ponding of water	
8. Soil Quality Management	8.1 Earth filling with borrow material	Along the entire road section—once a month.
	8.2 Storage of hazardous and toxic chemicals	
9. Top Soil Management Plan	9.1 Land clearing, storage and further use	Along the entire road section—once a month.
10. Topography and Landscaping	10.1. Land clearing and earth works	Along the entire road section—once a month.
11. Borrow Areas Development & Operation	11.1 Degradation of borrow areas	Quarries at the territories of Vil. Zeda Sameba and Vil. Shuagele – once a month.
12. Air Quality Management	12.1 Construction vehicular traffic	At the bridges #1 - #11.2, tunnels #1 and #2 – once a month.
	12.2 Construction machinery	
	12.3 Construction activities	
13. Noise and Vibration Management	13.1 Construction vehicular traffic	At the bridges #1 - #11.2, tunnels #1 and #2 – once a month.
	13.2 Construction machinery	
	13.3 Construction activity	
14. Road Transport and Road Traffic Management	14.1 Construction vehicular traffic	Along the entire road section—once a month.
15. Construction Camp Management	15.1 Siting and Location of construction camps	Construction sites – every week
	15.2 Construction Camp Facilities	
	15.3 Disposal of waste	
	15.4 Fuel supplies for cooking and heating purposes	
	15.5 Site Restoration	
16. Cultural and Religious Issues	16.1 Construction activities near religious and cultural sites	There was no necessity in monitoring
17. Worker Health and Safety	17.1 Anthrax	Construction sites – every week
	17.2 Best practices	
	17.3 Water and sanitation facilities at the construction sites	
	17.4 Trainings	

15. In addition, the following laws and regulations were also considered and used as legal and regulatory framework related to road construction activities of the Contractor:

1. Georgian Law of Environmental Protection, 1996
2. Georgian Law on Ambient Air Protection
3. Law of Minerals, 1996
4. Wildlife Law, 1996

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5. Law of Georgia "On the System of the Protected Areas, 1996
6. Law of Georgia on Water Resources, 1997
7. Code of Georgia on Water Resources, 1999
8. Law of Georgia on Soil Protection, 1994
9. Law of Georgia 'On the Red List and Red Book', 2003
10. Law of Georgia on Cultural Heritage, 2007
11. Environmental Standards and Norms: (i) Ambient Air Quality Norms; (ii) Noise Standards;
12. Law of Georgia "On Waste Management", 2015;
13. Technical Regulation on Environment, 2014

16. For the ambient air quality, the GEO and IFC guidelines have been followed as shown in the Table 3 below:

Table 3: Ambient Air Quality Standards

Parameter	Averaging Period	Limit ($\mu\text{g}/\text{m}^3$)		
		Maximum Permissible Concentration (MAC) for Air Quality	IFC Guideline Value	EU Ambient Air Quality Guidelines
Nitrogen Dioxide (NO_2)	30 minutes	200	-	-
	1 Hour	-	200	200
	24 Hours	40	-	-
	1 Year	-	40	40
Sulphur Dioxide (SO_2)	10 minutes	-	500	-
	30 minutes	500	-	-
	1 Hour	-	-	350
	24 Hours	50	20	125
Carbon Monoxide (CO)	30 minutes	5000	-	-
	24 Hours	3000	-	-
Total Suspended Particulates (TSP) / Dust	24 Hours	150	-	-
	30 minutes	500	-	-
PM10	1 year	-	20	40
	24 hour	-	50	50
PM2.5	1 year	-	10	25
	24 hour	-	25	-
Ozone	8-hour daily maximum	-	100	120

17. Also in terms of the noise quality standards for residential areas ADB requires that the WB/IFC EHS guidelines are followed. According to the IFC, noise impacts should not exceed the levels presented in **Table 4** or result in a maximum increase in background levels of 3 dB at the nearest receptor location off site:

Table 4: IFC Noise Level Guidelines

One hour L_{Aeq} (dBA)		
Receptor	Daytime 07:00 – 22:00	Nighttime 22:00 – 07:00
Residential; institutional; educational	55	45
Industrial; commercial	70	60

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2.2 Summary of Performed Environmental Monitoring Activities

18. There is a defect liability period (26.06.2018-26.06.2019) , all construction works were completed. No monitoring measurements have been performed during the given reporting period.

3. ENVIRONMENTAL MANAGEMENT

3.1 Final Inspections and Monitoring

19. During the reporting period monitoring and audits have been done by the Environmental Consultant of RD - Luiza Bubashvili and Deputy Head of Environmental and Social Issues Division - Gia Sopadze at Chakvi Campsite, Bridge #9 and Bridge #11, Two Tunnels - #1 and #2 at the following dates:

Date of monitoring
15 August 2018
23 October 2018

20. The following sites were audited during the audit:

- Choloki Campsite;
- Ochkhamuri Campsite;
- Laituri Campsite;
- Bobokvati Campsite;
- Chakvi Campsite;
- Section KM12+400-KM31+259 of road, including bridges and tunnels;
- Shuagele quarry.

3.2 Results of monitoring

- **Camp sites:** All 5 camp sites (Choloki, Ochkhamuri, Laituri, Bobokvati and Chakvi) have generally been demobilized.

Take-over Certificate provided for **Choloki Campsite** on 5th of September 2017 (see Appendix 2) and **Bobokvati Campsite** on 4th of April 2018 (see Appendix 4).

Ochkhamuri Campsite: has been completed as required, Batching and asphalt plants have been dismantled, Construction materials and debris removed from the campsite territory. At present, the Contractor has applied for the handover of Ochkhauri Campsite.

Commented [DAL1]: Perhaps change text (if correct) to – 'Take-over Certificate provided' Where we have the certificate, add references to Appendices. Where we don't have, perhaps state what will happen to get certificate before finalization.

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Laituri Campsite: Laituri Campsite territory was purchased by the Contractor (Ltd “Corporation Sinohydro Branch in Georgia”) and currently is used for storing of construction materials and equipment.

Chakvi campsite: The territory of Chakvi camp site belongs to 5 owners, during the clearance of campsite, the owner made additional requests to the Contractor and the requests were constantly changing. The Contractor plans to execute the clearance work as soon as the owner finally confirmed his requests. Polluted soil testing completed in August 2018 (see Appendix 6), and cleaning of the territory was done in October, 2018. The Contractor has transported all polluted soil 20 m³ to the Lanchkhuti Campsite for temporary storage in December 2018. At the appropriate time, the Contractor will notify the toxic object handling company which is cooperative with Ltd “Corporation Sinohydro Branch in Georgia” to carry away and handle it.

- **Slopes reinstatement/stabilization:** At some places (KP 5, KP 11,800) due to lack of top-soil no regrowth of the grass was observed. The identified slopes will be reseeded, but will not work well unless topsoil used. It was recommended by ADB Mission that it is necessary for slopes stabilization spreading topsoil and seeding the grass. The contractor is planning to use additional topsoil and seeding the grass at early spring (in March-April) 2019.
- **Quarry site:** Some progress in reinstatement of Shuagele Quarry site located near riv. Dekhva was observed, in particular most trees planted previously (2017-2018) grew well, but landscaping activities still need to be implemented, including covering of rocky hills with top-soil and seeding the grass. The contractor is planning to use additional topsoil and seeding the grass at early spring (in March-April) 2019.

3.3 Consultations and Complaints

21. during the reporting period neither grievances from the local population.

3.4 Trainings

22. Because of the completing the project implementation, trainings have not been conducted.

4. CONCLUSIONS AND RECOMMENDATIONS

23. The following activities, defined under the action plan for the corrective measures, have to be undertaken during the liability period (see the Table 5 below):

- CC to continue slopes stabilization and reinstatement process – Q2 2019.
- CC to finalize ground leveling at Chakvi camp site and to issue take-over certificates to 5 owners – Q1 2019.
- Contractor to submit test results of contaminated soil at Chakvi camp site and completed form of Corrective Action Plan – Q1 2019.
- CC to continue reinstatement of Shuagele quarry site – Q1-Q2 2019.
- SC/PIU to prepare Final EMR for Jan-Jun 2019 reflecting corrective actions implemented by CC.
- CC to submit evidence in form of Waste Transfer Note (WTN) from Sinohydro at Lanchkhuti Campsite of transfer of contaminated soil to final destination if completed during the reporting period.

Table 5. Action plan during the liability period

#	Non-conformance	Corrective actions	Deadline	Responsible organization/person
1.	At certain places of road at section KM12+400-KM31+259 slopes are damaged, spreading of top-soil and seeding of grass has not been executed.	Backfilling of slopes and seeding	Will be executed in April 2019	Contractor
2	During the period September-October 2017, in purpose of re-cultivation of Shuagele quarry area, the 1350 numbers of different sort of trees has been planted. Unfortunately most of the trees has died (see photo 9).	Contractor was instructed (letter 18056-0090) to count damaged trees and instead of died ones to plant new trees accordingly.	Ongoing, will be executed before the end of April 2019	Contractor

ANNEXES:

Appendix 1. Photo materials

Photo 1, 2: Chakvi Camp Area



Photo 2. Bridge #9 – Incorrect landscaping and waste management



Photo 3. Slopes stabilization/reinstatement (KP 5 and KP 11,800)



Photo 4, 5: Shuagele Quarry Site



Appendix 2. Choloki Campsite Delivery-Acceptance Act between Ministry of Finance and Economy of Autonomous Republic of Adjara and "Sinohydro" Ltd,

მიღება-ჩაბარების
აქტი

ქ. ბათუმი 2017 წ. *25 სექტემბერი*

ჩვენ, ერთი მხრივ ბადრი ლალიშვილმა (პ/ნ 61001023881), მოქმედი შპს „კორპორაცია სინოჰიდროს ფილიალი საქართველოში“-ს (ს.კ. 404859122) მიერ 2017 წლის 04 სექტემბერს გადებული მინდობილობით, და მეორეს მხრივ, აჭარის ავტონომიური რესპუბლიკის ფინანსთა და ეკონომიკის მინისტრის 2017 წლის 05 სექტემბრის N01-6/118 ბრძანებით შექმნილმა, აჭარის ავტონომიური რესპუბლიკის ფინანსთა და ეკონომიკის სამინისტროსა და შპს „კორპორაცია სინოჰიდროს ფილიალი საქართველოში“-ს შორის 2015 წლის 21 ივლისს გაფორმებული აჭარის ავტონომიური რესპუბლიკის საკუთრებაში არსებული ქონების სარგებლობის შესახებ ხელშეკრულებით გადაცემული ქონების მიმღებმა კომისიამ, შპს „კორპორაცია სინოჰიდროს ფილიალი საქართველოში“-ს 2017 წლის 18 ივლისის წერილის (შესული კორესპონდენციის N01-9/4899, 18.07.2017წ.) გათვალისწინებით, შევადგინეთ წინამდებარე მიღება-ჩაბარების აქტი მასზედ, რომ პირველმა ჩავაბარე, ხოლო მეორემ ჩავიბარეთ, აჭარის ავტონომიური რესპუბლიკის საკუთრებაში არსებული, ქობულეთის მუნიციპალიტეტის, ჩოლოქის დასახლებაში, ხულოს ქუჩის მიმდებარედ არსებული 30 000 კვ.მ არასასოფლო-სამეურნეო დანიშნულებაში მიწის ნაკვეთი (ს/კ 20.51.01.116) და მასზე განლაგებული შენობა-ნაგებობები, თანდართული საკადასტრო აზომებითი ნახაზის მიხედვით.

ჩავაბარე:
ბ. ლალიშვილი *[Signature]*

ჩავიბარეთ:
კ. თედორაძე *[Signature]*
ა. გორაძე *[Signature]*
ზ. ბაჯელიძე *[Signature]*
ნ. ანასიძე *[Signature]*

Appendix 3. Immovable Property Purchase Agreement

უძრავი ნივთის ნასყიდობის ხელშეკრულება

ქ. თბილისი 29. ივნისი 2013 წ.

წინამდებარე ხელშეკრულების მხარეებმა:

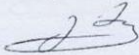
მყიდველი გრიგოლ მჭავია, პირადი № 33001046863, დაბადებული ქ. თბილისი

მცხ. ოზურგეთი, ჟორჟოლიანის 30, რომელიც ამ ხელშეკრულებაში შემდგომში მოხსენიებულია, როგორც „გამყიდველი“ გა – ყიდა „SINOHYDRO CORPORATION LIMITED“ BRANCH IN GEORGIA LTD, მისი დირექტორი ცაოჯინ სუ, დაბ. 23.11.1965 წ.

პირადი № 01592004440, პასპორტის № 11TR 05032

რომელიც ამ ხელშეკრულებაში შემდგომში მოხსენიებულია, როგორც „მყიდველი“, იყიდა გრიგოლ მჭავიას საკუთრებაში არსებული: ოზურგეთის მუნიციპალიტეტი, დაბა ლაითური, 32.630 კვ.მ. ფართობი არასასოფლო-სამეურნეო მიწის ნაკვეთი: ზონა 26, სექტორი 25, კვარტალი 07, ნაკვეთი 047. მიწის საკადასტრო კოდი № 26.25.07.047

ნასყიდობის საგანზე გამყიდველის გრიგოლ მჭავიას საკუთრების უფლება დასტურდება ამონაწერით საჯარო რეესტრიდან: № 882013271284 მომზადების თარიღი 12. 06.2013წ.



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Appendix 4. Bobokvati Campsite Delivery-Acceptance Act between land owners and "Sinohydro" Ltd.

მიღება ჩაბარების აქტი

ქ.ქობულეთი

20.04.2018

ჩვენ ამ აქტზე ქვემოთ ხელის მომწერნი, ერთის მხრივ შპს „კორპორაცია სინოჰიდროს ფილიალი საქართველოში“ წარმოდგენილი პროექტის მენეჯერის ლინ დეგუოს სახით, ხოლო მეორეს მხრივ ფიზიკური პირები: როსტომ გორგილაძე 61004009355, ზაურ გორგილაძე 6100402528, ელიზბარ გორგილაძე 61004057856, ასლან გორგილაძე 61004047220, გოჩა გორგილაძე 61004005856 ვთანხმდებით მასზე, რომ შპს „კორპორაცია სინოჰიდროს ფილიალი საქართველოში“ წარმომადგენელმა ჩააბარა, ხოლო ზემოთ ამ აქტში ჩამოთვლილმა ფიზიკურმა პირებმა ჩაიბარა 2013 წლის 19 თებერვლის იჯარის ხელშეკრულებით გათვალისწინებული მიწის ნაკვეთი და მასზე განთავსებული კოტეჯის ტიპის შენობა ნაგებობები (აღნიშნულ მიწის ნაკვეთზე განთავსებული იყო #4 სამშენებლო ბანაკი).

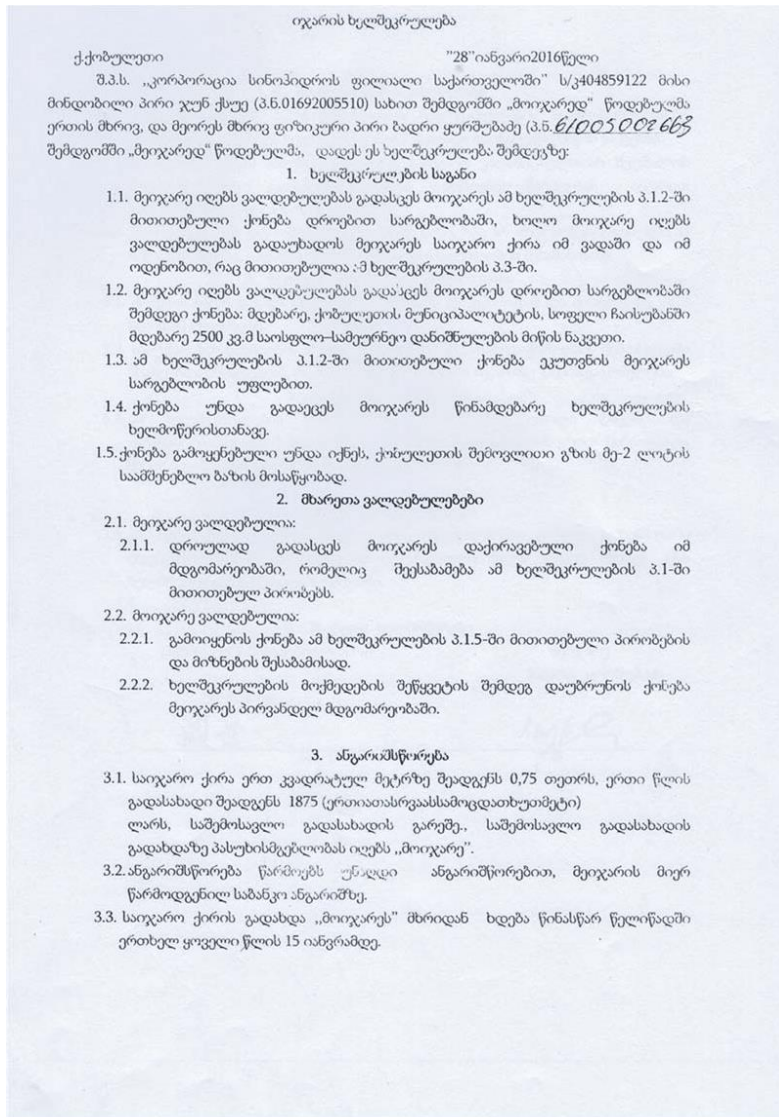
თავის მხრივ მიწის ნაკვეთის მესაკუთრეები აღნიშნავენ, რომ ქონება ჩაიბარეს უნაკლო მდგომარეობაში და შპს „კორპორაცია სინოჰიდროს ფილიალი საქართველოში“ მიმართ არანაირი პრეტენზია არ გააჩნიათ.

აქტი შედგენილია ორი თანაბარი ძალის მქონე ეგზემპლარად, რასაც ვადასტურებთ ხელწერებით.



პროექტის მენეჯერი

როსტომ გორგილაძე h. ჯიხაძე
ზაურ გორგილაძე გ. გორგილაძე
ელიზბარ გორგილაძე ე. გორგილაძე
ასლან გორგილაძე ა. გორგილაძე
გოჩა გორგილაძე გ. გორგილაძე

Appendix 5. Lease Agreement between land owner and "Sinohydro" Ltd. Village Chaisubani



Appendix 6. Soil Test Results for Chakvi campsite

 შპს სამეცნიერო-კვლევითი ფირმა „გამა“-ს საგამოცდო ლაბორატორია TESTING LABORATORY Of Ltd Scientific - Research Firm "GAMMA"	 სტ. რიცხვ 17605.2018 GAC-TL-0203 30.07.2018-30.07.2022	მისამართი Address დ. გურამიშვილის გამზ. №17ა, 0192. თბილისი საქართველო D. Guramishvili ave. №17a, 0192. Tbilisi, Georgia 995 32) 2604433; (995 32) 2601024 E-mail: gamma@gamma.ge
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22.08.2018

გამოცდის ოქმი # 56

დამკვეთი	შპს „კორპორაცია სინოპიდროს ფილიალი საქართველოში“, ჯ. ფოლადაშვილი
ნიმუშის მიღების განაცხადი, №	№78; 16.08.2018
ნიმუშების რაოდენობა	12
ნიმუშის ტიპი	ნიადაგი, გრუნტი
ნიმუშის ლაბორატორიაში შემოტანის თარიღი	16.08.2018
სამუშაოებზე პასუხისმგებელი	ნ. მარცაძე, გ. მაისურაძე

ანალიზის შედეგები

რეკ. №	ნიმუშის ლაბორატორიული №	ნიმუშის დასახელება	ნავთობის ჯამური ნახშირწყალბადები (TPH), მგ/კგ
1	168 S	№1 - ჭაბურღილი 1 1,0-1,5 მ	<2,5
2	169 S	№2 - ჭაბურღილი 1 1,5-2,0 მ	<2,5
3	170 S	№3 - ჭაბურღილი 1 2,0-3,0 მ	<2,5
4	171 S	№4 - ჭაბურღილი 1 7,0-7,5 მ	<2,5
5	172 S	№5 - ჭაბურღილი 1 9,0-9,5 მ	<2,5
6	173 S	№6 - ჭაბურღილი 1 9,5-10,0 მ	<2,5
7	174 S	№7 - ჭაბურღილი 2 0-0,3 მ	4154,8
8	175 S	№8 - ჭაბურღილი 2 0,3-0,6 მ	208,7
9	176 S	№9 - ჭაბურღილი 2 3,0-3,6 მ	<2,5
10	177 S	№10 - ჭაბურღილი 2 5,4-6,0 მ	<2,5
11	178 S	№11 - ჭაბურღილი 2 7,0-7,6 მ	<2,5
12	179 S	№12 - ჭაბურღილი 2 9,0 მ	<2,5

ლაბორატორიის ხელმძღვანელი
გ. გურჯია

GAMMA
Testing laboratory of Scientific Research Center Gamma

Employer	"Sinohydro Corporation Branch in Georgia" Ltd J.Foladashvili
Sample number	#78 16.08.2018
Quantity of Sample	12
Type of Sample	Soil
Date of receiving sample	16.08.2018
Responsible of works	N.Machitadze, G.Maisuradze

Number	Laboratory number of the sample	Name of the Sample	Total number of petroleum hydrocarbons (TPH) mg/kg
1	168S	#1 Borehole 1 1.0-1.5m	<2.5
2	169S	#2 Borehole 1 1.5-2.0m	<2.5
3	170S	#3 Borehole 1 2.0-3.0m	<2.5
4	171S	#4 Borehole 1 7.0-7.5m	<2.5
5	172S	#5 Borehole 1 9.0-9.5m	<2.5
6	173S	#6 Borehole 1 9.5-10.0m	<2.5
7	174S	#7 Borehole 2 0-0.3m	4152.8
8	175S	#8 Borehole 2 0.3-0.6m	208.7
9	176S	#9 Borehole 2 3.0-3.6m	<2.5
10	177S	#10 Borehole 2 5.4-6.0m	<2.5
11	178S	#11 Borehole 2 7.0-7.6m	<2.5
12	179S	#12 Borehole 2 9.0m	<2.5