

Environmental Monitoring Report

January – June 2020
September 2020

KGZ: CAREC Corridors 1 and 3 Connector Road Project (Section “Epkin [Km 89] to Bashkugandy [formerly Dyikan] [Km 159]”)

Prepared by Gentek Consulting Muhendislik for the Ministry of Transport and Roads of the Kyrgyz Republic and the Asian Development Bank.

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Abbreviations

ADB	-	Asian Development Bank
CAREC	-	Central Asia Regional Economic Cooperation
CSC	-	Construction Supervision Consultant
EMP	-	Environmental Management Plan
SSEMP	-	Site Specific Environmental Management Plan
IPIG	-	Investment Projects Implementation Group
m	-	meter
km	-	kilometer
KR	-	Kyrgyz Republic
MAC	-	Maximum Allowable Concentration
MPL		Maximum Permissible Level
MoTR	-	Ministry of Transport and Roads of the Kyrgyz Republic
MF KR	-	Ministry of Finance of the Kyrgyz Republic
MC&T	-	Ministry of Culture and Tourism of the Kyrgyz Republic
SAEPF	-	State Agency on Environmental Protection and Forestry under the Government of the Kyrgyz Republic
SIETS	-	State Inspection Office for Environmental and Technical Safety under the Government of the Kyrgyz Republic
DPSSSED		Disease Prevention and State Sanitary and Epidemiological Surveillance Department of the Ministry of Health of the Kyrgyz Republic
TR	-	Terms of Reference
ACP	-	Asphalt Concrete Plant
CSP	-	Crushing and Screening Plant
HCHS	-	Historical and Cultural Heritage Site;
HCHSPP	-	Historical and Cultural Heritage Site Protection Project

1. INTRODUCTION

1.1 Preamble

1. The Kyrgyz Republic is a landlocked mountainous country and regional trade is heavily dependent on road transport, which dominates the Kyrgyz transport system and is highly dependent on road transport. The government of the Kyrgyz Republic asked the Asian Development Bank (ADB) to assist in financing the implementation of the Epkin (89 + 500km) - Dyikan (Bashkugandy) (159 + 200km) section, CAREC Corridors 1 and 3 Connector Road.
2. This report is the "third semi-annual" environmental monitoring report covering the period from January to July 2020, as part of the improvement of CAREC Corridors 1 and 3 Connector Road, (Epkin (89 + 500km) - Dyikan (Bashkugandy) (159 + 200km)) Project, which contains environmental issues, mitigation and monitoring measures carried out by the Contractor and reviewed by GENTEK - Construction Supervision Consultant.
3. Major works include earthworks, culvert construction, bridge reconstruction and asphalt pavement. Road rehabilitation works during the reporting period included road maintenance, replacement of culverts, removal of old asphalt, excavation of waste material from cut excavations, installation and operation of an asphalt plant and operation of a crushing plant for processing inert materials.
4. This report contains progress report data and changes related to the prevention of environmental impacts. Findings are based on site visits by a local environmental specialist in the first half of 2020, which focused on environmental and safety monitoring for excavation, tree felling, noise impact and traffic road management.

1.2 General

4. The project road Epkin (89 + 500 km) - Dyikan (Bashkugandy) (159 + 200 km)) is a 70-kilometer highway from east to west. As a rule, this section follows the existing road to Bashkuganda (km 159). This entire section is located within the Naryn region and crosses the small western part of the Kochkor district (Kochkor is as an administrative center); while most of them are located in Jumgal (Chaek is as an administrative center).
5. The road is 70 km long from the Epkin village (89 + 500 km) to the Bashkugandy village (159 + 200 km) runs through the Kochkor valley through the Kyzart Pass (2664 m) to the Jumgal depression. The section runs west to Bashkugandy village, passes through a series of settlements interspersed with agricultural fields with a two-lane roadway configuration. These western parts of the Kochkor district represent vast sections of agricultural land intended for agriculture and livestock husbandry. The road rises to about 2600 m, which highest point is on the Kyzart Pass, after which it descends to the Jumgal district. The high-mountainous part is the border between the Kochkor and Jumgal districts, as well as the border of the water-parting lines of the Chui and Jumgal rivers. This high point of the road appears to be a pass point between mountain ranges running parallel east to west of Naryn Region. The area is characterized as hilly and mountainous and covered with grasses suitable for grazing.

6. The CAREC Corridors 1 and 3 (Epkin Road Section (km 89 + 500) - Dyikan (Bashkugandy) (km 159 + 200) Project aims to improve transport communication and market access in the Kyrgyz Republic. The Project will result in efficient movement of freight and passenger traffic along the CAREC corridors 1 and 3, improving the safety of both road users and pedestrians, and minimizing the road's environmental impact in terms of noise from passing traffic by reconstructing the asphalt surface.

7. The proposed project will improve the following socio-economic indicators of the regions of the Kyrgyz Republic:

- Reduction of the passenger and freight transport cost between the southern and Issyk-Kul and Naryn regions by providing direct access.
- Reduction of transport costs due to reduced route and improved road conditions.
- Increased local and international traffic.
- Additional income opportunities for local residents.
- Creation of new jobs.
- Good condition of vehicles /Reduced operating costs

8. CAREC Corridor 1 connects the Russian Federation and Europe with the PRC; it is the only north-south highway that provides access from the central part of the Kyrgyz Republic to the rest of the country and beyond. Likewise, CAREC Corridor 3 connects the Russian Federation and Europe with Central East and South Asia. This is the only direct link between the southern and northern parts of the country, linking two large economic and agricultural centers - Bishkek capital and the country's second largest Osh town. Joining of these two CAREC corridors will link the southern regions (Batken, Jalal-Abad and Osh) with the northern regions (Chui, Issyk-Kul, Naryn, and Talas) via a faster and safer alternative route and facilitate further access to international markets.

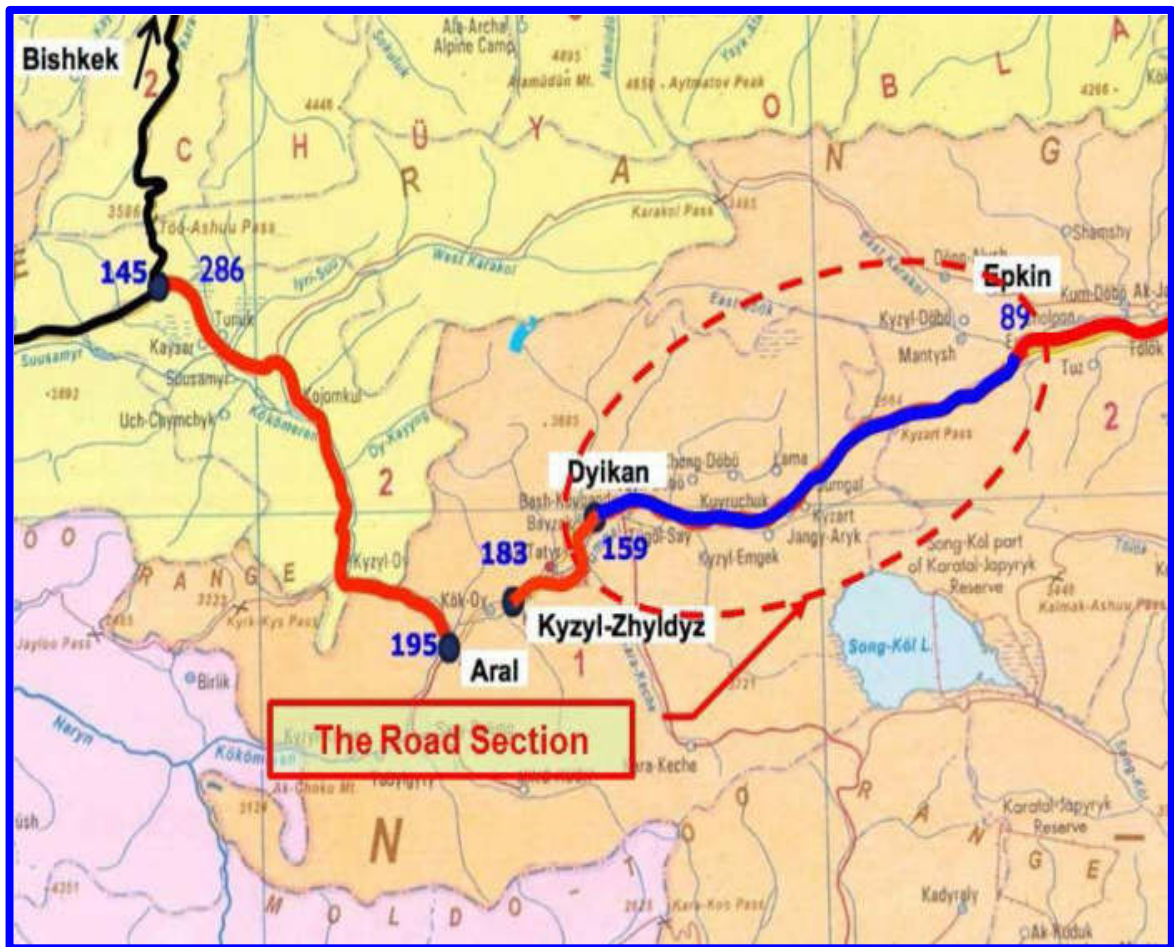


Figure 1. Map of Epkin-Dyikan (Bashkugandy) Location

2. PROJECT DESCRIPTION AND CURRENT WORKS

2.1 Project Description

2.1.1 Project Section Location and Basic Design

9. The ongoing project will improve north-south connectivity in the Kyrgyz Republic. The project will result in the efficient movement of freight and passenger traffic on the alternative North-South road. The project is categorized under ADB's Safeguard Policy Statement classification.
10. The project road Epkin (89 + 500 km) - Dyikan (Bashkugandy) (159 + 200 km) is a 70-kilometer highway from east to west. This section follows the existing road to Bashkugandy (km 159). The road is in poor condition; the surface is uneven with numerous potholes covered with frequent transverse and longitudinal cracks, often with a network of cracks. The road follows the Jumgal River and crosses the Tugol-Sai River, as well as many other feeding and irrigation ditches and lowlands.

Table 1. Names of Villages along the Project Road Section

Region	District	Town	Village	Section/km
Naryn	Kochkor (western part)		Epkin	Km 89+500 – Km 159+200
	Jumgal		Jumgal	
			Kuiruchuk	
			Tugol-Sai	
			Bashkugandy	

11. Geotechnical conditions for subgrade construction in the north-south. An alternative road between Epkin and Bashkuugandy is favorable. The basic direction of the 70 km long road is laid mainly on the existing roadbed with gravel fill, in some places with asphalt pavement. The pavement is asphalt, mainly of 5–6 cm thick, rarely 9–10 cm. The pavement base is constructed of gravel, pebble and crushed stone soil with sandy loam and sandy aggregate.
12. Major works include earthworks, culvert construction, bridge reconstruction in Tugol-Sai village at km 148+850 and asphalt paving. In order to improve drainage systems, the work includes the reconstruction and replacement of much of the deteriorated irrigation culvert, and the addition of new drainage structures.
13. Due to the problems associated with resettlement and the need to solve them before the start of construction, a sequence of construction works was planned, where, first of all, the work covered areas without resettlement problems or having a few problems.
14. Construction work is carried out mainly within the existing road's right-of-way, thus minimizing environmental impact. The project includes a number of related activities, such as development of quarries and dumps, operation of the asphalt plant and crushing and screening plant, construction of a camp and storage areas, etc.
15. In accordance with the Terms of Reference, the road surface is designed for an initial design life of 10 years with options for structural overlay for an design life of 15 and 20 years.

Table 2. Road Sections on which Construction was Started in 2020

Within the period January-June			
Section №	Section start, km	Section end, km	Section length, m
1	89+660	90+090	0+430
2	92+340	92+360	0+020
3	97+940	99+000	1+060
4	101+240	106+200	4+960
5	111+400	112+700	1+300

6	116+820	118+160	1+340
7	131+600	132+000	0+400
8	138+480	141+980	3+500
9	145+900	146+280	0+380
10	150+940	153+500	2+560

Table 3. Work Progress for January-June 2020

Work Items	Planned start date	Actual start date	Within the period January-June		
			Location		Length (m)
Tree felling	-	-	-	-	-
Grubbing and Clearing	6.05.2020	6.05.2020	101+240	106+200	3000
	4.05.2020	4.06.2020	112+080	112+700	520
	8.05.2020	8.05.2020	117+460	118+060	360
	17.06.2020	17.06.2020	131+600	132+000	400
Cut Excavation	17-6-20	17-6-20	98+460	98+720	260
	16-5-20	16-5-20	102+400	102+780	380
	16-5-20	16-5-20	103+860	104+000	140
	8-6-20	8-6-20	111+400	111+900	500
	9-6-20	13-6-20	116+820	116+880	60
	1-6-20	1-6-20	141+780	141+980	200
	11-6-20	11-6-20	145+900	146+020	120
	10-6-20	10-6-20	146+200	146+280	80
	21-5-20	21-5-20	151+440	151+540	100
Embankment	10-6-20	10-6-20	89+660	90+090	430
	11-3-20	11-3-20	93+580	96+100	2520
	2-6-20	2-6-20	96+700	99+320	2620
	19-5-20	19-5-20	100+000	103+820	3820
	3-6-20	3-6-20	104+260	105+000	740
	9-5-20	9-5-20	106+520	106+940	420
	2-6-20	2-6-20	110+780	111+260	480
	13-6-20	13-6-20	112+080	112+520	440
	19-6-20	19-6-20	117+100	117+240	140
	19-6-20	19-6-20	117+940	118+300	360
	2-6-20	2-6-20	132+200	136+000	3800
	20-6-20	20-6-20	138+780	138+940	160
	13-6-20	13-6-20	139+880	141+780	1900
	10-6-20	10-6-20	145+020	145+440	420
	12-5-20	12-5-20	150+480	153+420	2940
	18-5-20	18-5-20	154+280	154+440	160
	24-6-20	24-6-20	157+580	157+620	40

Excavation of old asphalt	19-3-20	19-3-20	89+500	91+800	2300
	11-6-20	11-6-20	98+400	98+600	200

Table 4. Total Scope of Work by Bill of Quantity

Description	Unit	Quantity			%	
		By BoQ	Actual	Remaining	Actual	Remaining
Grubbing and Clearing	ha	80	35.11	44.89	44%	56%
Existing asphalt pavement break up	m ³	18 877.00	6 806.81	12 070.19	36%	64%
Cut Excavation	m ³	406 818.00	295 534.00	111 284.00	73%	27%
Embankment	m ³	533 250.00	149 459.00	383 791.00	28%	72%

- The quantity of excavation and disposal of soil from January to date is - **17500** m3;
- Of it, unusable material from the cut excavations - **14 500** m3;
- Unsuitable material from dismantling - 0.00 m3;

16. Most of the construction work are carried out within the existing ROW, thus the environmental impact will be minimal.

2.2 Project Contracts and Management

Table 5. Project Contracts and Management

Project	Central Asia Corridor 1 and 3 Improvement Project (Epkin-Dyikan Road Section).
Contractor	TodiniCostruzioni Generali SPA
Road Section:	89 + 500km - 159 + 200km, total length 70km
Donor:	Asian Development Bank.
Contract signing date:	28/03/2017
Executive Agency	Ministry of Transport and Roads of the Kyrgyz Republic
Commencement Notificaation	13/11/2018
Completion Date	12/11/2021
Completion period - days	3 years
Time Extension - days	-

Warranty period - days	365
Contract Amount	40 750 971.37 US dollars
The intermediate payment minimum amount, USD (3%)	
The total advance payment amount	Maximum 20% of the accepted Contract amount minus the preliminary amounts
Bank guarantee amount	20% of the accepted Contract price
Third party insurance amount	500,000 USD per event, with unlimited number of events
Insurance submission deadlines a) insurance certificate b) relevant policies	14 days 14 days
Penalties for late completion of work	0.05% of the accepted Contract amount for each delayed lot per day in US dollars
Maximum amount of penalties for delay	10% of the accepted Contract amount
Reimbursement of depreciation and prepayment	10%
Limitation on deduction of money	10% of the accepted Contract amount
Retention rate	5% of the cost of work to be paid

Figure 2. Project Organizational Structure and Management

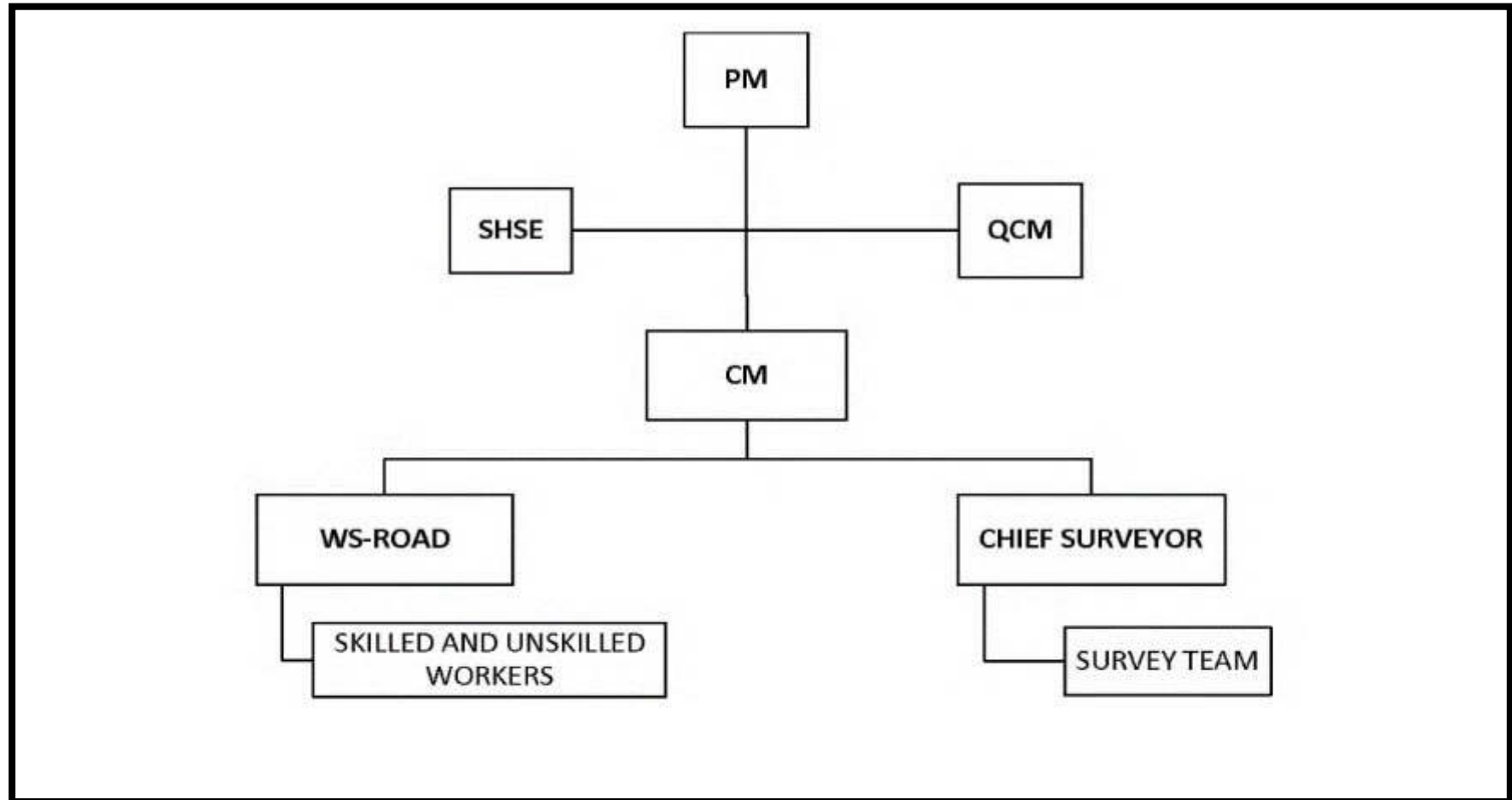


Table 6. List of Consultant's Employees

<i>International Employees</i>	
Men	
Senior Highway Engineer / Team Leader	Selcuk Mutlu
Pavement and Materials Engineer	Ersoz Yamak
Structural Engineer	Sadi Numan
Road Safety Engineer	Ercan Duymaz
Social development and Resettlement Specialist	Saim Tuzlu
Contract Specialist	Murat Kose
Environment Specialist	Serpil Ozcan Nazlioglu
<i>National Employees</i>	
Men	
Highway Engineer/Deputy Team Leader	Zheksheev Mirislan Sarychalovich
Pavement and Materials Engineer	Omorov Mirbek Boobekovich
Structural Engineer	Turdubaev Sherikbek Mailievich
Quality Assurance Engineer	Umarov Muradzhan Ibrahimovich
Road Safety Engineer	Kasymov Ruslan Musazhanovich
Social and Resettlement Specialist	Omorbekov Azamat
Environment Specialist	Zhumaliev Talantbek Nurgazievich
Hydrological/Drainage Specialist	Batyrbekov Maksatbek Meimanbekovich

2.2.1 Scope of Work under the Contract

17. Details of the proposed project road section:
 - To restore and lay the project road to Technical Category II from Epkin (km 89) to Bashkuugandy (km 159) in accordance with the National Standard of Kyrgyzstan with geometric and structural requirements with an estimated speed of 95 km/h outside settlements and 60 km/h in villages.
 - Reconstruction, repair and/or replacement of bridges and culverts.
 - Construction of side drains and other drainage structures.
 - Provision of retaining walls and riverbed protection measures, if necessary.
 - Provision of proper road signs and markings.
 - Provision of protective guard-rails.
18. The road was designed in accordance with the Kyrgyz geometric design standard, and, accordingly, it must be sufficient to effectively withstand the load of transport during the projected service life. In fact, it will be a two-lane road consisting of the width of the roadway (the sum of the width of the lanes) and the width of the shoulder. The design elements for the project road's cross section are as follows:
 - Number of lanes: 2
 - Lane width: 3.5-3.75 m
 - Carriageway width: 7.00-7.50 m
 - Shoulder width: 3.25–3.75 m (of which 0.50–0.75 m asphalted)
 - Total road width: 15.00 m
19. Detailed engineering designs have been prepared based on topographic surveys and geotechnical studies, as well as road surface, drainage structure and bridge conditions. International standards were applied to compensate for any deficiencies in national standards. The ADB-financed road section (Epkin-Bashkuugandy) is a two-lane road with a pavement width of 6-8 meters (m), and mostly asphalt pavement in poor condition. About 70% of asphalt areas are in poor condition with potholes, cracks and broken edges, and some areas are already deteriorated down to gravel. The average roughness index is 8.33 m/km.
20. The project provides for the construction and repair of the following engineering structures and communications, as well as the parameters of the scope of work.
 - Asphalt pavement 103 963 m³;
 - Binder with 9 cm thickness - 62225 m³;
 - Wearing layer with 6 cm thickness – 41738 m³;
 - Base, with 20 cm thickness – 148 771 m³;
 - Lower shoulder with 20 cm thickness – 70 648 m³;
 - Upper shoulder with 15 cm thickness – 61301 m³
 - Subbase with 25 cm thickness – 361 612 m³;

Table 7. Project Details are as following:

from	to		Total Road Length			
Km 89+500	Km 159+200		69.7 Km			
Excavation to dump	406 818 m ³		Unsuitable material from cuts		269 291 m ³	
			Rock material from cuts		136 860 m ³	
			Unsuitable demolition material		667 m ³	
Embankment	533 250 m ³		Common material from cuts		174 697 m ³	
			Rock embankment from cuts		9 100 m ³	
			Common material from the quarry		186 663 m ³	
			Selected material from the quarry		157 290 m ³	
			Common material for road signs and backfill		5 500 m ³	
Subbase C grade, 0/40 fraction	364 667 m ³		Thickness on main road = 25 cm		361 612 m ³	
			Thickness on ramps = 25 cm		3 055 m ³	
Lower shoulder C4 grade, 0/70 fraction	71 063 m ³		Thickness on main road = 20 cm		70 648 m ³	
			Thickness on ramps = 15 cm		415 m ³	
Upper shoulder C10 grade, 0/40 fraction	62 131 m ³		Thickness on main road = 15 cm		61 301 m ³	
			Thickness on ramps = 5 cm		830 m ³	
Base I grade, 0/30 fraction	149 681 m ³		Thickness on main road = 20 cm		148 771 m ³	
			Thickness on ramps = 15 cm		910 m ³	
Asphalt pavement	103 963 m ³		Binder Thickness = 9 cm		62 225 m ³	
			Wearing layer Thickness = 6cm		41 738 m ³	
Drainage	Open drain		Closed PVC drain		Closed drain, non-PVC	
	Excavation for 20 258 m ³		1 363 m		3 000 m	
Sulphate-resistant culverts, B30	D = 1.0 m	D = 1.5 m	D = 2.0x1.5 m	D = 2.0x2.0 m	D = 1.0 m	D = 1.0 m
	1 130 m	898 m	25 mm	27 m	10 m	11 m
Reinforcement	42.91 t		Bridge		28.87 m	

Landscaping

21. In 2019, a total of 1,470 trees were felled. Most of the trees planted on the side of the road will be felled during the road rehabilitation. As compensation, planting seedlings in a 1: 2 ratio is required. During the reporting period January-June, no tree felling work was carried out on the site. The number of trees to be felled is approximately 1,000 psc.

Land Acquisition and Resettlement Plan

22. The project site passes through densely populated areas, the project provided for the demolition of commercial services facilities, pavilions, billboards, service stations, gas stations, installation of fences and houses, which are impacted by the project, in the areas of widening of the road and areas of construction of new sidewalks. A Resettlement Plan was drawn up, on the basis of which it is planned to pay compensation to 143 people who entered the construction zone, including land owners and users, entrepreneurs, tenants and workers.

2.2.2 Main Organizations Involved in the Project

23. Relevant institutions working with the project include:
 - Ministry of Finance of the Kyrgyz Republic (MF),
 - Ministry of Transport and Roads of the Kyrgyz Republic (MoTR)
 - Investment Projects Implementation Group (IPIG) under MoTR,
 - State Agency for Environmental Protection and Forestry (SAEPF)
 - State Inspection for Environmental and Technical Safety under the Government of the Kyrgyz Republic (SIETS)
 - Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic (DDPSSSES).
1. MoTR is responsible for the development of the transport sector and is the Executing Agency (EA) for the project. MoTR has overall responsibility for planning, design, implementation and monitoring of the project. IPIG works under MoTR and performs tasks assigned by the MoTR.
2. MF KR is the authorized government body responsible for coordinating with ADB and other donors regarding foreign aid issues.
3. SAEPF is the leading environmental state agency responsible for state policy in this area and coordinating the actions of other government agencies in these matters. Its functions include:
 - development of environmental policy and its implementation;
 - carrying out state ecological expertise;
 - issuance of environmental licenses;
 - environmental monitoring;
 - provision of environmental information services.
4. SIETS is carried out in accordance with the Law "On the procedure for conducting inspections of business entities". SIETS monitors compliance with:
 - I. environmental legislation, established rules, limits and norms for the use of natural resources, standards for emissions and discharges of pollutants and disposal of waste in the environment;

- II. industrial safety requirements for construction, expansion, reconstruction, technical re-equipment, operation, conservation and liquidation of hazardous production facilities;
 - III. requirements of land legislation;
 - IV. safety requirements for equipment and facilities for storing and dispensing oil products and gases, lifting cranes;
 - V. requirements for the rules of safe operation during construction, installation and adjustment of electrical networks and electrical equipment.
5. DDPSSSES supervises the sanitary and epidemiological welfare of the population, safety of goods, products, environmental objects and conditions, prevention of the harmful effects of environmental factors on human health

Table 8. Main organizations involved in the project and related to environmental protection

№	Name of company	Activities in the project	Responsible persons for environmental protection	Contact details
1	ADB	Donor	Ninette R. Pajarillaga	npajarillaga@adb.org
2	Permanent Representative ADB Office in the Kyrgyz Republic	Consultant	Sultan Bakirov	Sbakirov.consultant@adb.org
3	IPIG under the MoTR	Executive agency	Abdygulov Asylbek	asylbeka@piumotc.kg
4	Gentek	Consultant	Zhumaliev Talantbek	take0978@mail.ru
5	Todini Costruzioni Spa	Contractor	Nurlan Nurdinov	nnurdinov78@mail.ru
9	Kyrgyz Zhol Kurulush LLC	Subcontractor,		

2.3 Design Work during the Current Reporting Period

2.3.1 Road Construction Works

24. During the reporting period, the following works were carried out:
- Maintenance of the existing road;
 - Dismantling of old and installation of new culverts;
 - Excavation and disposal of unusable material from cuts;
 - Breaking up and removal of asphalt concrete pavement to the dump;
 - Fill of material from cuts;

Table 9: Contractor's Schedule

WORK ITEM	PERIOD	START	END
ROAD CONSTRUCTION FROM km 150 + 100 TO km 159 + 200 - L = 9.10 km	552 days	11.12.2018	15.06.2020
PREPARATORY WORKS FOR CONSTRUCTION	136 days	11/12/2018	26/04/2019
DISMANTLING OF EXISTING STRUCTURES	30 days	26/04/2019	26/05/2019
RELOCATION OF ENGINEERING INFRASTRUCTURES	120 days	25/06/2019	23/10/2019
DRAINAGE AND CULVERTS	220 days	11/04/2019	17/11/2019
EMBANKMENT	121 days	02/04/2019	01/08/2019
PAVEMENT	69 days	08/03/2020	16/05/2020
SHOULDERS	15 days	01/05/2020	16/05/2020
ROAD FURNITURE	60 days	16/04/2020	15/06/2020
COMPLETION	0 days	15/06/2020	15/06/2020
COMPLETION	120 days	16/07/2021	13/11/2021

ROAD CONSTRUCTION FROM km 143 + 500 TO km 149 + 845 - L = 5.845 km	672 days	11/12/2018	13/10/2020
PREPARATORY WORKS FOR CONSTRUCTION	126 days	11/12/2018	16/04/2019
DISMANTLING OF EXISTING STRUCTURES	30 days	26/05/2019	25/06/2019
RELOCATION OF ENGINEERING INFRASTRUCTURES	120 days	15/06/2020	13/10/2020
DRAINAGE AND CULVERTS	370 days	20/07/2019	24/07/2020
EMBANKMENT	70 days	05/07/2019	13/09/2019
PAVEMENT	85 days	02/04/2020	26/06/2020
SHOULDERS	10 days	24/06/2020	04/07/2020
ROAD FURNITURE	51 days	03/07/2020	23/08/2020

ROAD CONSTRUCTION FROM km 132 + 000 TO km 142 + 310 - L = 10.31 km	981 days	11/12/2018	18/08/2021
PREPARATORY WORKS FOR CONSTRUCTION	186 days	11/12/2018	15/06/2019
DRAINAGE AND CULVERTS	425 days	18/09/2019	16/11/2020
EMBANKMENT	47 days	13/09/2019	30/10/2019
PAVEMENT	468 days	07/05/2020	18/08/2021
SHOULDERS	15 days	18/09/2020	03/10/2020
ROAD FURNITURE	121 days	19/06/2020	18/10/2020
COMPLETION	0 days	02/10/2020	02/10/2020

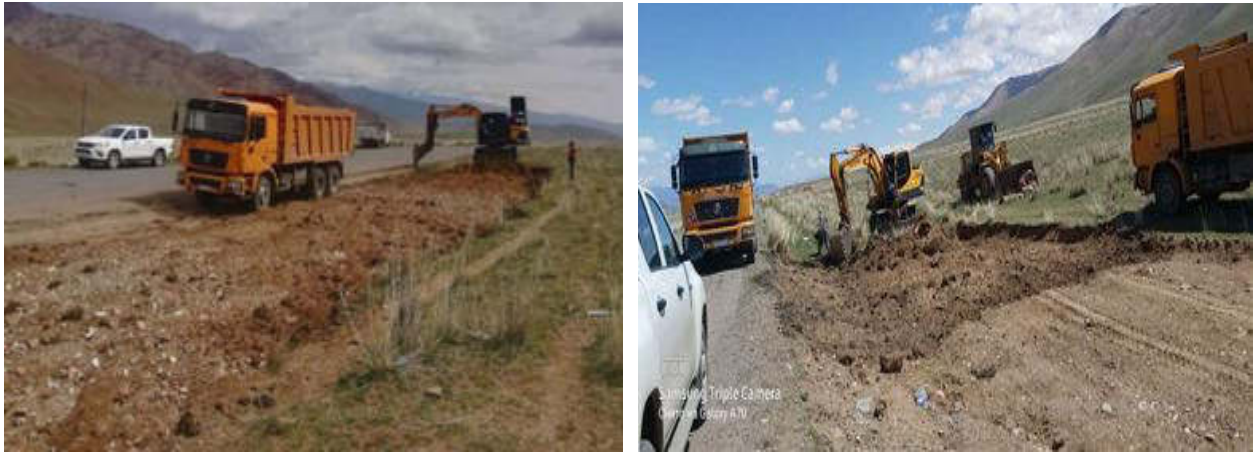


Figure 3. Site Arrangement at km 103+000



Figure 4. Removal of Old Asphalt and Unusable Soil

25. As hot weather had set in, regular irrigation of these areas was established, but taking into account the hot weather, dust formation is still observed on the road. 9 water sprinklers were working on the road. Water for irrigation is taken from the Jumgal, Tugol-Sai and Kyzartsuu rivers. Even though, during seasonal irrigation works there were problems with local villagers regarding access to water.



Figure 5. Irrigation on the Road



Figure 6. Embankment Raising with Inert Material

2.3.2 Construction of Bridges and Culverts

26. No bridge construction work has been carried out during the reporting period yet. Work has begun on dismantling old and constructing new culverts by "Kyrgyz ZholKurulush" Subcontractor.



Figure 7. Construction of a culvert at km 96 + 032



Figure 8. Installation of prefabricated cast elements



Figure 9. Culvert foundation concreting, km 93 + 280

2.3.3 Quarries

27. On the project road (Epkin-Dyikan section, km 89-159), 12 sites were allocated for quarries. Later, the Contractor received all the necessary permits/approval from local authorities, the State Committee of Industry, Energy and Subsoil Use (SCIESU) and the State Agency of Environmental Protection and Forestry (SAEPF) for the development of all 12 quarries listed below. Table 11 shows the main characteristics of the quarries.
28. Excavation, screening and storage of material in the dump areas was carried out. During the reporting period, no violations were revealed in the work on the development of the borrow pits.

Table 11. Characteristics of quarries

No.	Quarry	Up to Km by the road	About the road axis (m)	Object characteristics		Location of quarries	Note
				Production volume (m3)	Area (ha)		
1	Quarry №1	91+680	RHS 71m	100 000	11.2	Cholpon v.	being developed
2	Quarry №2	92+630	RHS 525m	200 000	15.6	Cholpon v.	Not being developed
3	Quarry №3	94+080	RHS 39m	60 000	1.04	Cholpon v.	Not being developed
4	Quarry №4	100+790	RHS 54m	150 000	1.8	Cholpon v.	being developed

5	Quarry №5	106+350	LHS 78m	80 000	2.5	Cholpon v.	being developed
6	Quarry №6	106+420	RHS 250m	150 000	3.3	Cholpon v.	Not being developed
7	Quarry №7	110+900	RHS 94m	100 000	2.1	Cholpon v.	being developed
8	Quarry №8	133+000	RHS 320m	150 000	0.93	Jany-Aryk v.	Not being developed
9	Quarry №9	135+280	LHS 25m	200 000	0.64	Jany-Aryk v.	being developed
10	Quarry №10	140+990	LHS 212m	97164.92	6.5	Kuiruchuk v.	Not being developed
11	Quarry №11	145+800	RHS 150m	30 000	0.63	Kuiruchuk v.	closed
12	Quarry №12	148+630	RHS 1800m	800 534.9	18360	Tugol-Sai v.	being developed

2.3.4 Production Site Territory

29. The production site is defined on the territory of the Kuyruchuk ayil okmotu, not far from Tugol-Sai village at km 148 + 630 and is located at a distance of at least 500 m from the settlement.
30. The following buildings and structures are located on the site: control panel building, crushing and screening plant (Crusher), car parking; parking lot for trucks; storage area for bulk materials - crushed stone and sand; transformer substation, checkpoint, office, platform for garbage containers. The production site is fenced and there is no access to unauthorized persons. It is planned to install an asphalt and bitumen plant. These facilities are located at an adequate distance in accordance with SSEMP from houses (at least 500 m) and also from water (at least 50 m) to avoid water pollution.



Figure 10. Production base

Crushing and Screening Plant

31. Raw materials for the production of crushed stone and sand are delivered from the quarry by dump trucks to the Crushing and Screening Plant (Crusher). The crushing of raw materials is carried out on the lane in crushers. Water should be sprinkled when crushing to reduce dust emission by 70% inorganic dust formed during work of the Crusher. Sieving is carried out with washing - on vibrating screens, transportation is carried out by belt conveyors.



Figure 11. Crushing and screening plant on the production base

32. After screening and washing, the sand is distributed through a spiral classifier, where it is mixed, dried and delivered to the finished product storage area. Crushed stone and sand are stored separately in storage facilities.
33. When the plant is in operation, all soil around the fuel tanks must be protected from leaks and hazardous material spills with an insulating protective cover.
34. Accommodation for workers and a canteen is located in a rented house next to the Crusher. Parking lots for dump trucks and a fuel-servicing truck are located separately from the main Crusher territory.

Asphalt and Bitumen Plant

35. It is planned to install equipment for the production of asphalt and bitumen mixture on the plant territory. After the installation of the Asphalt Plant, the Contractor plans to organize a pit for storing the bitumen mixture.
36. Currently, mobilization of the Asphalt Plant and assembling work is ongoing.



Figure 12. Mobilization and site preparation for the Asphalt Plant

2.3.5 Camp

37. The site for the camp was determined and installed in August-September 2019.
38. The camp provides office premises for the Contractor, Supervision Consultant and laboratory building. The camp has a prefabricated kitchen building block unit, an equipped place for having meals, showers, sinks, and toilet facilities.
39. The site for the camp has been determined and established, but it will serve as a construction office for the Contractor and Engineer with a canteen and laboratory.
40. Currently, subcontractors' employees live in rented houses. Regular explanatory talks are held with residents about the observance of the rules in the camp.
41. Refueling of contractor's trucks is carried out at the Partnerneft Gas Station, while refueling tanks are set at the subcontractor's operating Crusher territory. Trucks are parked and serviced at subcontractor's and contractor's construction sites.



Figure 13. Camp



Figure 14. Laboratory

42. Taking into account that many workers smoke, smoking in residential premises is strictly prohibited in order to comply with elementary fire safety rules. Smoking is allowed only on designated areas. Explanatory talks about compliance with the rules of living in the camp are regularly held with residents.
43. At km **91 + 857**, there is a temporary base and camp for subcontractor's workers.



Figure 15. Subcontractor's temporary base

2.3.6 Tree Management

44. During the reporting period, no tree felling work was carried out in the project areas.
45. All permits, together with Acts for trees that were felled in 2019, indicating the number and size, were signed by the relevant state bodies.
The contractor still has to fell trees on the impacted sections. The number of trees to be felled is about 1000 psc. A detailed inventory of trees in order to minimize their felling will be carried out additionally with the participation of local authorities and the Contractor's environmental specialist.
46. The site for planting seedlings will be determined and agreed with the Heads of the ayil okmotu upon completion of all construction work on specific sections. In parallel, work will be carried out with the nursery farm of the Jumgal Forestry on the selection and purchase of seedlings.
47. During the reporting period, the Contractor informed the Engineer that on the road section km 127 in Jumgal village, which at the reporting date was an impact section and which was not officially handed over to the Contractor, unknown people cut down trees.
48. The Contractor was advised in writing to draw up a detailed tree management and replanting of the felled trees on specific completed sections plan (TMP).

2.3.7 Personnel Data

49. In 2020, for the reporting period, the total number of the Contractor's personnel, including subcontractors, management, engineering personnel and workforce, was 322 persons, of which 316 are local, 6 are foreign.

2.4 Description of any Design Changes

50. During the reporting period:
 - The necessary topographic studies were carried out on the site, the design drawings were assessed, and the sections for withdrawing, as well as the owners of these

territories were identified.

- It has been determined which of the plots to be withdrawn are agricultural land. As a result, inconsistencies (with reference to the relevant laws) of criteria for the divisibility of agricultural land were identified;
- Engineering studies have been conducted on what changes can be made to the geometric parameters of the road to reduce the number of plots to be withdrawn and land owners affected by the project.

51. Issues related to difficulties and high costs in the withdrawal of agricultural land have been identified. As a result, it was necessary to prevent these problems before they occurred, using possible changes to the geometric parameters of the road as part of preventive measures. Thus, the purpose of the work was to reduce the time that the Employer would spend on withdrawal, and to reduce the cost of withdrawal.

52. Locations based on the explanations and suggestions of the above mentioned studies are as follows:

1. **Km: 121+540 - 123+560 (L=2 020 m).** It is recommended to shift the horizontal axis of the road **to the right** in this section. Starting at 121 + 540 km, this shifting can reach 7.70 m at 122 + 140 km, then decrease to 4.24 m at 122 + 420 km, increase to 7.98 m at 122 + 740 km and end at 123+ 560 km. **It is not recommended to make changes to the typical cross-section of the road.**
 2. **Km: 124+260 - 125 + 080 (L = 820 m).** It is recommended to shift the horizontal axis of the road **to the left** in this section. Starting at 124 + 260 km, this shifting can reach 2.38 m at 124 + 760 km and then end at 125 + 080 km. **It is not recommended to make changes to the typical cross-section of the road.**
 3. **Km: 125+740 - 127+000 (L= 1 260 m).** It is recommended to shift the horizontal axis of the road **to the left** in this section. Starting at 125 + 740 km, this shifting can reach 1.99 m at 126 + 260 km, then decrease to 1.48 m at 126 + 540 km, increase to 2.81 m at 126 + 760 km, and end at 127 + 000 km. **It is not recommended to make changes to the typical cross-section of the road.**
 4. **Km: 128+920 - 130+540 (L = 1 620 m)** - in this section it is recommended to shift the horizontal axis of the road **to the left**. Starting from 128 + 920 km, this horizontal shifting can reach 9.56 m at 129 + 760 km and then end at 130 + 540. **It is not recommended to make changes to the typical cross-section of the road.**
 5. **Km: 131+600 - 131+900 (L = 300 m).** In this section, it is not suggested to perform a shifting to the right or left along the horizontal axis of the road. However, changes to the road embankment slope are proposed and a reduction in shoulder width is proposed..
 - a. Km: 131 + 600 - 131 + 900 (L = 300 m). In this section, it is proposed to make the slope of the right side of the embankment equal to 1: 1.5, and the width of the right shoulder - 1.50 m.
 - b. Km: 131 + 800 - 131 + 840 (L = 40 m). In this section, it is proposed to make the slope of the left side of the embankment equal to 1: 1.5, and the width of the left shoulder - 2.00 m.
- If the Employer accepts the changes recommended by the Consultant and gives instructions for implementation, the number of 152 land plots subject to withdrawing at the beginning will be reduced to 60. Thus, 92 land plots will not need to be withdrawn.

3. ENVIRONMENTAL ACTIVITIES

3.1 General Description of Environmental Protection Measures

53. During the reporting period, regular visual monitoring of compliance with environmental requirements during construction work on all sections of the road was carried out by a local environmental specialist of the GENTEK company, an environmental specialist of the Investment Projects Implementation Group under the Ministry of Transport and Roads of the Kyrgyz Republic, an environmental specialist of the Contractor.

3.2 Road Construction Works

54. Dust formation has a major impact on the environment during earthworks. The increased air temperature has resulted in increased dust formation on the existing road, which is currently on the Contractor's balance. Dust control measures are carried out in the areas with ongoing road construction works. In this regard, the Contractor was instructed to increase the intensity of spraying of the road, including roadsides, at construction sites from 7 am to 7 pm. At present time nine watering machines are allocated for this task, and each of them watering 4-5 times per day. However, dust control measures are still inadequate, increased dust leads to road safety problems, and elevated temperatures lead to water lack in the region and competition with local farmers for access to water. The Contractor was instructed to draw up a road irrigation schedule with a 30 minute interval between irrigations and to open a log to track dust control work. The Safety Engineer of the Consultant recommended to the Contractor to install the Hydrant pump in the places where the watering machines take in water.

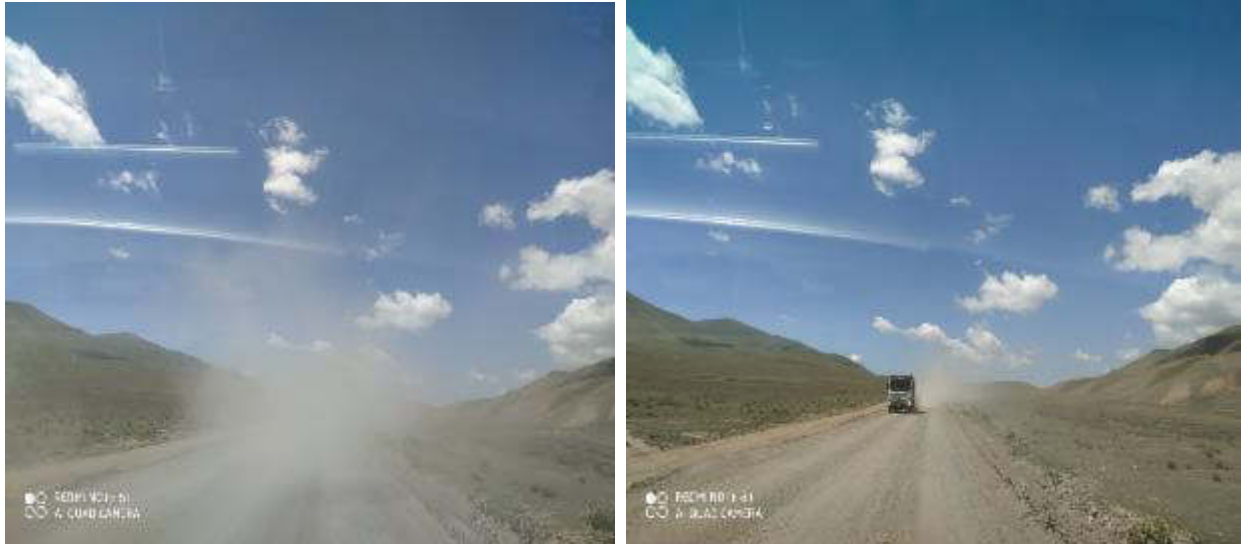


Figure 16. Increased dust formation on project sections

55. A partial impact on the environment during the construction of culverts may be waterproofing with bitumen.
56. Bitumen for waterproofing culverts and bridges is usually melted at the construction site. If the Contractor does not provide dry firewood for these purposes, the workers will have to maintain the fire by burning bitumen or worn out old tires from trucks. As a result, the black smoke generated by this will negatively affect the health of workers and residents of nearby villages.

57. The Contractor was given a verbal warning indicating this issue and it was recommended to conduct an explanatory work with the specialists responsible for waterproofing works.



Figure 17. Waterproofing culverts with bitumen

58. At km 112 + 500, in the open trench of the culvert during the rainy season, water filled up and posed a danger to the population and domestic animals. The Contractor was requested to eliminate inconsistencies regarding pumping out water and organizing temporary fencing in the identified areas.
59. Removing of old culvert is underway on the project sites.
60. In connection with these construction works, old reinforced concrete elements are stockpiled on the shoulder, which, as soon as they are stocked in some amount, are handed over to the local Road Maintenance Company, and the broken ones are disposed of. During the reporting period, cases were identified when old culverts interfered with road safety. Disposal locations are determined by local authorities.



Figure 18. Existing Culverts Removal



Figure 19. Stockpiling of old culverts

3.2.1 Quarries

61. The quarry at km 148 + 630 belongs to the category of self-renewing due to the quarry location in the river floodplain, exposed to mudflows.



Figure 20. Quarry at km 148+630



Figure 21. Quarry at km 135+280



Figure 22. Quarry at km 110+900

62. The quarry at km 145 + 800 was withdrawn and closed in March 2020 because the material was unsuitable for use in the road construction due to the high content of clay, which can lead to the formation of blow-up patches.
63. In connection with the above, the border of the quarry at km 135 + 280 was expanded by the decision of the commission of the Ministry of Transport and Roads of the Kyrgyz Republic.
64. It is planned to develop a new quarry at km 112+ 870, with an area of 5.08 hectares. In May 2020 the Contractor applied to the Naryn territorial department of the State Agency for Environmental Protection and Forestry of the Kyrgyz Republic with a request to issue an act and Decision on a land plot for opening a quarry of inert materials in order to implement a road construction project in the Kochkor district of the Semiz-Belsk ayil okmotu. The Contractor also asked the Employer for help in obtaining permits.

3.2.2 Production Site Territory

65. During the monitoring of the work on the territory of the production site, a Crusher, transformers, lighting, etc. were installed. The site for the production base was allocated by the Kuyruchuk ayil okmotu, there is an agreement with the pasture committee, permits from the Naryn Territorial Department of Environmental Protection and an ecological certificate. Currently, work is underway to mobilize the Asphalt plant and assemble the elements.





Figure 23. Production site territory

66. It was found that the Crusher was working without proper maintenance of cleanliness and order of the workplace with separate processing of construction and household waste and the absence of a fire shield in place.
67. On the production site territory, tanks for fuels and lubricants were not installed on a concrete base. Fuel and oil spill on the ground was detected during the walk-around. The fire shield was not completed. A non-compliance letter was sent to the Contractor and the problematic issues were resolved.



Figure 24. Tanks for fuels and lubricants



Figure 25. Oil leaks at subcontractor's equipment parking lot

68. Oil leaks from the equipment were found at the parking lot of the subcontractor's heavy vehicles. The Contractor received comments on the detected leaks, which were promptly eliminated (the contaminated soil was removed and taken to a specially designated place).

3.2.3 Tree Management

69. In 2019, 1440 trees were marked on the sections of km 139 + 500 and km 149 + 500, all documentation was prepared, permission to cut trees was obtained from the local environmental authorities. The trunks of the felled trees were stored in a designated area and distributed among the local authorities. The exact number of trees for felling was determined by the Contractor when designing the road, and this led to a discrepancy with the number of trees identified by the IEE. With further progress of work, this number of trees may change.
70. In 2020, no tree felling work was carried out during the reporting period.

3.2.4 Objects of Historical and Cultural Heritage at the Site

71. For the reporting period, 12.03.2020, the Employer provided the Contractor with "Project of Protection Zones of Historical and Cultural Heritage Objects" (PPZHCHO) updated by the Ministry of Culture and Tourism of the Kyrgyz Republic.
72. When designing protection zones for Epkin - Dyikan (Bash-Kuugandy) 89 + 500 - km. 159 + 200, Section 2B, the Instruction was used on the organization of protection zones for immovable objects of historical and cultural heritage of the Kyrgyz Republic, approved by the Ministry of Culture, Information and Tourism of the Kyrgyz Republic under No. 351 dated July 27, 2015.
73. The updated project of the Ministry of Culture and Tourism of the Kyrgyz Republic indicates that in the process of designing Epkin-Dyikan (Bash-Kuugandy) Section 2B with

a length of km 89 + 500 - 159 + 200 km, the HCHS protection zones have been developed located within the protected 50 meter. Of these: 18 kurgans are proposed for archaeological excavation before the road construction and 20 kurgans for archaeological excavations during the road construction (38 objects in total) along the contract road from km 91 + 100 to km 154 + 600.

74. The main goal of designing protection zones for immovable objects of history and culture was to protect monuments from destruction or deterioration of their condition or visibility by the method of urban planning regulation.
75. In accordance with the Law of the Kyrgyz Republic "On the Protection and Use of Historical and Cultural Heritage" (Article 30), in order to ensure the safety of immovable objects of history, archeology, urban planning, architecture, monumental art, etc., protection zones, zones of building regulation, zones of protected objects of nature or historical landscapes are established.
76. Design of protection zones for immovable objects of historical and cultural heritage is determined by the "Regulations on the registration, protection, restoration of historical and cultural objects of the Kyrgyz Republic" approved by Government Decree No. 568 dated August 20, 2002, the Instruction on the procedure of accounting, protection and use of immovable objects of historical and cultural heritage of the Kyrgyz Republic, the Instruction on organization of protection zones of immovable objects of historical and cultural heritage of the Kyrgyz Republic, approved by Order of the MoCIT KR No. 351 dated July 27, 2015.
77. Based on these documents, the Contractor was provided with all official documents.
78. The Contractor provided the Archaeological Site Plan, but it has not been approved by the Engineer yet.
79. The contractor is taking measures to protect HCHS at the construction road section (installation of information shields and protective tapes).
80. The Contractor has not yet provided a specific report on the study of the presence of additional objects that may be encountered in the excavation work, prior to the start of construction work at the archaeological sites.





Figure 26. HCHS and protective measures

3.1.6 Construction Waste

81. When carrying out work on the reconstruction of bridges and culverts, waste in the form of old reinforced concrete elements is stored on the road shoulder, which is not always removed on time.
82. The Contractor was given notifications about the need to remove all construction waste from the shoulders. The Contractor gave explanations, after that an agreement was reached that the removal of construction waste from the project site will be carried out as it accumulates.
83. The old drainage pipes extracted from the sections, as soon as they accumulate in some amount, they will be handed over to the local Road Maintenance Company (RMC) of Kochkor and Jumgal districts. The broken pipes will be taken to specially designated dumps.

Old asphalt

84. For backfilling rural streets with old asphalt, local authorities have proposed village roads near the project. The Contractor's specialists with local authorities carried out a preliminary analysis of all proposed roads (Cholpon, Zhany-Aryk, Tugol-Sai, Kuyruchuk, Bash-Kuuganda ayil okmotu, etc.), taking into account their remoteness from the main road.

85. The total volume of old asphalt removed as of June 2020 is 6930.29 m³. Old asphalt was used for improvement of:
- exit road in Epkin v. (km 147 + 540, LHS);
 - local road leading to the Kara-Keche coal deposit (158 + 540, LHS);
 - private land in Tugol-Sai v. (149 + 000, RHS);
 - internal road to Ak-Chiy v. (RHS);
 - отвалdump (150+960, LHS).
86. The estimated volume of asphalt that has to be removed is approximately 11,946.71 m³ according to the BoQ.
87. It is planned that the stripped asphalt will be used / disposed of as follows: km 149 + 050 (private land), also for dumps at km 151 + 140, km 130 + 840, km 132 + 860, km 136 + 940, km 91 + 380, km 92 + 980, km 100 + 940, km 140 + 990, km 121 + 620, km 120 + 310, 117 + 520.
88. Also, the Head of the Cholpon aiyl district asked to fill old asphalt on the internal roads of Ak-Chiy and Uzun-Bulak villages.
89. The problem of breaking up large old asphalt is a laborious job, mostly the old asphalt is taken to the backfill of rural streets proposed by the local authorities. Partially asphalt and unusable soil, at the written request of the owners, is taken out to private sites oriented /designed for commercial use.



Figure 27. Old asphalt at km 91+600

90. With the start of road works on the sites in 2019, it was decided to take out the old asphalt for filling the existing internal and field roads at the written request of the ayil okmotu. Prior to the start of the work, approvals were obtained from local authorities and environmental authorities for the use of the removed asphalt on rural roads.



Figure 28. Leveling after backfilling with old asphalt on a country road in Epkin v.



Figure 29. Removal and leveling of old asphalt in Bash-Kuugandy v. (road to the local Kara-Keche coal deposit)

91. On a section km 91 + 600, the residents and representatives of the Ak-Chiy ayil okmotu addressed the Contractor with a letter to remove the old asphalt to the territory of this ayil okmotu, explaining that they need this old asphalt to backfill roads inside the village. In this regard, the stripped old asphalt in this area was removed and stored at designated sites in the territory of this village. In the future, this asphalt will be used as needed for the improvement of the internal roads of the named village.



Figure 30. Old asphalt on the territory Ak-Chiy v. for backfilling roads

3.1.7 Storage Areas (dump)

92. The storage sites for unnecessary materials were identified by the Contractor's environmental engineer and appropriate permits were obtained from the local environmental and municipal authorities (Table 7).

Table 11. Storage areas

№	Object location		Village area	Remarks
	Km	Distance from the road		
1	158+400	317 m RHS	Bash-Kuugandy	
2	158+540	108 m RHS	Bash-Kuugandy	
3	158+550	5 m LHS	Bash-Kuugandy	
4	157+300	150 m LHS	Bash-Kuugandy	
5	155+800	320 m RHS	Bash-Kuugandy	
6	154+800	186 m LHS	Tugol-Sai	
7	152+760	940 m LHS	Tugol-Sai	Denied
8	152+760	87 m LHS	Tugol-Sai	
9	151+140	11 m RHS	Tugol-Sai	
10	150+960	66 m LHS	Tugol-Sai	
11	150+840	104 m RHS	Tugol-Sai	
12	149+000	RHS	Tugol-Sai	Private land

13	147+540	LHS	Kuyruchuk	
14	143+610	421 m – 694 m RHS	Kuyruchuk	
15	140+990	122 m LHS	Kuyruchuk	
16	136+940	435 m RHS	Dzhany-Aryk	
17	132+860	315 m RHS	Dzhany-Aryk	
18	130+840	31 m RHS	Dzhany-Aryk	
19	121+620	49 m LHS	Dzhany-Aryk	
20	120+310	37 m LHS	Dzhany-Aryk	
21	117+520	78 m LHS	Dzhany-Aryk	
22	110+660	85 m RHS	Cholpon	
23	100+940	91 m LHS	Cholpon	
24	106+720	55 m LHS	Cholpon	
25	106+540	49 m RHS	Cholpon	
26	93+980	66 m RHS	Cholpon	
27	91+360	45 m RHS	Cholpon	
28	98+190	21 m LHS	Cholpon	
29	103+060	16 m RHS	Cholpon	
30	112+600	45 m LHS	Semiz-Bel	
31	113+970	33 m LHS	Semiz-Bel	
32	115+850	60 m LHS	Semiz-Bel	

93. A letter was sent to the Bash-Kuugandy aiyl okmotu for storing inert material on a new dump at km 155 + 760, RHS 39 m.
94. At km 112 + 600, the dump was stacked close to the bank of the stream, thereby creating a risk of blocking the river and flooding the bank. In this regard, the contractor was given a written notice not to carry out storage of dumps near the banks of rivers, streams or mudflows in the future.



Figure 31. Dump at km 112+600

95. At km 149 + 000, unnecessary material is transported to private land at the request of the site owner.



Figure 32. Dump on the private land

Production Site Territory

96. Containers for household and construction waste were not installed on the territory of the production site. A written comment was made to install separate containers for household

and hazardous waste in accordance with the Waste Management Plan of the SSEMP and draw up an agreement with local waste collection organizations.



Figure 33. Waste on the production base territory

97. Based on the notification, the territory of the production site was cleared of construction waste. All noted violations were eliminated. Separate waste containers were installed. Fire safety measures were taken, fire shields were completed.

3.3 Construction Site Monitoring

During the reporting period, the local Environment Specialist of Gentek, A. Asipzhanov, was replaced by Zhumaliev T.N., who began to work since April 2020. With the emergence of the COVID-19 pandemic in the world, a quarantine regime was periodically introduced in the Kyrgyz Republic. In this regard, there were problems of timely access to the construction site in the reporting period.

Table 12. Monitoring of construction sites in June 2020

No	Date	Name of Auditors	Audit Aim	Summary of any Important Audit Notes
1	19.06	Zhumaliev T. Nurdinov N.	Monitoring of construction sites together with the Contractor's environmental specialist	Increased dust formation was noted on the road. A warning was issued to the Contractor
2	19.06	Zhumaliev T. Nurdinov N.	Monitoring of construction sites together with the Contractor's environmental specialist	Work on the construction of culverts is in progress
3	19.06	Zhumaliev T. Nurdinov N.	Monitoring of construction sites together with the Contractor's environmental specialist	An oral warning was given to the Contractor about the need to remove construction and household waste

4	19.06	Zhumaliev T. Nurdinov N.	Monitoring of construction sites together with the Contractor's environmental specialist	Oil spills were noted on the ground on the subcontractor's base. A letter was sent to the Contractor about the detected violation.
5	19.06	Zhumaliev T. Nurdinov N.	Monitoring of construction sites together with the Contractor's environmental specialist	At km 91 + 200, the old asphalt was transported to a swampy place. A letter was sent to the Contractor about the detected violation.
6	20.06	Zhumaliev T. Nurdinov N.	Monitoring of construction sites together with the Contractor's environmental specialist	At km 112 + 600, the dump was stored close to the bank of the stream. A letter was sent to the Contractor about the detected violation.
7	20.06	Zhumaliev T. Nurdinov N.	Monitoring of construction sites together with the Contractor's environmental specialist	Fire safety was not organized at the production base. A letter was sent to the Contractor about the detected violation.
8	20.06	Zhumaliev T. Nurdinov N.	Monitoring of construction sites together with the Contractor's environmental specialist	Waste removal works were not organized at the production base. A letter was sent to the Contractor about the detected violation.

3.4 Observed Problems (Based on Non-Compliance Records)

During the reporting period, after environmental problems, a letter was sent to the Contractor for elimination with a specified deadline. Basically, all problems were fixed.

Table 13. Report on non-compliance with environmental requirements

	Non-compliance issue identified by Gentek	Letter numbers of Gentek	Best Practice Guidelines Applicable (No.)	Particular issue and location	Contractor's actions (specify)	Inspection results of Gentek	Status for June 2020
1	Subcontractor construction area	25.06.20/590	Appendix of SSEMP: Waste Management Plan	Oil spills were found in places on the ground on the territory of the subcontractor's temporary base. It is necessary to clear and remove contaminated ground.	Clearing of the site was carried out	Executed	The contaminated ground was removed and taken to a specially designated place
	Project sites and roads	20.06.2020/589 25.06.2020/590	Appendix: Dust Control Plan	Increased dust formation on the roads	The contractor is required to make a Dust Control Schedule and increase the number of watering machines.	Executed	This issue will be monitored during the 2020 construction season.
2	Disposal of old asphalt	25.06.2020/590	Appendix: Old Asphalt Management Plan	The stripped old asphalt is taken to the country roads of the villages, but at km 91 + 200 the asphalt was taken to a swampy place, on the bank of the stream	The Contractor has provided supporting documents.	The implementation of activities was monitored	The asphalt was removed and, at the request of the Ak-Chi ayil okmotu, the inner roads were covered with old asphalt
3	The problem of disposal of construction waste	25.06.2020/590	Appendix: Waste Management Plan	Reinforced concrete waste after the dismantling and construction of culverts accumulates on the roadsides	As accumulated, the contractor hands over the reinforcement to the local RMC	Being executed	This issue will be monitored throughout 2020.

4	Health and safety hazards	25.06.2020/590	Appendix: Safety, Health & Hygiene Plan	Systematic non-compliance with safety requirements of safety measures by Contractor's workers is noted.	The Contractor undertook to provide additional training for workers and timely issue PPE to workers	Monitoring was carried out. There is lack of PPE for the workers	This issue will be monitored throughout 2020.
5		25.06.2020/590	Appendix: Safety, Health & Hygiene Plan	Fire shields were not organized at the production site	Partially organized	Выполняется Необходимо организовать противопожарных щитов возле ДСУ	This issue will be monitored throughout 2020.
6	Waste problem	25.06.2020/590	Appendix: Waste Management Plan	Domestic waste has been accumulated on the territory of the base and is not removed	The Contractor's environmental specialist is obliged to constantly monitor the timely removal of waste	Waste has been removed	This issue will be monitored throughout 2020.

3.3.1 Overview and Description of the Problems Observed during the Current Period

98. During the reporting period, the local environmental specialist GENTEK, Construction Supervision Consultant, and Environmental Specialist of IPIG MoTR carried out regular monitoring of the implementation of the SSEMPP requirements during construction work on the Epkin-Dyikan road section. The field visits were carried out with the Contractor's environmental specialist. The SSEMPP prepared by the Contractor was used as a checklist.

Observed Problems

99. During the reporting period, the focus was on the following issues:

- Disposal of construction waste - check for untimely waste removal;;
- Dust suppression on the site - visual monitoring for the implementation of dust suppression at the construction site;
- Violation of occupational health and safety - Inconsistency in the construction of culverts;
- Quarry Development - visual monitoring of the work carried out by the Contractor in the quarry areas;
- Disposal of old asphalt - visual monitoring for compliance with the storage of excavated old asphalt from the project site;
- Dump storage - monitoring of the areas allocated for the dump;
- Monitoring of environmental components - participation in instrumental environmental monitoring carried out by the Contractor with the involvement of accredited laboratories.

Summary of Observed Issues

100. During the reporting period, if environmental problems were identified, the Contractor was warned and letters were sent by the Engineer, including the identification of mitigation measures that should be applied to solve the identified problem.

4. ENVIRONMENTAL MONITORING RESULTS

4.1 Overview of Monitoring Carried out during the Current Period

101. To monitor environmental components such as air quality, surface water quality, noise impact, vibration impact, the existing content of heavy metals in the soil during the construction period on the Epkin-Dyikan road section in 2019, requests were sent and tariffs were analyzed for conducting laboratory research in several laboratories.
102. Based on the analysis of the cost of laboratory research, the following laboratories were selected:
103. In 2019, the Consultant handed over the functions of environmental monitoring to the Contractor. Based on the analysis of the cost of laboratory research and the Consultant's recommendations, the following laboratories were determined:
- **air quality:** Environmental Monitoring Department of the SAEPF under the GKR;
 - **surface water quality:** Environmental Monitoring Department of the SAEPF under the GKR;
 - **noise impact:** ProfiLab LLC Private laboratory;
 - **vibration impact:** ProfiLab LLC Private laboratory.
 - After the conclusion of the contracts, applications were submitted for measuring the levels of vibration and noise at the sites of construction equipment and taking samples of water and air.
104. At the end of May this year, after the approval by the Consultant, the Contractor changed the point in Bashkugandy v. to a point in Tugol-Sai village (near the production site (Asphalt plant, Crusher)). This decision was due to the fact that the point to be changed was far from the sites where construction work was carried out..

4.1.1 Noise and Vibration Monitoring

105. On May 27, 2020 noise and vibration levels were measured.
106. Vibration level measurements were carried out at construction sites along settlements.
107. Measurements were performed using digital integrating noise.
108. Numbers Class 1 OCTAVA-101A. The measurements were carried out in accordance with GOST 23337-2014 Interstate Standard. Noise "Methods of noise measurement in residential areas and in the rooms of residential, public and community buildings".



Table 14. Results of monitoring of noise measurements on the Epkin - Bashkugandy road section, May 2020

Результаты измерений:																	
№	Место измерений	Характер шума						Уровни звукового давления в дБ в октавных полосах со среднegeометрическими частотами в Гц									
		По спектру			По времени												
		Широкопол.	Тонкопол.	Постоянный	Клибы	Прерывистый	Полупостоянный	31,5	63	125	250	500	1000	2000	4000	8000	Уровень звука (ДБа)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Село Жумгал, рядом со школой на дороге 129+400 км, восточная сторона дороги. Широта: 42° 42'33; долгота: 75°50'44".																
1	Leq																54
	Slow max																61
	Село Жумгал, рядом со школой на дороге 129+340 км, восточная сторона дороги, возле мечети. Широта: 42° 42'33; долгота: 75°50'44".																
2	Leq																51
	Slow max																62
	Село Жумгал, рядом со школой на дороге 129+400 км, западная сторона дороги. Широта: 42° 42'33; долгота: 75°50'44".																
3	Leq																53
	Slow max																63
	Село Куйручук, рядом с магазином "Азамат", 144+000 км, южная сторона дороги. Широта: 42° 1'30; долгота: 74°58'35".																
4	Leq																51
	Slow max																66
	Село Куйручук, рядом с магазином "Азамат", 144+000 км, северная сторона дороги, возле остановки. Широта: 42° 1'30; долгота: 74°58'35".																
5	Leq																53
	Slow max																64
	Село Куйручук, рядом с магазином "Азамат", 144+050 км, северная сторона дороги. Широта: 42° 1'30; долгота: 74°58'35".																
6	Leq																54
	Slow max																67

Результаты измерений:

№	Место измерений	Характер шума						Уровни звукового давления в дБ в октавных полосах со среднегеометрическими частотами в Гц										Уровень звука (ДБа)
		По спектру			По времени			31,5	63	125	250	500	1000	2000	4000	8000		
		Широкосп.	Тонко-сп.	Постоянный	Колба	Прерывистый	импульсный											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	Село Тугол-Сай, рядом с магазином "Кутман". 151+000 км, южная сторона дороги.																	
	Широта: 41°58'56; долгота: 74°49'49".																	
7	Leq																58	
	Slow max																68	
	Село Тугол-Сай, рядом с магазином "Кутман". 151+000 км, северная сторона дороги.																	
	Широта: 41°58'56; долгота: 74°49'49".																	
8	Leq																56	
	Slow max																66	
	Село Тугол-Сай, рядом с магазином "Кутман". 151+050 км, северная сторона дороги.																	
	Широта: 41°58'56; долгота: 74°49'49".																	
9	Leq																54	
	Slow max																64	
	Северо-восточная сторона 100м от села Тугол-Сай, рядом с частным домом 148+630 км, северная сторона дороги.																	
	Широта: 41°57'27; долгота: 74°52'13".																	
10	Leq																50	
	Slow max																63	
	Северо-восточная сторона 100м от села Тугол-Сай, рядом с частным домом 148+590 км, северная сторона дороги.																	
	Широта: 41°57'27; долгота: 74°52'13".																	
11	Leq																52	
	Slow max																64	
	Северо-восточная сторона 100м от села Тугол-Сай, возле частного дома 148+630 км, южная сторона дороги.																	
	Широта: 41°57'27; долгота: 74°52'13".																	
12	Leq																51	
	Slow max																63	

Уполномоченный представитель объекта, присутствующий при проведении измерений:
фамилия, имя, отчество Нурдинов Н.
должность эколог
Подпись _____

Должность	ФИО	Подпись
Начальник ОЛ	Аманова Н.Т.	
Инженер	Нуриддин у. Т.	

Протокол составляется в двух экземплярах, 1 экземпляр выдается по месту требования, 2-й экземпляр остается в лаборатории.

Примечание: Результаты протокола соответствуют на момент проведенных измерений.
Перепечатка протокола без разрешения начальника лаборатории запрещена.

Конец протокола

Заключение по результатам замеров: Фоновый уровень шума на измеренных точках составляет от 50 дБа до 58 дБа. Максимальный уровень шума составил от 61 дБа до 68 дБа.

Санитарный врач

МП




подпись

Ж. Т. Арзыкулов
ФИО

Measurements of noise and vibration at selected points showed that they did not exceed the permissible standard



Figure 34. Measurements of vibration and noise levels



Figure 35. Points of measurement of noise and vibration levels

Table 15. Vibration level monitoring results, May 2020

Результаты измерений:																		
№	Место измерений	Вид вибрации					Ось	Уровень звукового давления в дБ в октавных полосах со среднегеометрическими частотами в Гц								Уровень звука (дБА)	Максимальный звук (дБА)	Допустимость по нормам (дБА)
		общая			локальная			1	2	4	8	16	31,5	63	125			
		Транспортная	Транспортно-технологическая	технологическая														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Село Жумгал, рядом со школой на дороге 129+400 км, восточная сторона дороги. Широта: 42° 42'33; долгота: 75°50'44".																	
		+					X									94		
							Y									79		
							Z									84		
																87	98	
2	Село Жумгал, рядом со школой на дороге 129+340 км, восточная сторона дороги, возле мечети. Широта: 42° 42'33; долгота: 75°50'44".																	
		+					X									91		
							Y									76		
							Z									81		
																91	94	
3	Село Жумгал, рядом со школой на дороге 129+400 км, западная сторона дороги. Широта: 42° 42'33; долгота: 75°50'44".																	
		+					X									93		
							Y									80		
							Z									82		
																94	97	
4	Село Куйручук, рядом с магазином "Азамат". 144+000 км, южная сторона дороги. Широта: 42° 1'30; долгота: 74°58'35".																	
		+					X									94		
							Y									91		
							Z									90		
																90	96	
5	Село Куйручук, рядом с магазином "Азамат". 144+000 км, северная сторона дороги, возле остановки. Широта: 42° 1'30; долгота: 74°58'35".																	
		+					X									92		
							Y									88		
							Z									86		
																87	94	
6	Село Куйручук, рядом с магазином "Азамат". 144+050 км, северная сторона дороги. Широта: 42° 1'30; долгота: 74°58'35".																	
		+					X									95		
							Y									93		
							Z									91		
																93	98	

Результаты измерений:

№	Место измерения	Вид вибрации						Ось	Уровни звукового давления в дБ в октавных полосах со среднегеометрическими частотами в Гц								Уровень звука (дБА)	Максимальный звук (дБА)	Допустимость по нормам (дБА)
		общая			дольная				1	2	4	8	16	31,5	63	125			
		Трансверсальная	Дольная	Поперечная	Дольная	Поперечная	Дольная												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
7	Село Тугол-Сай, рядом с магазином "Кутман". 151+000 км, южная сторона дороги. Широта: 41°58'56; долгота: 74°49'49".																		
							X									97			
							Y									102			
							Z									100			
																98	100		
8	Село Тугол-Сай, рядом с магазином "Кутман". 151+000 км, северная сторона дороги. Широта: 41°58'56; долгота: 74°49'49".																		
							X									98			
							Y									100			
							Z									102			
																99	103		
9	Село Тугол-Сай, рядом с магазином "Кутман". 151+050 км, северная сторона дороги. Широта: 41°58'56; долгота: 74°49'49".																		
							X									96			
							Y									89			
							Z									93			
																95	99		
10	Северо-восточная сторона 100м от села Тугол-Сай, рядом с частным домом 148+630 км, северная сторона дороги. Широта: 41°57'27; долгота: 74°52'13".																		
							X									94			
							Y									91			
							Z									93			
																92	97		
11	Северо-восточная сторона 100м от села Тугол-Сай, рядом с частным домом 148+590 км, северная сторона дороги. Широта: 41°57'27; долгота: 74°52'13".																		
							X									91			
							Y									89			
							Z									89			
																93	94		
12	Северо-восточная сторона 100м от села Тугол-Сай, возле частного дома 148+630 км, южная сторона дороги. Широта: 41°57'27; долгота: 74°52'13".																		
							X									92			
							Y									90			
							Z									91			
																93	96		

4.1.2 Surface Water Quality Monitoring

Determination of pollutants concentration in water bodies

109. Determination of the concentration of pollutants on May 27, 2020, specialists of the Environmental Monitoring Department of the Chui-Bishkek Territorial Administration of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic took samples of surface water at the construction sites. Surface water quality monitoring is carried out in order to determine suspended solids and oil products in surface waters, rivers and reservoirs where construction work is carried out at the time of sampling. This is the Tugol-Sai river, an irrigation canal and a runoff of substances in water bodies
110. In carrying out laboratory studies, the following methodologies were used: "Methods for the determination of harmful substances in water bodies" No.16 approved on 25.04.2000 . The applied methodologies are approved by the State Standard of the Kyrgyz Republic. Surface water quality monitoring data is presented in Table 14.

Table 16. Results of surface water monitoring at the Epkin-Dyikan Project site, May 2020

Наименование ингредиентов	Ед. изм.	Данные анализа по точкам			ПДК		НД
		36	37	38	+	++	
Прозрачность	см	39,5	47,6	48,5			СЭВ ч.1 М. 1977
Нефтепродукты	мг/л	<0,002	<0,002	<0,002	0,05	0,3	ПНД Ф 14.1:2:4.128-98
Взвешенные вещества	мг/л	4,0	3,6	3,4	Увел. 0,25/0,75		ПНД Ф 14.1:2:3.110-97
Биологическое потребление кислорода (БПК ₅)	мгО ₂ /л	3,2	2,9	1,5	3	2-4	ПНД Ф 14.1:2:3:4.123-97

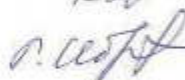
По результатам химического анализа вода во всех отобранных точках не превышает ПДК для водоемов культурно-бытовой категории по всем определяемым ингредиентам.

Заведующий отделом



Т. Садыкбеков

Главный специалист



Г. Жолчубекова

Менеджер по качеству



К. Сарыбаева

Правила охраны поверхностных вод Кыргызской Республики от 14 марта 2016 год № 128

+Перечень ПДК для рыбохозяйственного водопользования

++Перечень ПДК хозяйственно-питьевого и культурно-бытового водопользования

++Гигиенические нормативы. Предельно допустимые концентрации химических веществ в воде водных объектов хозяйственно- и культурно-бытового водопользования, Постановление Правительства КР от 11 апреля 2016г. №201

Исполнитель не несет ответственности, если проба отобрана самим заказчиком
Перепечатка протокола без разрешения испытательной лаборатории запрещена
Протокол испытаний касается только образцов, подвергнутых испытаниям

According to the results of laboratory analysis of water samples, the water at all points did not exceed the MPC for all determined ingredients.



Figure 36. Water sampling



Figure 37. Water sampling points at the Epkin-Dyikan Project

4.1.3 Ambient Air Quality Monitoring

Determination of pollutants concentration in the air

111. On May 27, 2020, specialists of the Environmental Monitoring Department of the Chui-Bishkek Territorial Administration of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic (SAEPF) took samples of the air in the area of road equipment operation in order to determine the concentration of pollutants in the air, namely:

- Jungal v., near the school, km 129 + 400 km;

- Kuyruchuk v., Azamat shop;
- Tugol-Sai v., Kutman store
- Tugol-Sai v., northeastern side of the production site of the Asphalt plant and Crusher

112. Laboratory studies were carried out in accordance with the "Guidelines for the control of air pollution" RD 52.04.186-89, approved by the State Standard of the Kyrgyz Republic. The results of the monitoring are presented in Table 19..

113. According to the results of air quality laboratory analysis, dust content did not exceed the norm and MPC in all samples.



Figure 38. Instrumental monitoring



Figure 39. Air sampling points

Table 17. Air quality analysis results within 100 m of the impact corridor in May 2020 (mg/m³)

Наименование ингредиентов	Ед. изм.	Данные анализа по точкам								ПДК макс. раз. мг/м³
		Участок автодороги «Эчкин- Дыйкан»								
		19	Прев. ПДК макс. раз.	20	Прев. ПДК макс. раз.	21	Прев. ПДК макс. раз.	22	Прев. ПДК макс. раз.	
Диоксид серы	мг/м³	0,003±0,0008	-	0,002±0,0003	-	0,003±0,0008	-	0,002±0,0003	-	0,5
Диоксид азота	мг/м³	0,021±0,0053	-	0,009±0,0023	-	0,006±0,0015	-	0,005±0,0013	-	0,085
Оксид углерода	мг/м³	0,4 ±0,08	-	0,5 ±0,1	-	0,9 ±0,18	-	0,8 ±0,16	-	5,0
Взв. вещества (пыль)	мг/м³	0,098±0,02	-	0,076±0,011	-	0,025±0,005	-	0,032±0,006	-	0,5

ГП «ПДК загрязняющих веществ в атмосферном воздухе населенных мест»,
Постановление Правительства КР № 201 от 11 апреля 2016г.

Заключение: По результатам испытаний в отобранных пробах атмосферного воздуха № 19-22 превышения ПДК_{макс.раз.} не обнаружены.

Заведующий отделом

Главный специалист

Управляющий по качеству

Pol
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4.2 Tendencies

114. During the construction period in 2020, it is planned to monitor the quality of air, surface water, noise and vibration in the areas where construction work will take place. And also, work will be carried out on periodic monitoring of the construction site for compliance with the SSEMP requirements by the Contractor and subcontractors. During the monitoring, special attention will be paid to the organization of timely waste removal, dust suppression, old asphalt, tree felling and planting of seedlings, dump storage, health safety of workers and the local population.

4.3 Project Results Summary

115. When analyzing the impact of construction activities on the environment, it is necessary to take into account the indicators of background levels.
116. After analyzing the results of the monitoring, it can be noted that, taking into account the data of background levels, construction works do not have a significant impact on the environment. But the Contractor will need to pay special attention to such works as: safe storage of dumps, organization for the removal of old asphalt and timely dust suppression of the site.

4.4 Material Resources Use

117. The use of electricity, water and any other materials was not provided for monitoring in the SSEMP.

4.5 Waste Management

118. In the course of construction work, waste sometimes accumulates, including both construction and domestic waste.

Construction Waste

119. Reinforced concrete construction waste is generated during the dismantling of bridges and culverts.
120. With the increase in the volume of construction work, a problem arises with the determination of storage sites for reinforced concrete waste. Currently, the contractor is making agreements with local RMCs on the handing over of reinforced concrete elements as they accumulate.
121. The Contractor is constantly instructed on the need to remove all construction waste from the roadside.

Old Asphalt

122. The total volume of stripped and removed old asphalt by the reporting period is 6806 m³. According to BoQ the estimated volume of asphalt to be removed is approximately 11,946.71 m³;
123. The stripped asphalt is mainly transported at the request of the heads of aiyl okmotu and local residents for the arrangement of country roads and embankments at private sites. The owners themselves make the leveling of private plots.
124. The recycling of old asphalt is handled by the Contractor's environmental specialist, Nurdinov Nurlan.
125. At km 90 + 100, the stripped old asphalt was transported to a swampy area on the bank of the stream.



Figure 40. Stripped old asphalt transported to swampy area

126. Upon written notification from the Consultant, the Contractor removed the old asphalt and cleared the site.



Figure 41. View of the cleared area from the old asphalt

127. By agreement with the local authorities, it was proposed to transport the old asphalt to the streets proposed by local ayil okmotu. At present, the old asphalt is taken out for filling rural streets and field roads.

128. At km 91 + 360, the stripped old asphalt was stored on the territory of the quarry



Figure 42. Old asphalt at km 91+360

129. Later, the old asphalt in this area was taken out to fill the roads of Ak-Chiy v.



Figure 43. Old asphalt removed and cleared at km 91+360

130. During the reporting period, streets were backfilled on the territory of four ayil okmotu.

131. Various production wastes are periodically generated on the territory of the Asphalt plant and Crusher. These are mostly empty barrels, old tires, bags of cement, etc. According to the Contractor, uncrumpled empty barrels are partly used for construction work on the road, partly sold to the local population.

Household Waste

132. Household waste is generated in camps for subcontractor's workers.
133. Solid household waste consists of packaging materials made of paper and cardboard, dry waste, plastic, and food waste, which are pre-collected in plastic bags.



Figure 44: Waste at the contractor's site, cement bags and scattered old truck tires near the checkpoint

134. Following remarks and written notification from the local environmental specialist, these discrepancies were corrected by the contractor:
- fire shields were completed;
 - containers were organized and marked;
 - an agreement was drawn up with the Tugol-Sai aiyl okmotu on waste disposal;
 - household and construction waste was removed;
 - bottom of tanks for fuels and lubricants was concreted;
 - the territory of the construction base was cleared of oil spills and removed;



Figure 45. Fixed inconsistencies

4.6 Occupational Health and Safety

4.6.1 Occupational Health and Safety of Workers

135. A Health and Safety Specialist, Sultanaliev Baiysh, was hired by the Contractor. During the reporting period, this Specialist carried out work on a monthly basis to check the state of labor protection and to improve the working conditions of the contractor's employees.
136. Training, briefing and knowledge testing of the company's employees was carried out on a regular basis. Inspection circular trips were carried out on an ongoing basis. The revealed violations are eliminated on the place.
137. Based on the inspection trips, recommendations are made to improve the safety of work at construction sections and sites.
138. Introductory briefings are regularly held for newly hired employees.
139. The contractor was advised to check the knowledge of occupational health and safety requirements of workers and, if necessary, to re-instruct on safety and health.

4.6.2 Community Health and Safety

140. During the reporting period, an outbreak of the **COVID-19** pandemic spread around the world. A quarantine regime was introduced in the Republic. The potential for the spread of infectious diseases on the project was high. In addition, the project could have a large number of workers ill at any time and would need to consider how they would receive treatment and whether this would affect local health services, especially when the project was located in an area where local health facilities can be easily overloaded. The presence of foreign workers, especially if they come from countries with high infection rates, could also cause social tensions between foreign workers and the local population. As a result of this project, steps were to be taken to minimize the chances and contain the spread of the virus from the movement of workers, to ensure that their facilities are prepared for an outbreak, and to develop and implement contingency plans so that staff know what to do if an outbreak occurs and how the treatment will be provided. These training measures were to be communicated not only to the workforce, but also to the local community to reassure them that staff movements are controlled and to ensure that rejection or discrimination in the event of an outbreak is reduced. All workers who arrived at the site were immediately transferred to isolation wards for examination by the site's medical staff. These workers were required to remain in isolation until they were asymptomatic for 14 days.
141. In connection with the COVID-19 pandemic, at the direction of the Engineer, training was given to the employees of Todini and the KZhK subcontractors with the participation of the Safety engineer from the Consultant and a health representative on precautions for the spread and contamination of the corona virus and sanitation. Due to the emergency (COVID-19 pandemic), the Contractor has taken additional protective measures against its employees, office and homes. Thus, all Contractor's employees were provided with protective/medical masks, medical gloves, and antiseptics. Every day, before the start of the working day, as well as at the end of the working day, the employee's body temperature was measured. Various information posters on measures to prevent and combat coronavirus were placarded on the doors of the Contractor's offices. Additional wet cleaning was carried out in the office and houses.
142. Medical staff /contractor management conducted information training and arranged the

placement of appropriate posters, signs and advisory notices in the field to advise workers on how to minimize the spread of disease, including:

- Self-isolate if they feel or think they might be in contact with the virus and alert medical personnel;
- Wash hands regularly and thoroughly with soap and water - many times a day;
- How to avoid spreading the disease by coughing /sneezing (coughing and sneezing into the elbow or tissue);
- Сохранять как минимум 2 м или более дистанцию от коллег;

143. Fortunately, during the reporting period, there were no cases of infection of workers with COVID-19, and there were no health and safety problems of the local population associated with the implementation of the project.



Figure 46. Conducting a Health Safety Briefing in the Contractor's Office

Road safety:

144. During the reporting period, no incidents occurred that led or could lead to public health and safety problems. Safety inspector of "Gentek Consult Ltd." based on the monitoring results, issues prescriptions on safety and road safety. The following road signs are installed on the construction site to ensure road safety: - Warning signs - 103 psc., - Prohibiting -69 psc., - Information board - 48 psc., size 90 by 180 cm, as well as

signaling and barrier systems (cones, reflective tapes). In addition, the Contractor uses signalmen with whistles and signaling rods to ensure road safety at the project sites as part of the Traffic Management Plan.

145. Road traffic accidents occurred through no fault of the Contractor or road traffic conditions. For example, only if, as a result of an accident through the fault of the Contractor, the traffic police will send an official document about this, which will indicate who is guilty in the accident.



Figure 47. Implementation of Road Safety Measures

146. The local safety specialist of Gentek Consult Ltd. regularly consulted the Contractor's employees.
147. He regularly goes to the site and conducts monitoring, according to the results of which he sends an order to the contractor to eliminate issues on safety rules and road safety.
148. The following is the instruction to the contractor (June 2020):
- In the rehabilitated sections 98 + 400 km to 98+800 km, where construction equipment is working, there are no signalmen and appropriate road signs are not installed.

- From 106 + 200 km to 106 + 600 km, there are no guide signal posts with reflective films, the height of the embankment is more than 3.0 meters. At 114 + 360 km, where the culvert is being installed, the carriageway is narrowed, there are no traffic controllers, and the passage is difficult, i.e. there is a traffic jam of vehicles on the roadway.
- Construction material is transported from the quarry located at 135 + 000 km up to 157 + 000 km, there is increased dust formation on the road, there are 9 watering trucks in total, and they do not have time to water this area, each truck fills up in 60 (sixty) minutes, while the above trucks water the road within only 4 (four) trips.
- Due to the lack of irrigation on the roadway, obstacles to moving vehicles are created, this directly threatens road safety.
- To quickly fill watering vehicles with water, it is necessary to install a powerful pump (Hydrant), but the "Hydrant" has not yet been installed.
- At km 110 + 900 to km 111 + 200, where the excavator works, there are no signalmen, the corresponding road signs and barriers are not installed at the work sites.
- Fire safety is not organized at the construction site, where fuels and lubricants are stored, it should be provided in accordance with the requirements of fire safety rules during the road construction works (PPB-05-86) No. 33 approved by the Government of the Kyrgyz Republic dated 08.02.1995.

5. SEMP FUNCTIONING

5.1 SEMP Review on environmental Issues.

140. SEMP describes the various measures proposed under the Project to prevent, minimize or compensate of adverse environmental impacts arising from the Project. The Consulting company replaced the local Environmental Specialist and, after visiting the project site, the new involved Specialist made additional adjustments to the current SEMP.

141. Measures to mitigate the consequences of construction works are carried out by the Contractor's environmental specialist, Nurdinov Nurlan. The Contractor's compliance with environmental requirements is supervised by environmental protection specialist of GENTEK, Zhumaliev Talantbek. In case of revealing any violations, GENTEK warns the Contractor orally or in writing about the need to eliminate this violation within the specified time frame.

142. During the reporting period, the focus was made on the following issues:

- Disposal of construction waste;
- Dust control of the site;
- Violation of occupational health and safety;
- Violations during the construction of culverts;
- Quarry development and management;
- Disposal of old asphalt;
- Dump storage;
- Monitoring of environmental components.

143. Currently, the main problem in the implementation of SEMP is planting seedlings instead of felled trees. Since the project section of the road passes through settlements, given that after the expansion of the road, there is little space for planting new seedlings, and construction work is planned to be completed in 2021, it is necessary to decide where and when the rest of the seedlings will be planted. Also, it will be necessary to agree with local nursery farms to clarify the seedlings available in them and to purchase them.

6. BEST PRACTICES AND IMPROVEMENT OPPORTUNITIES

6.1 Best Practices

144. The mitigation measures outlined in the SSEMP are sufficient, effective and acceptable.

6.2 Improvement Opportunities

145. The contractor should be more responsible for environmental issues, without constant reminding to remove construction waste in a timely manner, carry out work on dust suppression on construction work sites, as well as in quarries and a Crushing and Screening Plant, be more responsible for safety and health protection of workers.

7. RESULTS AND RECOMMENDATIONS

7.1 Results

146. During the reporting period, the Contractor, while carrying out construction work, mainly implemented the necessary environmental protection measures. But there were cases when some of the Contractor's specialists ignored the recommendations of GENTEK specialists.
147. Some measures, such as dust control, were insufficient. Although the schedule for spraying water every 30 minutes was approved, the Contractor did not comply with it. Dust formation was a persistent problem on existing roads and construction sites. Gentek further instructed the Contractor to ensure that the water spray schedule on the road at the construction site is adhered to and requires to continue water spraying from 07:00-19:00 in dry weather. It is recommended to use the "Hydrant" pump for quick filling watering trucks with water.
148. Road safety measures are not being properly implemented as there are not enough road signs and markings.
149. In the course of supervision of construction works, violations of safety rules made by workers were identified, such as work without personal protective equipment, lack of protective helmets, respirators, lack of special shoes and etc.
150. Due to the current situation of the COVID-19 pandemic, laboratory monitoring began with a delay in 2020. The first instrumental monitoring of water and air quality, noise and vibration in 2020 was carried out in May.

7.2 Recommendations

151. Considering that the Contractor does not always eliminate the identified violations within the specified timeframe when carrying out construction work, and GENTEK is unable to take any measures other than the suspension of work, it is necessary to develop additional mechanisms to force the Contractor to carry out the necessary environmental protection measures without repeated warnings and in advance to prevent negative consequences.
152. The contractor needs to pay special attention to work on dust control on the site, arrangement of old asphalt and storage of dumps.
153. A safety specialist must monitor all workplaces on a daily basis, especially on construction sites where construction is being carried out. Contractor will need to provide additional lectures on HIV/ AIDS non-transmission for new staff.
154. In case of completion of construction work in some areas, in the spring of 2021 it is necessary to plant seedlings in these areas, without waiting for the complete completion of the project.
155. The Contractor must at all times provide well-designed road safety signs and signalmen to monitor traffic. MoTR and Engineer will monitor these road safety issues, implement mitigation measures described in the EMP/SSEMP, and ensure that the Contractor's personnel is adequately trained.
156. The Contractor is also required to conduct regular public education conversations with the local community on road safety issues during construction and regularly submit road safety reports to MoTR for monitoring purposes.