

Environmental Monitoring Report

Project Number: 43439-033
July 2019

KAZ: CAREC Corridor 2 (Mangystau Oblast Section) Investment Program – Tranche 2

Prepared by the "SNS-2017" LLP for the Ministry of Investments and Development, Republic of Kazakhstan and the Asian Development Bank.

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Semiannual environmental monitoring report

LOAN No. 2967-KAZ

**Period: January-June 2019
July 2019**

**The Republic of Kazakhstan: MMF CAREC 2 Transport Corridor 2:
INVESTMENT PROGRAM, Project 2**

Financed by Asian Development Bank

Prepared by:
“SNS-2017” LLP, Kazakhstan

Ministry of Industry and Infrastructural Development, Kazakhstan
Committee for Roads

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**COMMITTEE FOR ROADS
MINISTRY OF INDUSTRY AND INFRASTRUCTURAL DEVELOPMENT
REPUBLIC OF KAZAKHSTAN**



LOAN No.2967-KAZ

CENTRAL ASIA REGIONAL ECONOMIC COOPERATION (CAREC) TRANSPORT CORRIDOR 2

INVESTMENT PROGRAM, MANGISTAU REGION, PROJECT 2

**RECONSTRUCTION OF THE
“ZHETIBAY-ZHANA OZEN-KENDERLI-TURKMENISTAN BORDER” HIGHWAY
Section km 0 - km 73**

Financed by ADB through Multi-Tranche Financing Facility (MFF)



Semiannual Environmental Monitoring Report

(Period: January – June 2019)

July 2019



*Prepared by CSC “SNS-2017” LLP in
accordance with the reporting requirements of the Contract for Consultant’s Services
No. 05-ADB/CSC-2019 dated June 10, 2019*

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ABBREVIATIONS

ADB	Asian Development Bank
AOI	Area of Influence
ARE	Assistant Resident Engineer
MFF	Multi-Tranche Financing
CAREC	Central Asia Regional Economic Cooperation
CoR	Committee for Roads
CSC	Construction Supervision Consultant
EHS	Environment Health and Safety
EIA	Environmental Impact Assessment
EMMP	Environmental Management and Monitoring Plan
EPMP	Environment Protection Management Plan
EPC	Environmental Production Control
FIDIC	Federation International Des Ingenieurs Conseils (the French acronym for International Federation of Consulting Engineers)
GPS	Global Positioning System
IEC	Important Environmental Components
MIID	Ministry of Industry and Infrastructural Development
EHS	Environment, Health and Safety
GRM	Grievance Redress Mechanism
MPD	Maximum Permissible Discharge
MPE	Maximum Permissible Emission
O&M	Operation and Maintenance
PMC	Project Management Consultant
PPE	Personnel Protective Equipment
IEA	Initial Environmental Assessment
RK	Republic of Kazakhstan
RoW	Right of Way
SPS	Safeguard Policy Statement
TOR	Terms of Reference
SHW	Solid household wastes
VO	Variation Order

1. INTRODUCTION

1.1. Preamble

1. This report is the semiannual environmental monitoring report for the project MFF CAREC Transport Corridor 2: Investment Program, Project 2.
2. This report is the **third semiannual report** for this project.

1.2. Key information

3. The project includes the reconstruction of the existing highway of 3rd category of republican significance "Zhetibay-Zhanaozen-Kenderli-border of the Republic of Turkmenistan", which is being reconstructed under category 1-B, and within the road junction, it transfers into category II.
4. The highway passes through the desert-steppe environment, but the project does not provide for a new route plan, all the works will be performed within the existing right of way (except for the construction of a detour around Zhanaozen). The project provides for the construction of a new road pavement of the capital type, designed for a load of A2 on the axle 13 tf. In addition, it provides for the filling and widening of the roadbed, relocating and constructing the new artificial structures - culverts, construction of a new traffic interchange in two levels on the detour around the city of Zhanaozen, a new overpass of transport interchange in two levels on the detour of the city of Zhanaozen and a new rail overpass on 175 km of Pk4-50 of the Zhetibay-Uzen haul, as well as measures for the improvement and recultivation of the occupied lands.
5. The Mangistau region is located in the West part of Kazakhstan in the Caspian lowland and the eastern part of the Ustyurt plateau. The reconstructed section of the road passes through a desolate and sparsely populated area, there is not a single settlement all the way from the junction in Zhetibay settlement to the city of Zhanaozen. The projected road passes in the area of important utilities: the railway from Aktau to Zhanaozen, gas pipelines and oil pipelines, as well as high-voltage overhead lines and fiber-optic communication cables. All the entire length of the projected section, the road crosses a large number of utilities - gas pipelines, water pipelines, overhead power lines from 0.4 kV to 220 kV, and others.
6. Geomorphologically, the design area is a wavy plain with alternation of gentle ridges and flat plains. Extensive areas with a completely flat relief are confined to wide ridges of flat rises, valleys and separate hills up to 10 m high are stand out on their background. Area of designing is dry extensive depressions, often with steep slopes, dry beds of ancient and modern watercourses.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project description

7. The Republic of Kazakhstan, acting through the Ministry of Industry and Infrastructural Development, implements a program on modernization the Zhetibay-Zhanaozen road under the Tranche 2 Central Asian Regional Economic Cooperation (CAREC) Investment Program (Mangistau region).
8. The project includes the reconstruction of the existing road between village Zhetibay and city Zhanaozen and construction of one new bypass around Zhanaozen. The project is located in Mangistau region, the border of the Caspian Sea. The final point of this road project is Zhanaozen, which is an important economic center for export cargo, including terminals for pipelines that supply regional oil products to Western Europe.

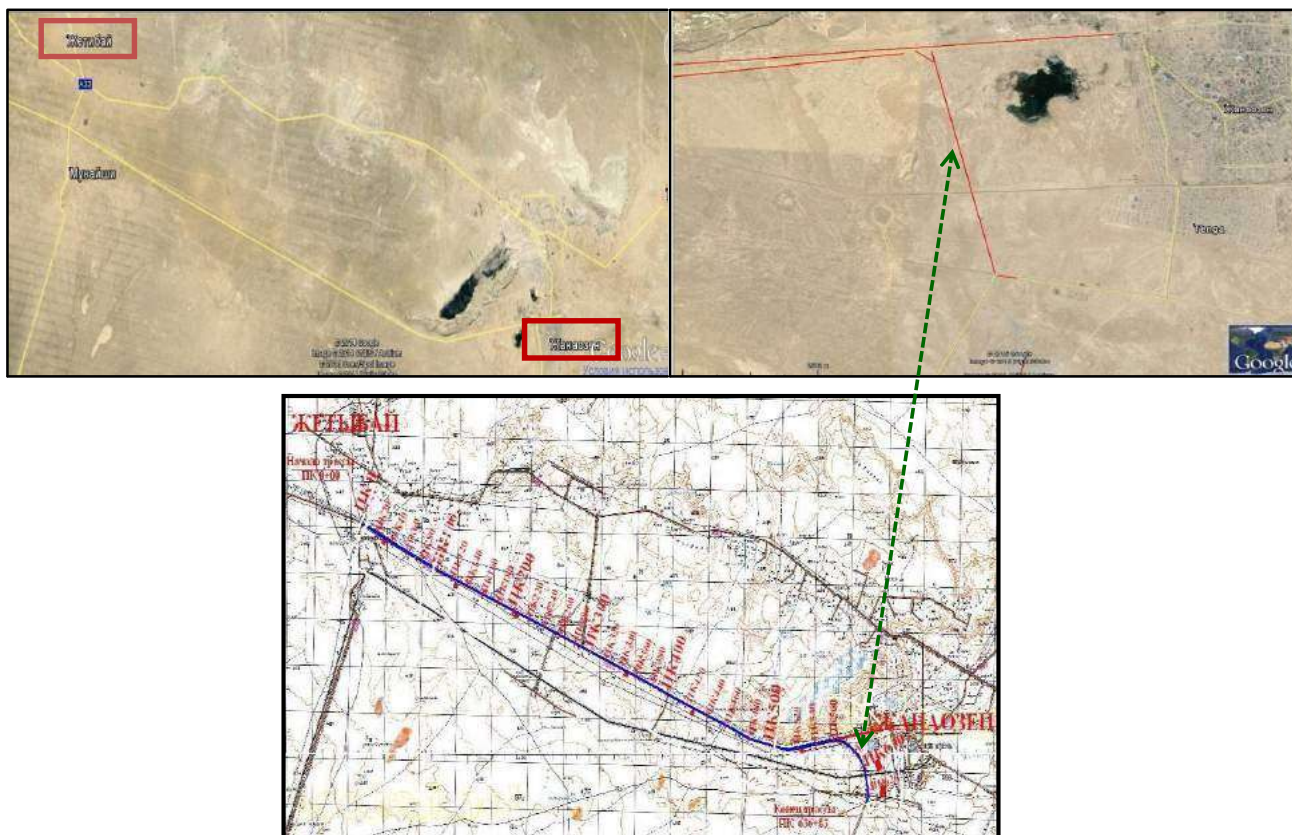


Figure 2.1 – Project road in scale of country

PROJECT LOCATION MAP



9. This report is the third semiannual environmental monitoring report prepared by the Project Engineer. This semiannual environmental monitoring report under Contracts 1 and 2 (km 0 - km 35 and km 35 - km 73) covers the period from January to June 2019 within the framework of the environmental part of the construction supervision. The main purpose of this monitoring is to ensure the implementation of measures to mitigate environmental impacts during construction through the Engineer supervision during the construction phase. Environmental problems should also be identified in advance in order to avoid untimely and to ensure the timely completion of the Project.

10. This semiannual environmental monitoring report has been prepared as a report in accordance with Contract requirements for the provision of construction supervision services of the Ministry of Industry and Infrastructural Development (MIID), the Committee for Roads of the Republic of Kazakhstan for CAREC Corridor 2 (road sections in Mangistau region), Investment Program, Project 2, led by Asian Development Bank, Loan 2967-KAZ.

11. According to the Initial Environmental Assessment (IEA) report, the project was classified as "B" category, based on cumulative environmental impacts. This Project may be attributed to Category B, i.e. a Project having some negative impact on the environment, which can be leveled or mitigated through a set of special measures. Therefore, this project requires the implementation of IEA. Under this Project, there is no need for land allocation or resident resettlement; therefore, in accordance with existing ADB policies, it also does not go beyond the established limits of Category B projects on the social front.

12. As mentioned in the TOR of construction supervision, the environmental aspects involves the environmental monitoring and management of project implementation and assistance in ensuring the implementation of environmental management practices at each stage of construction. In addition, the specialist has prepared an environmental audit protocol for the construction period, had developed a detailed environmental monitoring program and EMMP, regularly monitors the implementation of environmental monitoring and provides periodic reports based on monitoring and laboratory analysis data.

2.1.1. Objectives

13. The objective of the Semiannual Environmental Monitoring Report is to provide an information of the key issues relating to environmental issues during the past months (January 2019 to June 2019). The report includes an update on overall project progress, the status of EMP implementation, any progress made with environmental management, environmental monitoring results, and other relevant issues such as non-compliance and corrective actions, and monitoring of the Grievance Redress Mechanism (GRM). The report was prepared by "SNS-2017" LLP and was intended to inform ADB and any other interested parties of the status of environmental management of the project. The report was summaries; more detailed information were included in the monthly and quarterly report prepared by the Engineer and the Contractor.

14. The objective of this report is to comply with environmental security requirements of the Republic of Kazakhstan in accordance with ADB's Safeguard Policy Statement (SPS) 2009, as well as to fulfill the loan covenants as described in the loan and project agreement signed by the Government and ADB and to ensure that all environmental mitigation measures was given in PEA and EMP incorporating all the Environmental concerns of the project. The principle objectives of the project with respect to Environment were:

- to ensure environmentally compatible project implementation by avoiding and mitigation of negative impacts that are likely to arise from the project;

- to ensure that EMP recommendations are adequately followed and to meet the Environmental compliance of statutory requirements.

The report was based on findings during the field visits, the monthly and annual environmental protection progress reports submitted by Contractor, information and discussions with consultant staffs, Contractor representatives and other relevant stakeholders.

2.1.2 Methodology

15. This Semiannual Environmental Monitoring Report has been prepared by reviewing and extracting key information from a number of sources, as follows:

- Contractors' Monthly and Semiannual Environmental Protection Reports;
- Contractors' and Consultants Grievance Registers Book;
- Engineer's Monthly and Quarterly Progress Reports;
- Engineer's Environmental Specialist's Reports and regular site visits;
- Contractors' Monthly instrumented monitoring results on air quality, water quality, soil quality and noise & vibration;
- Ad Hoc reports from the Contractors / consultants on training and stakeholder consultations;
- Correspondence between Engineer and Contractors relating to environmental issues;
- Consultations with number of stakeholders.

In addition, some information and opinion in the report results from site visits, technical meetings and public meetings and interviews over the previous 6 months.

2.1.3 The Project Area

16. The project involves reconstruction of the road between Zhetibay-Zhanaozen and construction of one new bypass road around Zhanaozen. The project is located within Mangistau Oblast bordering Caspian Sea. The end point of this road project is the city of Zhanaozen, an important economic hub and port for export goods, including terminal for pipelines delivering the regional oil products as far as Western Europe. The project consists of two sub-sections (Lot 1 and Lot 2), constructed separately.

Location of the project road in terms of Contracts is shown in Fig. 2.2.

17. **Sub-Section 1: km 0 - km 35 (Zhetibay - Zhanaozen).** This sub section includes reconstruction of the existing road from Category I-B with a four-lane roadway, dividing strip and a roadway broadening. On this section, the direction coincides with the existing embankment of the roadbed. The total length of the projected section is 35 km.

The reconstruction project provides the construction of 2 covered bus stops and 3 recreational areas, as well as the construction of 12 culverts:

- construction of box culvert (cattle pass) in size 4x2.5 m at Pk195+07 and Pk331+91, Pk217+60;
- construction of a two-section culvert at Pk215+45;
- and construction of 8 pipe culverts.

18. **Section 2: km 35-km 73 (Zhetibay- Zhanaozen).** The total length of the project is 38 km. The reconstruction project provides:

- km 35+00 - km 73+00 - reconstruction of the existing road according to the parameters of Category I-B with four-lane roadway and the roadbed broadening by 27.5 m;
- construction of one level interchanges at the entrance of Zhanaozen, from Pk573+87- Pk636+83 will be a new II category road section;

- in the populated area, the average repair of the section of the urban road with 7.616 m length will be carried out;
- construction of a railway overpass at Pk615+48 and construction of an overpass at the interchange to Zhanaozen at Pk574+48.
- construction of 12 pipe culverts, and 1 cattle pass in size 4x2.5 m;
- outdoor lights of the traffic interchange at Pk574+45.

2.1.4 Technical Description of the Road Project

19. The scope of works mainly consists of:

- reconstruction of the pavement of the existing carriageway 35 km Lot 1 and 22.4 km Lot 2 together with geometric improvements of vertical and horizontal alignment, transferring the existing technical category III to IB (4-lanes);
- construction of the new carriageway with length of 6.293 km Category II (2 lanes);
- rehabilitation of the pavement by milling and overlays at the last 4.9 km section of the road to Zhanaozen;
- structural works involving construction / reconstruction / repair of bridges and construction / extension / repair / reconstruction of existing culverts;
- drainage works consisting of pavement edge gutters and road side drainages;
- relocation of existing utilities;
- construction of bus shelters, rest areas and car ramps;
- improvement of road safety by provision of guardrails, road signs and marking.

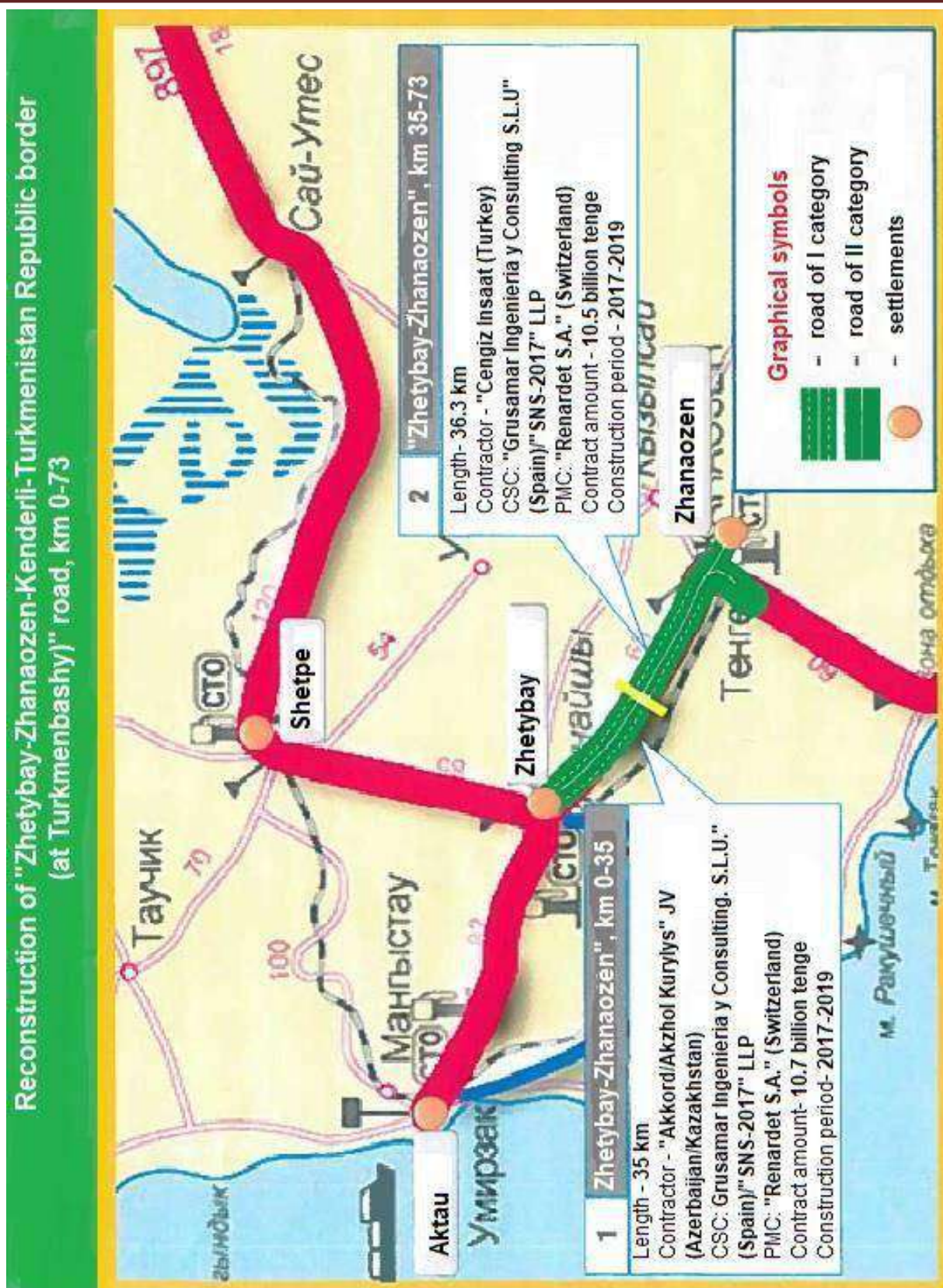


Figure 2.2 Location of the Project Road

2.1.5 Environmental Characteristics of the Project Area

20. Typical for vast desert and semi-desert zones, the main climatic features are (moderately) cold winters and hot summer periods. The amount of precipitation in the Project Area usually does not exceed 150mm per year. Precipitation mainly falls as rain, and in winter as snowfall. Complete snow cover of large areas is usually lasting only for few weeks during wintertime (January- March). Thus driving condition in this road sections from climatic point of view is relatively good throughout the entire year. Low rainfall in the project site leads to extreme drought during the summer months. However, the long duration of the warm period is favorable for performing construction work during the year. Hail, snowstorms and sandstorms are rare.

21. Within the urban area of Zhetibay dust is a common problem that results from the soil and climatic conditions of the region. During the PEA preparation, consultations with villagers in Zhetibay revealed that they did not feel that dust from construction activities which would impact upon them significantly. The fact is that the existing naturally induced dust issues were considerably more of a problem than construction impacts would be. They also noted that construction would be occurring in bypass locations outside of the village which will be reducing further dust impacts to villagers. In addition, more than 90% of the road is uninhabited steppe. Dust impacts and air quality issues will not play any significant role in these uninhabited areas.

22. Water supply in Mangistau region remains one of the most acute social problems. There are 60 settlements in the region. Today, 17 of them are provided with centralized water supply, decentralized - 35. In the rest, because of the small number of inhabitants it is inappropriate to build a water supply system, the imported water of the city of Aktau and Zhanaozen with adjacent settlements is used, and oil companies consume 93% of the total volume of water. The share of all the rest is only 7%. Technical water will be supplied from the centralized water supply of Aktau and Zhetibay. Tank trucks will deliver water from pipelines to the relevant construction sites. Drinking water will be provided in five-liter bottles. There are other water supply centers, but it is unlikely that it will be used as drinking water. The contractor is responsible for the location of the site, for other non-technical waters and for obtaining mining permits.

23. According to the archaeological expertise published in the IEA, in the immediate vicinity of the project area there are no protected natural sites. Karakiya-Karakol State Nature Reserve and the State Regional Natural Park "Kyzylsai" lie in the distance at a distance of several tens of kilometers and will not experience any impact during the construction works. The state reserve Karakiya-Karakol (GZKK) is a reserve (Category 4), located in the Karakiyansky and Munayli districts of the Mangistau region. The reserve occupies the entire area of the lower Karakiya zone, the Ashyagar river valley, as well as the marine coastal areas to the south of the city of Aktau.

24. In the Project area there are no habitats of species included in the Red Book of Kazakhstan. However, since this territory is adjacent to the habitats of some animals listed in the Red Data Book, this fact should be taken into account when carrying out the Project Activities.

2.1.6 Scope of Works

25. This report is the Third Semiannual Environmental Monitoring Report covering the period from January to June 2019. The report reviews the compliances of environmental activities set in EMP during the period and processes practices/innovation leading to improved and sustainable environment in the future. The scope of works includes identification of environmental impacts during construction stage and implementation of environmental mitigation measures for various environmental components as given in technical specification in the contract. In addition, the construction supervision consultant has to undertake specific environmental safeguard measures during the execution of work.

26. The following activities has been considered for effective Environmental Safeguard Monitoring through periodic inspection and supervision during execution of works as per the General Requirement of the Technical Specification for construction of whole the work under clause 105 (Health and Safety) and clause 106 (Protection of the Environment):

- Loss of top soil;
- Soil erosion;
- Contamination of soil by fuel and lubricants and wastewater;
- Quarry and hot mix plant operations;
- Siltation into water bodies;
- Alteration of drainage;
- Dust Control-haulage road and work sites;
- Pollution from crusher, hot mix plant and batching plant;
- Noise from plant and equipment;
- Safety and accidental risks;
- Medical facilities;
- Traffic safety and control.

27. The environmental management and monitoring plan (EMMP) signifies the environmental action to be undertaken under Mangistau Oblast section in Project 2, delineating various mitigation measures/avoidance of negative impacts. The EMP also incorporates various environmental enhancement measures required for protecting the cultural properties in both contracts.

2.2 Agreements (contracts) for project implementation and management

28. The Government of the Republic of Kazakhstan, with the assistance of the Ministry of Industry and Infrastructural Development (MIID) under the CAREC Corridor-2 investment program conducted modernization of 503 km of roads in the Mangistau region. The reconstruction of the transport road, which is part of a larger project connecting East with the West, Corridor 2, will provide access to goods and markets, services for the poor in this region, as well as expand transport communication and increase safety for all road users.

29. The Asian Development Bank ("ADB") supported the government of Kazakhstan in contributing to the development of the national road network through the MFF CAREC Transport Corridor 2 (Mangistau oblast section), Investment Program, Project 2.

30. The Implementing Agency is the Committee for Roads of the Ministry of Investments and Development (MIID). The Implementing Agency hires a Project Management Consultant (PMC) "Renardet S.A." to assist the Committee in implementing the project. The Implementing Agency appointed the "NC "KazAutoZhol" JSC as his assistant for solving local issues related to the Contracts by the letters No. 23-23-02/686 dated 11.04.2019. Formerly this position was held by RSE "MangistauZholLaboratory".

The project consists of 2 separately construction sections (Lot 1 and Lot 2).

31. Two contracts were awarded to the companies: JV Akkord/Akzhol Kurylys Lot 1 from km 0+000 to km 35+000 and Cengiz Insaat Sanayi Ticaret A.S. Lot 2 from km 35+000 to km 73+000.

The Contract for construction was approved for all sites. Details on the two contracts are shown in Table-2.1:

Table – 2.1: Date of signing and name of companies for construction works

Contract No.	Contractor	Length (km)	Date of signing the contract	Date of commencement-completion	Contract amount including VAT (tenge)
001-ADB/CW-2017	JV Akkord/Akzhol Kurylys	0+00 to 35+00	May 30, 2018	20/02/2018 – 20/10/2019	10,734,179,712.45
002-ADB/CW-2017	Cengiz Insaat Sanayi ve Ticaret A.S.	35+00 to 73+00	June 19, 2018..	20/02/2018 – 20/10/2019	10,554,145,149.12
Total contract amount					21,288,324,861.57

32. “SNS 2017” LLP (Consultant/Engineer) was appointed by the Employer to provide consulting services in the administration of Contracts and Construction Supervision. On June 10, 2019 the Contract between the Employer and the Consultant was signed.

33. The main responsibility of the Contractor is the development of the Site-Specific Environmental Management Plan (SSEMP) project based on the materials contained in the IEA report for May 2015. The contractor provided a detailed/specific Environmental Management Plan based on the report of the IEA, which corresponds to the contract documentation. In the course of the work, the Consultant shall monitor the compliance by the Contractor with the Environmental Management Plan and report on the arising consequences and the measures taken to mitigate the impact and provide further recommendations as necessary.

34. In general, as provided for in the TOR for the implementation of construction supervision on an environmental aspect, the Consultant should "Perform the following duties related to measures to mitigate environmental impacts during construction:

- ensure that all mitigation measures to be implemented are included in the contract documents;
 - overseeing and monitoring the implementation of the EMP/negative impact mitigation plan;
 - in the event of an unforeseen environmental impact occurrence, coordinate with the PMC to recommend the necessary actions to the Committee for Roads and ADB for further procedures. Based on this, the Environmental Protection Specialist establishes coordination work with the relevant Consultant and Contractor personnel to ensure that environmental problems are identified/detected before or during the execution of the work. The EMP for the project should be the basis for monitoring, and therefore, the Contractor submitted the EMP to the Engineer for approval (under Contracts 1 and 2).
- Coordination communication channels should be established according to the following scheme of coordination work (Figure 2.3):

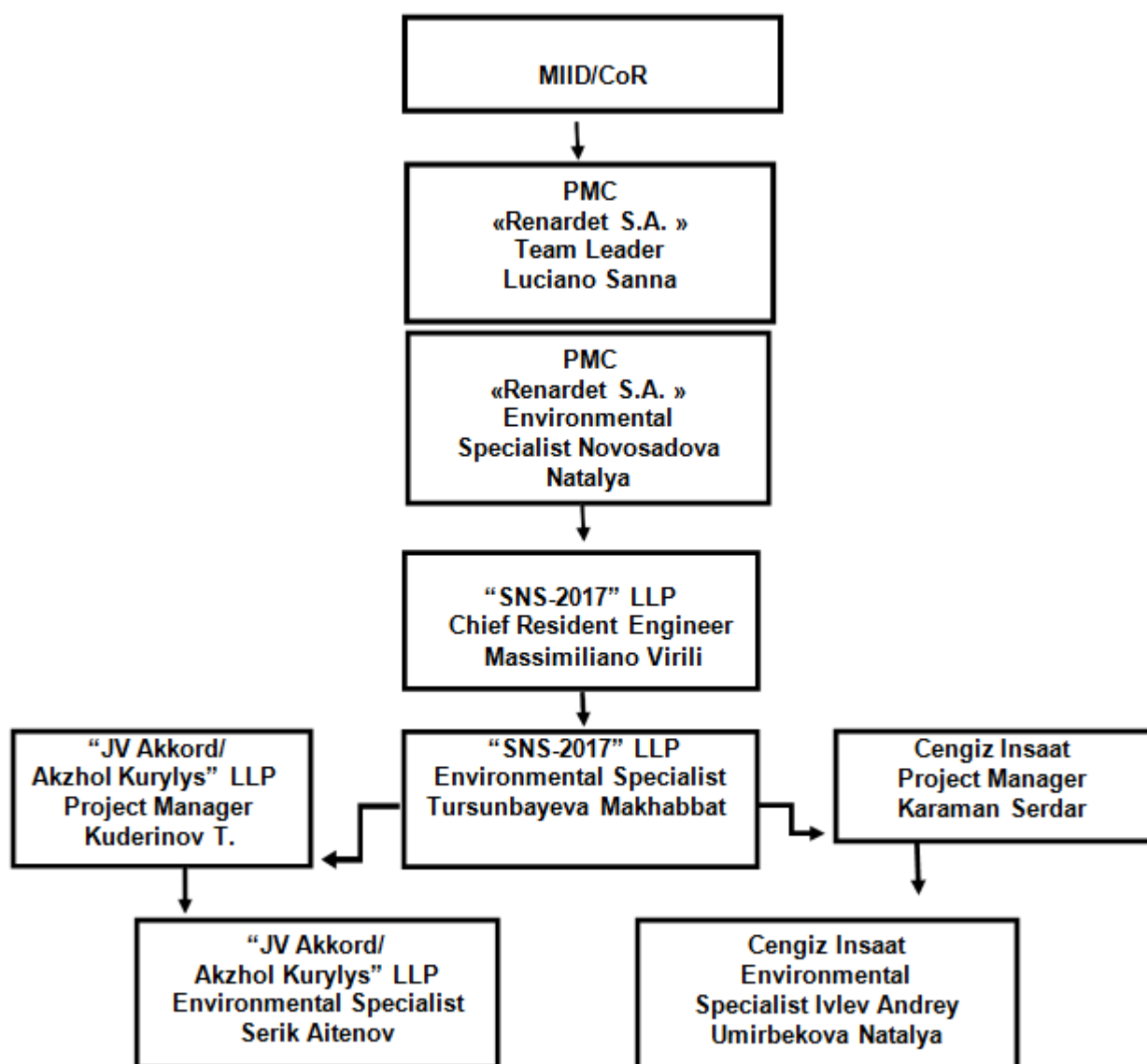


Figure 2.3: Organizational structure for environmental management of the project

2.3. Project Activities during the Current Reporting Period

35. **Contract 001, km 0-35 (Zhetibay - Zhanaozen).** The Contractor “JV Akkord/Akzhol Kurylys LLP” LLP provided 9 accommodations in Aktau and a furnished and equipped office on the territory of the working camp "Zhetibay". All 9 units of transport have been provided. The current number of personnel on the site reached 256, and total number of equipment is 161 units. A land plot with a total area of 10 hectares was set up for the construction of the camp, asphalt plant, a bitumen storage facility with a volume of 7,000 tons, and electricity supply, wiring and all internal utilities were also performed in

accordance with the contract agreement concluded. The Contractor purchased the second asphalt concrete plant, and the crusher plant has been also installed in Shetpe.

36. **Contract 002, km 35 - 73 (Zhetibay - Zhanaozen).** For provision of the working camp the

following contracts were concluded: with SE "Turmys-Service" - for drinking water, with "KazTransGaz Aimak" LLP- for gas, with "Mangistau Zharyk" LLP - for electricity, with "Temirzholsu- Mangistau" LLP - for sewage, with "Caspiy Operating" LLP - for the export of solid waste, with "Landfil" LLP - for utilization of construction waste.

37. Also, the Contracts for the supply of drinking and industrial water with SE "OzenInvest". Crushing plants were input into operation on "Yerzhurek" borrow pits No.1 and No. 2. The concrete plant, the working camp "Zhetibay", in the territory of which there are dormitories for 290 people, a canteen for 80 people, a complete construction laboratory, the offices of the Engineer and the Contractor.

38. The Contractor provided the Engineer with accommodation, transport facilities and an office, equipped with furniture, equipment and office equipment, on the territory of the camp of Zhetibay.

39. In general, the mobilization work was carried out with the achievement of 100%. The current average indicator of the workforce reached 638 workers, the total number of machines and equipment at the site is 418 units.

Table 2.2: Work description performed in Contract -001-ADB/CW-2017

a) Contract 001-ADB/CW-2017

No.	Work Description	Units	Scope of works as per project	Actual for reporting period	Planned for reporting period	Actual from the Project %	Planned from the Project %	Difference %
1	Preparation works	KZT	16 406 900,14	726 102,7	0,00	4,4 %	0,00%	4,4%
2	Milling and removal of existing pavement layers	m ²	252 199, 46	48 936,8	28 473, 32	19,4%	11,29%	8,11%
		KZT	112 776 032, 53	21 883 068, 9	12 735 057, 28			
3	Removal of relocation of existing utilities	pcs.	49	4,00	18,65	13,93%	32,13%	-7,2%
		KZT	167 135 550, 53	23 291 780,4	53 709 487,84			
4	Earth works	thousand m ³	1356,89	45,00	62,30	31,80%	54,19%	-22,39%
		KZT	1 066 819 605,96	33 927 348,1	57 818 450,62			
5	Sub base layer	m ³	70/35	28 691,2	32 403,46	15,55%	17,56%	-2,01%
		KZT	1 263 048 50 4,38	196 377 479,1	221 785 785,47			
6	Base course	m ³	70/35	15 541,2	24 074,35	10,45%	16,18%	-5,73%
		KZT	1 144 013 52 1,42	119 553 401,5	185 196 286,91			
7	HPA	m ³	70/35	15 680,4	23 963,32	22,97%	27,31%	-4,34%
		KZT	1 585 354 316,64	283 072 630,1	433 118 394,27			
8	Binder course	m ³	70/35	15 778,0	20 811,59	22,97%	29,44%	-6,47%
		KZT	1 378 681 152,47	316 675 059,6	405 892 952,26			
9	Wearing course (SMA)	m ³	70/35	13 495,6	0,00	37,27%	0,00%	37,27%
		KZT	1 067 446 561,42	397 803 223,9	0,00			
	Culverts	pcs	12	0	0	0,00%	0,00%	0,00%

10		KZT	177 379 301,71	0,00	0,00			
11	Road furniture	km	35	0,00	0,00	0,00%	0,00%	0,00%
		KZT	742 527 676,73	0,00	0,00			
12	Other works	KZT	862 499 905,04	83 793 022,9	97 425 862,47	9,71%	11,29%	-1,58%
Total:		KZT	9 584 089 028,97	1 488 922 927,2	1 467 682 277,12	15,54%	15,31%	0,23%
Variation Order No. 1-3		KZT	2 202 417 498,08	518 792 088,7	551 573 353,24	23,55%	25,04%	-1,49%

Table 2.2: Work description performed in Contract - 002-ADB/CW-2017

b) Contract-002-ADB/CW-2017

No.	Work description	Units	Scope of works as per project	Actual for reporting period	Planned for reporting period	Actual from the Project %	Planned from the Project %	Difference, %
1	Preparation works	KZT	328 027 256	2 560 658, 58	1 646 137, 37	0,78%	0,50%	0,28%
2	Earth works	thousand m ³	1424,08	0,00	204,94	8,25%	11,91%	-3,66%
		KZT	477 236 198	39 376 663,05	56 846 018,63			
3	Sub base layer	km	58,74	0,00	7,36	5,91%	5,92%	-0,01%
		KZT	508 946 519	30 053 394,36	30 136 291,90			
4	Base course	km	58,74	0,00	4,74	2,93%	6,92%	-3,99%
		KZT	1 002 682 037	23 342 741,12	69 381 112,72			
5	HPA	km	58,74	0,00	5,10	5,96%	7,42%	-1,46%
		KZT	2 122 311 239	126 511 719,45	157 395 069,51			
6	Binder course	km	58,74	0,00	1,70	3,21%	3,21%	0,00%
		KZT	1 949 179 154	62 513 528,18	62 513 528,18			
7	Wearing course (SMA)	km	58,74	0,00	8,55	20,36%	15,70%	4,66%
		KZT	1 109 301 487	225 884 020,42	174 152 434,82			
8	Bridges and overpasses	%	100	0,00	7,10	1,47%	7,02%	-5,55%
		KZT	597 174 379	8 795 880,65	41 940 452,08			
9	Culverts	pcs	13	0,00	0,00	0,00%	0,00%	0,00%
		KZT	44 371 556	0,00	0,00			
10	Road furniture	km	58,74	0,00	28,33	0,00%	0,00%	0,00%
		KZT	447 502 332	0,00	109 180 369,95			
	RMF construction	%	100	0,00	17,42	17,01%	17,63%	-0,62%

11		KZT	616 033 945	104 767 962,93	108 593 804,86			
12	Other works	KZT	934 374 473	254 190 963,69	56 447 353,33	27,20%	6,04%	21,16%
Total:		KZT	10 137 140 572	883 997 532,43	868 222 573,34	8,72%	7,49%	1,23%

Contract 001, “Zhetibay-Zhanaozen” km 0 - km 35

Hiring a manpower is in the process. The total number of employees for the reporting period is 256 (as of June 30, 2019).

Table 2.3: Mobilization of personnel Contract 001

a) Contract-001-ADB/CW-2017

No.	Position	January 2019	February 2019	March 2019	April 2019	May 2019	June 2019
1	Project Coordinator	1	1	1	1	1	1
2	Project Manager	1	1	1	1	1	1
3	Construction works supervisor	1	1	1	1	1	1
4	Construction management personnel	9	11	11	11	11	11
5	Foreman	2	8	8	8	8	8
6	Administrative staff	3	4	4	4	4	4
7	Geodesy department	7	11	17	16	17	17
8	Quality control department and laboratory	5	6	8	8	8	8
9	Technician	1	2	2	2	3	3
10	Mechanician	1	1	1	1	1	1
11	Equipment operator	3	6	8	7	7	7
12	Crusher plant's operator	5	6	6	6	6	6
13	Asphalt concrete plant's operator	2	4	8	8	8	8
14	Assembler and welder	0	0	2	2	2	2
15	Skilled staff	2	4	4	4	4	4
16	Unqualified staff	15	21	21	20	20	20
17	Production and technical department staff	1	3	3	3	3	3
18	Medical staff	1	2	2	2	2	2

19	Cookers	5	6	6	6	6	6
20	Cleaners	4	6	6	6	6	6
21	Laundry	1	2	2	2	2	2
22	Security service	6	7	8	8	8	8
23	Purchasing department	1	2	2	2	2	2
24	Electricians	1	1	1	1	1	1
25	Warehouse	1	1	1	1	1	1
26	Truck's drivers	64	76	75	85	87	87
27	Vehicle's drivers	10	11	12	12	36	36
	Total as per project	153	202	221	228	256	256

Table 2.3: Mobilization of personnel Contract 002

The total number of employees for the reporting period is 638 people (as of June 30, 2019).

b) Contract-002-ADB/CW-2017

No.	Position	January 2019	February 2019	March 2019	April 2019	May 2019	June 2019
1	Project Director	0	0	0			
2	Project Manager	0	1	1	1	1	1
3	Site Manager	1	0	0	0	0	0
4	Engineers	4	17	6	13	13	11
5	Formen	1	21	6	10	10	21
6	Administrative and managerial personnel	31	75	38	51	51	68
7	Geodetic service	1	19	17	13	13	16
8	Quality service and laboratory	0	4	5	13	13	13
9	Locksmiths	4	35	16	37	37	74
10	Mechanics	2	45	15	58	58	21
11	Equipment operator	1	1	1	1	1	13
12	Crusher Operator	0	8	2	2	2	8
13	Asphalt Plant operator	0	12	2	9	9	14
14	Concrete plant operators	0	3	0	3	3	4
15	Mounters and elders	1	22	8	33	33	19

16	Skilled workers	18	53	6	17	17	23
17	Unskilled workers	5	67	15	63	63	104
18	Technical personnel	0	0	0	1	1	1
19	Medical staff	0	1	0	2	2	1
20	Cookers	2	8	2	3	3	8
21	Cleaning ladies	4	14	7	9	9	16
22	Laundry personnel	0	0	0	0	0	0
23	Security	4	6	44	46	46	6
24	Procurement personnel	1	9	6	6	6	6
25	Electricians	2	7	9	10	10	13
26	Store keeper	1	30	17	20	20	25
27	Truck drivers	4	120	18	107	107	99
28	Car drivers	11	55	24	35	35	35
29	Mechanics	4	26	13	16	16	18
	Total on project	102	659	278	579	579	638

2.3.1 Locating the construction camps

40. The Contractor Cengiz Insaat Lot 2 had a construction camp (from the previous project) in the village of Zhetybay (photo 2.1):

- The construction camp of Zhetybay (km 729.5) covers an area of $S=5600\text{m}^2$ for the accommodation of 544 people (offices, living quarters);
- Mobile asphalt plant "BENNINGHOVEN" MBA-2500 with a capacity of 200 t/h is used to prepare the necessary high-quality road pavement materials;
- Concrete installation MB-60M with a capacity of 60 m^3/h ;
- All equipment is installed in a specially designated area with a total area of 11 hectares (the plot is identified by the decision of the Akimat of Karakiyansky district No. 226 dd. 30/09/2014).





Photo 2.1: Construction camp and Consultant's office (Cengiz Insaat Sanayi ve Ticaret) in Zhetybay, May 2019

41. The installation of crushing, asphalt, concrete plants was carried out in accordance with the working projects that were agreed with the interested state bodies. The camp, in which the asphalt and concrete plants are located, is on 73 km of Aktau-Zhetybay road section and administratively belongs to the 16 territory of Karakiyansky district of the Mangystau region. The distance to the nearest settlements - Zhetybay and Munaishy village is about 12 km. The road section for the reconstruction is characterized by a complete lack of surface water. Temporary watercourses arise only during heavy rains or heavy snowmelt. There are no permanent watercourses.

42. The office and the accommodations of the Engineering Service are located in Zhetybay camp. The Contractor mobilized all necessary equipment to the site. On the site of the camp there is a production laboratory and a warehouse for storing fuel. A crushing plant, an asphalt plant and a storage site for reinforced concrete are located nearby. Fresh water is available and in the camp there is a special sewage system directed to the septic tank.



Photo 2.2: Construction camp and Consultant's office (JV Akkord/Akzhol Kurylys LLP) in Zhetibay, April 2019

43. The septic tank and solid waste are collected regularly for disposal in an approved location. The camp includes offices for the Contractor and Consultant and accommodations for employees working in the Project. In the camp there are available mobile connections. Verify the availability of broadband 3G access. The medical service of the camp works full-time and has a fully equipped medical center.

44. Construction site of "JV Akkord/Akzhol Kurylys" LLP Lot 1 in Zhetybay locates in accordance with the approved project, coordinated with authorized state bodies. The site is located outside the water protection zone at a distance of more than 1 kilometer from the nearest inhabited territory. To reduce the impact on the environment and reduce the removal of pollutants from the territory of the construction site, the following measures were taken:

- a topsoil layer of soil was removed and measures taken to protect it from pollution: mixing with mineral soil, pollution, water and wind erosion;
- the territory of the site is covered with a protective insulating layer;
- regular cleaning and watering of the territory of the site;
- operation of the asphalt plant, concrete bond, production of mineral powder is carried out with dust and gas cleaning systems at treatment plants;
- the construction site is fenced;
- the storage and transportation of loose and liquid materials is regulated. The contract for disinfection works was concluded.

There is a medical centre.

2.3.2 Information on the availability of environmental permitting documentation

45. Information on the availability of environmental permitting documentation in accordance with the requirements of the Legislation of the RK for the reconstruction of the road section "Zhetibay - Zhanaozen" (0-35 km) of "Akzhol Kurylys" LLP as of June 30, 2019.

Table 2.4: a) Information on the availability of permits for environmental protection under Contract-001-ADB / CW-2017

The list of conclusions of the state environmental expertise		
Expert report No.	Date of issue	Conclusion name
R01-0004/18	23/08/2018	Conclusion of the state environmental expertise for working project "Construction of asphalt plant for the construction of the Zhetibay-Zhanaozen road in the Mangystau region (without estimate documentation)
KZ94VDC00069868	28/04/2018	CONCLUSION OF THE STATE ENVIRONMENTAL EXPERTISE under the section "Environmental Impact Assessment" to the project "Industrial development of sand-gravel mixture, sand, clayey rocks and limestone (semi-rock) on 8 soil reserves for the reconstruction of the " Zhetibay-Zhanaozen" road km 0- km 35 CAREC-2 Corridor in the Karakiya district of the Mangystau Oblast of the Republic of Kazakhstan"
KZ32VDC00071566	09/07/2018	CONCLUSION OF THE STATE ENVIRONMENTAL EXPERTISE as per section "Environmental Impact Assessment" to the project "Industrial development of sand and gravel mixture, sand, clay rocks in the Saukuduk-1, Kuryk central sections No. 2-7 for the reconstruction of the section of the Zhetybai-Zhanaozen road, km 0-35 CAREC-2 Corridor in the Karakiya District of the Mangystau Region of the Republic of Kazakhstan
KZ52VDC00070430	24/05/2018	CONCLUSION OF THE STATE ENVIRONMENTAL EXPERTISE under the section "Environmental Impact Assessment" to the project "Industrial development of the construction stone of Shetpe manifestation - IV plots №1,2 (0-35 km) for the reconstruction of the section of the Zhetybai-Zhanaozen road of the CAREC-2 corridor Mangistau district of Mangistau region "

Перечень разрешений на эмиссии в окружающую среду

Name	Authorization number	Date of issue	Start of action	Date of completion
Reconstruction of the highway "Zhetibay- Zhanaozen-Kenderli-Turkmenistan Republic border" section km 0-35	KZ37VDD00090407	06.03.2018	06.03.2018	31.12.2019
Industrial development of sand and gravel mixture, sand, clay rocks and limestone (semi-rock soil) on 8 soil reserves for the reconstruction of "Zhetibay-Zhanaozen" road section, km 0-35, CAREC-2 in Karakiyansky District of Mangistau Region of RK	KZ00VDD00094662	01.06.2018		
Industrial development of the construction stone of Shetpe manifestation - IV plots №1,2 (0-35 km) for the reconstruction of the section of the Zhetybai-Zhanaozen road of the CAREC-2 corridor Mangistau district of Mangistau region	KZ30VCZ00166691	14.06.2018	20.06.2018	31.12.2021
Industrial development of sand and gravel mixture, sand, clay rocks in the Saukuduk-1, Kuryk central sections No. 2-7 for the reconstruction of the section of the Zhetybai-Zhanaozen road, km 0-35 CAREC-2 Corridor in the Karakiya District of the Mangystau Region of the Republic of Kazakhstan	KZ34VDD00096475	13.07.2018		
Conclusion of the state environmental expertise for working project "Construction of asphalt plant for the construction of the Zhetibay-Zhanaozen	KZ10VCZ00175684	23.08.2018	23.08.2018	31.12.2027
PERMISSION to issues in environment for objects of IV category, heavy vehicle parking areas Construction on the roads of Republican value "Zhetybai-Zhanaozen - Fetisovo - to the border, the Turkmenistan" (Turkmenbashi), site 0-35	KZ42VDD00114761	19.03.2019		

km", Akimat of Mangistau oblast Department of natural resources and environmental control of Mangistau region				
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46. Information on the availability of permits on the environment protection in accordance with the requirements of the Legislation of the RK for reconstruction of "Zhetibay - Zhanaozen" road section (35-73 km) "Cengiz Insaat" BJSC as of June 30, 2019.

Table 2.4: b) Information on the availability of permits for environmental protection under Contract- 002-ADB / CW-2017

The list of conclusions of the state environmental expertise		
Expert report No.	Date of issue	Name of conclusion
04-08/1376	23/04/2015	According to the working project "Reconstruction of the Beineu-Aktau highway section, km 632.3-719 (v. Shetpe-v. Zhetibay). Adjustment in terms of construction of mobile asphalt and crushing plants"
KZ44VDC00040795	30/09/2015	under the project "Construction of a temporary camp in the Karakiya district of the Mangistau region at 730 km of the Beyneu-Aktau highway for employees of the Cengiz Insaat Sanayi Ve Ticaret Anonym Sirketi" BJSC in Aktau
KZ17VCY00072334	13/07/2016	"Draft standards for maximum permissible emissions of pollutants into the atmosphere from sources of the BJSC "Cengiz Insaat Sanayi Ve Ticaret Anonym Sirketi (Shetpe construction site)"
KZ66VCY00076399	30/09/2016	"Draft standards for maximum permissible emissions of pollutants entering the atmosphere from sources of the BJSC "Cengiz Insaat Sanayi Ve Ticaret Anonym Sirketi "(construction site in Zhetibay village)"
R3-0214/16	24/10/2016	as per the working project "Construction of bitumen storage and emulsion installation on the territory of a construction site located in Karakiya district of Mangystau region"
KZ55VDC00066302	07/12/2017	"The project to conduct a prospect evaluation surveys of clay rocks (loams, sandy loams) and sand of the soil sections 1, 2, 7, 7-2, 8, 8-1 located in the Mangystau region of the Republic of Kazakhstan for the reconstruction of the section of the highway "Zhetibay-Zhanaozen"(km 35-73)"
KZ31VDC00070711	04/06/2018	as per "Environmental Impact Assessment (EIA) Project to a project for the industrial development of clay rocks (loams, sandy loams) of soil sections 1, 2, 7, 7-2, 7-3, 8, 8- 1 located in the Mangystau region of the Republic of Kazakhstan , for the reconstruction of sections of the highway "Zhetybai-Zhanaozen-Kenderli-border of the Republic of Turkmenistan" km 35-73 "

The list of permits for environmental emissions				
Name	Authorization number	Date of issue	Start of action	Date of completion

Shetpe Construction Site	KZ70VCZ00095646	20.07.2016	20.07.2016	31.12.2025
Zhetibay Construction Site	KZ25VCZ00108096	17.10.2016	20.10.2016	31.12.2025
Operation of the bitumen storage and emulsion installation on the territory of the construction site located in Karakiyansky district of Mangistau region	KZ72VDD00061453	04.11.2016	01.01.2017	31.12.2020
Operation of the camp in the Karakiyansky district	KZ23VDD00082317	30.11.2017	30.11.2017	unlimited
Conducting prospecting and evaluation works of clay rocks (loams, sandy loams) and sand of soil sections 1,2,7, 7-2, 8, 8-1 located in Mangistau region of RK for the reconstruction of "Zhetibay-Zhanozen" road section (35-73 km)	KZ81VDD00089712	22.02.2018	22.02.2018	unlimited
Construction work of "Cengiz Insaat" BJSC on the section on Zhetibay- Zhanozen road section (35-73 km)	KZ71VDD00091153	20.03.2018	20.03.2018 г.	unlimited
Industrial development of clay rocks (loams, sandy loams) of soil sections 1, 2, 7, 7-2, 7-3, 8, 8-1 located in the Mangystau region of the Republic of Kazakhstan , for the reconstruction of sections of the highway "Zhetybai-Zhanozen-Kenderli-border of the Republic of Turkmenistan" km 35-73 "км 35-73	KZ34VDD00095311	15.06.2018	15.06.2018 г.	31.12.2018 г.

2.3.3 Changes in the project management and environmental management team

47. Implementing Agency is the Committee for Roads of the Ministry of Industry and Infrastructural Development of RK (MIID). Implementing Agency hires a Project Management Consultant (PMC) Renardet S.A. to assist the Committee in project implementation. Implementing Agency appointed "NC "KazAutoZhol" JSC as its assistant to resolve local issues related to contracts.

48. "SNS-2017" LLP (Consultant/Engineer) was appointed by the Employer to provide consulting services in Contract administration and construction supervision. On June 10, 2019, the Contract was signed between the Implementing Agency and the Consultant.

Table 2.5: Mobilization of Environmental specialists

Organization	Position	Full name	Activity	Period
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Contractor Cengiz Insaat	environmental specialist	Ivleyev Andrey Umirbekova Natalya	Compliance with obligations according to the terms of reference of the contract	Involvement on an ongoing basis April 20, 2018
Contractor “SP Akkord/ Akzhol Kurylys” LLP	environmental specialist	Serik Aitenov	Compliance with obligations according to the terms of reference of the contract	Involvement on an ongoing basis April of 2018
CSC	local environmental specialist	Tursunbayeva Makhabbat	Compliance with obligations according to the terms of reference of the contract	Involvement on an ongoing basis February 5, 2018
PMC «Renardet S.A.»	environmental specialist	Novosadova Natalya	Compliance with obligations according to the terms of reference of the PMC contract	Involvement on an ongoing basis April 15, 2018

49. Coordination channels of communication should be established according to the following coordination scheme.

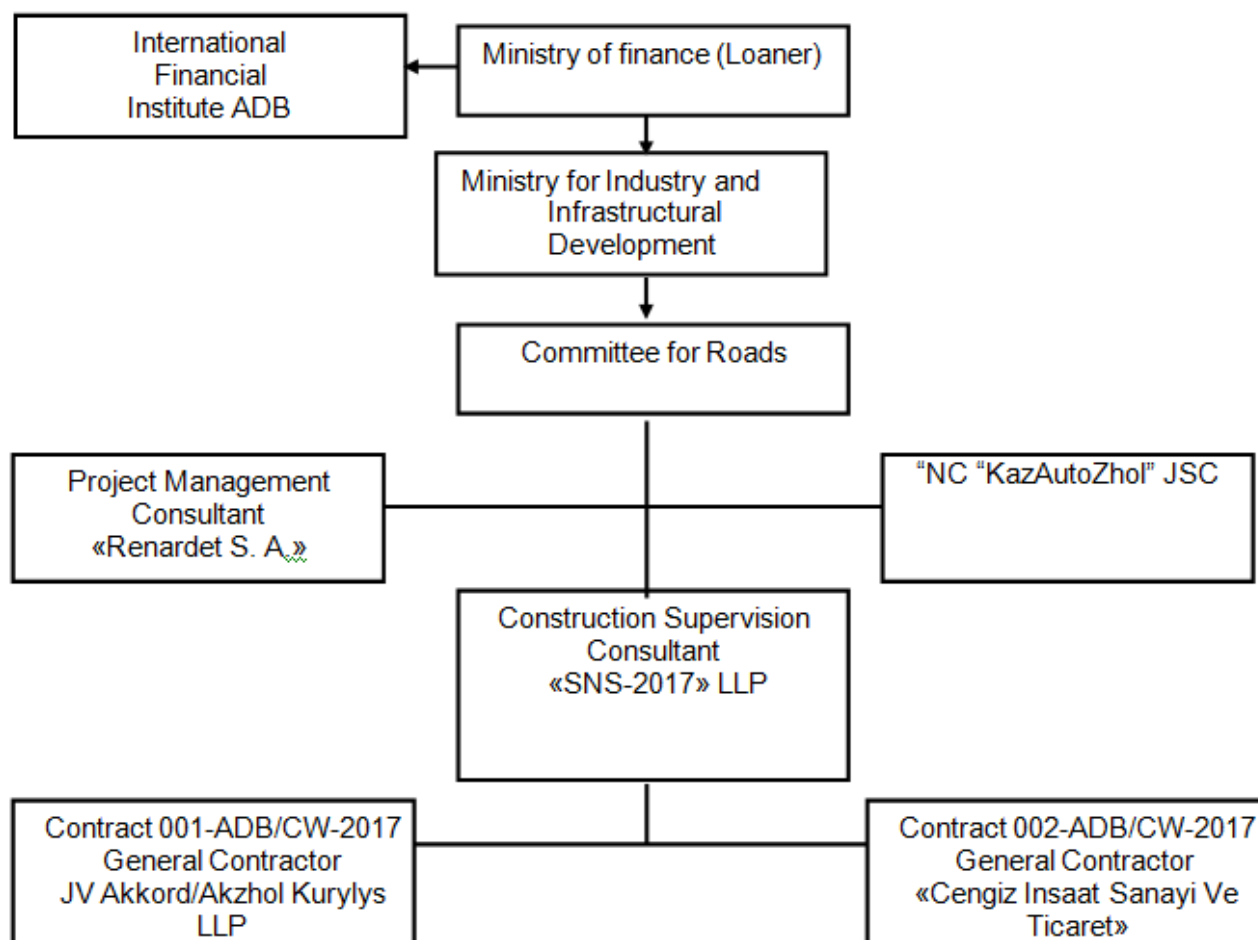


Figure 2.4: Organization of working coordination

2.3.4 Relationships between the Contractors, Owners, Lender, etc.

50. The relationship between Contractor, Engineer, Owner, and Lender is considered as normal working relationships. At the working level, coordination of environmental issues were good; the specialists mentioned in article 1.6 above are from frequent communication and consultation. While developing and implementing this MFF CAREC Corridor II (sections in Mangistau Oblast) Investment Program, Project 2 road construction project in Mangistau Oblast, the Contractor 1 (JV Akkord/Akzhol Kurylys LLP) and the Contractor 2 (Cengiz Insaat), and Implementing Agency/Lender are required to contract with and successfully manage a wide range of consultants, service providers, and equipment and materials suppliers. All of these parties are specialists in their respective trades, and as with any business enterprise, they operate with their own best interests in mind. For these professional contractors, “best interest” should include providing the Implementing Agency/Lender with the highest quality construction and performance possible in the most cost effective manner as indicated in Technical Proposals. However, the Construction Supervision Consultant (CSC), Implementing Agency and/or Lender have experience or knowledge to evaluate adequately some of the more specialized requirements of the project, or the resources to manage effectively.

51. For the successful implementation of the Project, consultations with environmental specialists took place: meetings, telephone calls and email correspondence.

52. In accordance with the contract 001-ADB / CW-2017 for Lot 1 with the Contractor JV Akkord / Akzhol Kurylys dated 30/05/2017 and 002-ADB / CW-2017 for Lot 2 with the Contractor Cengiz Insaat Sanayi ve Ticaret A.S. JSC dated 19/06/2017, Contractors provide a monthly report on environmental protection. During the period from January to June 2019, 4 reports were provided by Lot 1 and 3 reports were provided by Lot 2 in a timely manner.

53. Letters regarding environmental inspection and information provision were sent to the Contractors JV Akkord / Akzhol Kurylys and Cengiz Insaat Sanayi ve Ticaret A.S. JSC.

2.4 Description of Any Design Changes

54. There are no significant changes in the design of the project “Zhetibay-Zhanaozen-Kenderli-boarder of Republic of Turkmenistan” compared to those that were evaluated at the stage of environmental impact assessment and described in the IEA / EIA.

Contract 1

According to Engineer’s recommendation, Contractor submitted working drawings of longitudinal and cross section profiles with lowering the profile of road section from PK205+00 to PK210+00 on average by 1-1.5 m in order to ensure the traffic safety, reduce the term for reconstruction and save the material and technical resources. This proposal was approved by the Engineer.

Contract 2

The Contractor submitted the modified working drawings of Contract 002 consisting of a longitudinal plan, profile, and cross sections in intervals of 20 m. The working project was sent and is being reviewed in KazDorNII, c. Almaty.

55. Project Management Consultant “Renardet S. A.” sent to the Engineer approval of Asian Development Bank and a letter from the Committee for Roads of the Ministry of Investment and Development of the Republic of Kazakhstan regarding the Variation Order No. 1 on reorganization of communication under Contract 002-ADB / CW-2017 for further work. Details in Appendix 3.

Variations

Lot 1

56. Utilities were identified in the amount of 10 pieces (gas pipelines, oil pipelines and water pipes) and letters on relocation of utilities were sent to KazDorNII Almaty for coordination and consideration of the project. No response has been received. Regarding these unforeseen by the project utilities and other inaccuracies in the design and estimate documentation is under development by the Contractor. Upon completing, it will be sent to the Designer for review and approval. On the ground of the letter of LLP “Tasbolat Oil Corporation”, meeting was held with the participation of the representatives of the Employer, Contractor, PMC and the Engineer, as well as representatives of “TasbolatOilCorporation”

LLP regarding the junctions unrecorded by the project for access roads to the deposits of the above company. As result of the meeting, it was decided to make some changes to the project of road under reconstruction "Zhetybay-Zhanaozen", km 0-35.

57. At the section PK4+00 of the "Zhetybay-Zhanaozen" road there is an existing access road to the oil pumping station Mangystau Oil Pipeline Management Office JSC "KazTransOil". The production activity of the oil pumping station (OPS) directly depends on this road, since the road service with the OPS was implemented through the specified access road. The road is on the balance of the organization, has asphalt concrete pavement and is the main exit to the road of republican significance "Zhetybay-Aktau" and "Zhetybay-Zhanaozen". In the design stages, this access road was not included in the working project of the reconstruction of "Zhetybay-Zhanaozen" road.

58. On July 13, 2018, we received a letter from the "MangystauZholLaboratory" RSE on the consideration of the possibility of including an access road to the OPC of the Mangystau Oil Pipeline Management Office JSC "KazTransOil".

59. On July 17, 2018, this section was inspected jointly with the representatives of Employer, PMC "Renardet" and CSC. Based on the results of the inspection, and having considered the project of reconstruction of the "Zhetybay-Zhanaozen" road, the Engineer considers that construction of junction is necessary at PK4+00.

60. Letter regarding the arrangement of additional junctions and U-turn was sent to the PMC and Project Designer. For a more detailed consideration of this issue, the Project Designer requested drawings. The Contractor developed the drawings and submitted them to the Engineer. After reviewing the Engineer sent these drawings to the PMC for coordination.

61. The Engineer received the approval letter on the arrangement of additional junctions and U-turn from the Designer and forward it to the Contractor for their necessary actions.

62. Variation Order No. 1 "Additional scopes of rest area from Pk313+20 to Pk314+80 PH "Nysan" back walls with metallic enclosures, Parking area, Road of milled asphalt", the amount of is 18 059 383, 23 KZT with VAT, Variation Order No. 2 "Additional scopes of: turning circle from Pk265+00 to Pk270+00", Junction Pk263+63, Junction Pk4+00".

63. These Variation Orders were reviewed and approved by Engineer and were sent for approval by "NC "KazAutoZhol" JSC Employer's representative. According to working project of road reconstruction "Zhetibay-Zhanaozen-Kenderli-border of Turkmenistan", road site 0-35k m, relocation of existing communications, located on Pk021+38 and Pk021+57, belonging to "MangistauMunaiGas" JSC, is provided

64. During projecting the relocation of communications pointed, high-voltage transmission lines VL 220 kV of "Mangistau regional electric grid company" which are not provided in the project, conducting parallel to road in distance of 29 m from the planned point of installation poles, which are approved by topographical survey of Contractor's working project. The lack of necessary distance between road and transmission lines "MREC" JSC, does not allow to complete project relocation of high-voltage lines, belonging to "MMG" JSC without violations of requirements EPM RK and SNiP RK 4.04.07-2013.

65. On this basis, the "MMG" JSC has issued technical specifications No. 21-02-37 dated 11.09.2017 requiring to relocate power transmission lines underground by stacking three boxes on each intersection of communication. In addition, in the technical specifications of "MMG" JSC It is required to conduct two cables АПВПУ 3x185 in the reserve of sewage.

66. Engineer for his part, considers it reasonable reconstruction of power lines over the highway underground, as in this case they do not have to rebuild high voltage transmission aerial lines with a voltage of 220 kV of "MREC" JSC, which is not provided by work project in the design. However, the Engineer addressed to the "MMG" JSC on the legality of the demand for additional cable lines as per the requirements of EPM RK and SNiP RK 4.04.07-2013 is not specified.

67. The representatives of "MMG" JSC substantiate the claim that this line is the only supply of electricity lines of South Zhetybay, and any unexpected events with an underground cable will lead to complete stop of the production cycle in the field. The second cable is a backup for emergency case.

68. Based on aforementioned, the Engineer considers the technical conditions of "MMG" JSC No. 21-02-37 dated 11.09.2017 reasonable and is the basis for the development of a new working project for reconstruction of high voltage lines 6 kV, located on a Pk021+38 and Pk021+57, owned by "MMG" JSC and sent the decision to the Author of the Project. The author of the Project by the letter No. 143/05 - 01 dated 27.02.2019 agreed aforementioned adopted technical decisions. This letter was forwarded to the address of the Contractor for further necessary action (Variation Order).

69. Contractor provided for review and approval to the Engineer Variation Order No. 3 "Additional scopes of "Heavy vehicle parking on Pk270+0-Pk302+00, Bypass road on Pk270+00-Pk302+00". This Variation Order was reviewed and approved by the Engineer and submitted for approval by the representative of the Employer of "NC "KazAutoZhol" JSC.

70. Contractor provided for review and approval to the Engineer Variation Order No. 4 "Additional scopes of communications". This Variation Order has been reviewed by Engineer and forwarded on completion to the Contractor in connection with the revealed remarks.

Lot 2

71. Variation Order No. 1 of the utilities which are not provided in the Project (in the amount of 12 pieces) was approved by the Engineer, PMC, COR and ADB.

72. The Engineer had accepted and the Employer approved the adjustment index of cost in accordance with the Contract. Author of project approved the change of tube crowns. The provision of drawings signed by Designer to the Engineer is expected. RMD in c. Zhanaozen has been 90% completed.

73. Variation Order No. 2 for "Reconstruction of production base RMD-58 in Shetpe" was approved by Engineer, PMC, COR, ADB.

74. Variation Order No. 3 for "Repair of road section, passing through Zhanaozen km 64-73" was approved by Engineer, PMC, COR, ADB.

75. Variation Order No. 4 for "Water drainage". Having reviewed Variation Order No. 4, Engineer sent to Contractor a letter with remarks regarding VO. Taking into account Engineer's remarks, Contractor repeatedly submitted VO No. 4 for Engineer's review and approval, after the Engineer sent the VO No. 4 to PMC for further sending to COR for review and approval. However, PMC sent the letter regarding VO No. 4 with remarks, which were sent to Contractor for correction.

76. Variation Order No. 5 regarding widening of road section "Entrance to c. Zhanaozen" with change of technical road category from III to II is being prepared by Contractor by the instructions of Prime-Minister of RK Zh. M. Kasymbekov.

77. All Variation Orders were considered by the environmental protection specialists of the PMC and the CSC to identify new impacts on environmental components, since the project is limited to small-scale rehabilitation works, repair of the existing road and the construction of the road on previously undisturbed lands for 6 km, all specified types of construction works in the VO are of a similar nature and do not entail new potential environmental impacts, other than those indicated in the EMP / IEA and the SSEMP of the Contractors Lot 1 and 2. As a result, there is no need of a development of the report on integrated assessment. Contractors of Lot 1 and 2 adhere to the implementation of the SSEMP and the measures indicated therein to reduce the impact during the implementation of the entire project.

2.5 Description of Any Changes in Approved Construction Methods

78. No reasons for changing any construction processes have been identified for this reporting period in the course of construction works.

3. ENVIRONMENTAL PROTECTION ACTIVITIES

3.1 General Description of Environmental Protection Activities

81. The environmental monitoring system was based on the TOR for construction supervision, technical specifications, the IEA project for category B and ADB manual.

82. Environmental monitoring is a supervision function, and the goal is to ensure compliance with the EMMP. Monitoring is a day-to-day process that ensures deviations avoidance from the EMMP or correction, or quickly detection and elimination of any unforeseen consequences. Specific actions in the EMMP that are subject to control are included in the Monitoring Plan. During construction, environmental monitoring will require measures to ensure the preservation of hills, slopes and embankments from potential soil erosion, exploitation and restoration of quarries, identification of work sites and storage facilities for materials, placement of concrete mixing plant and asphalt concrete plant, especially close to populated areas points and reserves, and the preservation of religious areas, cemeteries or burials, public relations, as well as provisions for safety.

83. As provided in the Project Contract, the Contractor will adhere to the requirements of the environmental aspects of the contract document, in particular, the requirements in the General Conditions of the Contract (FIDIC) such as: 4.8: Security Order; 4.18: Environmental protection; 4.15: Access road; 4.24: Fossils; and 6.7: Health and Safety.

84. In addition, detailed requirements are established in the **Technical Specification**, in particular:

Section 106: Environmental protection

- A. Overview
- B. Fuel and chemical storage
- C. Water quality
- D. Air quality
- E. Noise
- F. Earthworks
- G. Ancient monuments preservation
- H. Environment enhancement
- I. Special conditions

85. Section 113: Bypass and traffic control measures -

Road Traffic Management Plan. The main responsibility of the Contractor is to develop a draft Environmental Management Plan (EMP) based on the materials contained in the IEA report for May 2015. The Contractor has provided a detailed / special Environmental Management Plan based on the IEA report, consistent with the contract documentation. During the works, the Consultant should monitor the compliance of the Contractor with the Environmental Management Plan and report on the consequences and measures to reduce the impact and provide further recommendations on the need.

86. In general, as provided for in the TOR for the implementation of construction supervision on the environmental aspect, the Consultant shall "Perform the following duties related to mitigation measures during construction:

- a) ensure that all mitigation measures to be implemented are included in the contractual documents;
- b) supervision and monitoring of the implementation of the EMP / mitigation plan;
- c) in the event of unforeseen environmental impact, coordinate with the PMC to recommend the necessary measures to the Committee for Roads and ADB for further procedures. On this basis, the Environmental Specialist establishes coordination work with the relevant personnel of the Consultant and the Contractor so that environmental problems are identified / revealed before or during the works performance. The project EMP should be the basis of monitoring and, therefore, the Contractor submitted to the Engineer for approval the EMP (for contracts 1 and 2).

3.2 FIELD AUDIT (SITE VISIT)

87. Periodic inspections of construction camps and construction sites of Lot 1 and Lot 2 were conducted during the construction period (from January to June 2019) and conditions of campuses and sites have been improved as a result of the inspection. Camps and sites will be regularly monitored during the construction period and special attention will be paid to the works along the road pavement of the Project.

88. Site inspections were carried out in various environmental aspects of the Project, inspections were conducted to prepare part of the Monthly Progress Report and the Quarterly Environmental Monitoring Report. During the audit, a number of environmental and safety issues were observed and noted. These problems were subsequently brought to the attention of the relevant personnel of the CSC, and also held discussions by the Contractor. These identified issues related in general to dust generation at Lot 1 and Lot 2, and the administrative works of the Contractor's construction camp Lot 1 and Lot 2. Following the instructions and advices of the CSC, Contractors should take corrective actions and monitor these activities to ensure their effectiveness.

3.2.1 Observed environmental management impacts and mitigation measures

89. During the periodical mobilization and verification of the site by the Environmental Protection Specialist in June 2019, he accepted the scope of work in coordination with Contractors Cengiz Insaat and JV Akkord/Akzhol Kurylys LLP for the project road. Observed environmental problems were noted and discussed with the Contractor's representatives for their clarification in the framework of the IEA, Contract provisions and technical specifications. Details of the work are given below:

- Field inspection of work sites, including premises and additional work sites. The field study included working places along the project's road sections, quarry area, access roads, bridges and culverts, channels, and base camps of Lot 1 and Lot 2.
- A detailed inspection was done on environmental issues and construction safety at the overpass construction site.

90. A detailed discussion with representatives of Contractors Lot 1 and Lot 2 on the status of the necessary Environmental Management Plan (EMP) and its mandatory updating. Environmental monitoring will be continued by the national environmental expert, his main responsibilities include monitoring the impact and monitoring the measures taken. It was found that there was not a single serious environmental impact on the Project territory, according to the site inspection in April, May, June 2019. Below are the main environmental, health and safety problems in the area of the project sites identified during monitoring by the staff of the CSC and the specialist of the environmental protection of the PMC (Table 3.1).

*Table 3.1: Revealed issues during environmental inspection
(February-June 2019)*

Description of Environmental Issues	Description of Proposed Measures
Dust pollution occurs in certain limited areas of base repair and maintenance. Water truck was used to minimize the consequences	To reduce dust during construction through watering. It was recommended to the Contractor's Environmental Specialist to schedule watering of the road, where it is necessary to prevent the effects of dust on the local residents.

<p>Wearing of protective clothing, safety gear and safety shoes:</p> <p>Some workers were provided with PPEs like helmets, reflective clothing, and signs to alert during traffic, there are controllers to give a signal to road users. However some workers do not use security measures during construction of the overpass:</p> <p>(1) Workers do not wear helmets and reflective clothing.</p>	<p>Required response from the Contractor:</p> <p>(i) The Contractor shall instruct each employee on the site to wear the prescribed helmets, reflective clothing and special footwear.</p> <p>(ii) The Contractor shall report compliance with the measures as soon as possible.</p> <p>It is recommended to wear safety shoes during working hours. The Contractor's Road Safety Engineer shall provide workers with PPE.</p> <p>It is recommended to comply strictly the policy of protective measures at all construction sites.</p>
<p>Air pollution and noise on nearby settlements:</p> <p>As a result of consultations with local authorities, it is recommended to water the road carefully before cleaning, as it bothers the locals, especially the road that is close to the villages.</p>	<p>Air quality is at an acceptable level for existence according to air quality measurement data (performed from February to June 2019). The noise and vibration measurements were made in compliance with the local standard limit, according to noise and vibration data from February to June 2019.</p>
<p>The Contractor uses traffic control techniques to limit interference to traffic and ensure traffic and pedestrian safety.</p>	<p>The Road Safety Engineer instructed the Contractor to strengthen safety and traffic control</p>
<p>According to the results of the pre-audit, unsigned containers for hazardous waste in the territory of the mechanics were identified.</p>	<p>It is necessary to organize a container in this area for each type of waste (oiled soil, waste filter, oiled rags, waste oil) separately.</p>



Photo 5.1: Signed Hazardous Waste Containers (construction base camp Lot 1 Akzhol Kurylys)

<p>Possible impact on road user`s safety:</p> <p>All employees of the Contractor were acquainted fall with safety. The regulator is used for traffic control schemes and was provided to the Engineer for approval.</p> <p>Similarly, the safety of workers is monitored, a complaints were received during the reporting period.</p>	<p>The Contractor shall instruct the Subcontractors and workers, that they should wear PPE all the time in the workplace in order to minimize accidents and health hazards.</p> <p>Traffic accidents were monitored. No accidents were reported during the reporting period.</p>
<p>Pollution caused by domestic waste and solid waste:</p> <p>The Environmental Protection Checklist was distributed for monitoring during the execution of works and for the elimination of the environmental problem, if any.</p> <p>In the camp used toilets with a septic tank (in the office of the Engineer) or washed into the sewer system.</p>	<p>Organize cleaning around the septic tank. Contracts for LOT 1 and LOT 2 for the export of household fecal wastewater have been concluded.</p>



Photo 5.2: Pollution around the septic tank, construction base camp Lot 2 Cengiz Insaat

91. According to the recommendations specified in the Guidelines for Monitoring the Implementation of Environmental Protective Measures and the request of the National Consultant on Environmental Protective Measures of the ADB Representative Office in the Republic of Kazakhstan, checklists are presented in Appendix 8 based on the results of joint inspections and audits by the environmental protection experts of the PMC and CSC.

92. According to the observations made during the inspection carried out by the specialist of environmental protection of the CSC and the PMC, further improvements were made at the sites during this period. Joint inspections of the Environmental Specialist with the Contractor, joint inspections with Traffic Safety Engineers and frequent meetings helped to identify the problems on the site. The following table shows brief information about the site visit in January-June 2019. Environmental Monitoring checklists are given in **Appendix 2**.

*Table 3.2: Summary of the Number and Type of Site Visits
(January-June 2019)*

Date	Contract		Audit objective	Environmental auditor name	Overview
	Contract 1 km 0-35	Contract 2 km 35-73			
13.03.2019	1		Site visit, monitoring and control of quality of air and soil, noise and vibration	Aitenov S. - Environmental Specialist Novosadova N. - Environmental Protection Specialist	Milling of the existing road is carried out, alteration of gas and oil pipelines and etc.
10.04.2019		1	Site visit, monitoring and control of quality of air and soil, noise and vibration	Umirbekova N. - Environmental Specialist Novosadova N. - Environmental Protection Specialist	Slope flattening, asphalt compaction, slope planning
17.04.2019	1		Site visit, monitoring and control of quality of air and soil, noise and vibration	Umirbekova N. - Environmental Specialist Novosadova N. - Environmental Protection Specialist	Construction of elevated road on rest areas, top soil was removed, Crushed stone-sandy mix filling and etc.
24.04.2019		1	Site visit, monitoring and control of quality of air and soil, noise and vibration	Umirbekova N. - Environmental Specialist Novosadova N. - Environmental Protection Specialist	Construction of slopes, core sampling, compaction of wearing course, soil levelling, preparation of material for road-bed

03.05.2019		1	Site visit, monitoring and control of quality of air and soil, noise and vibration	Umirbekova N.- Environmental Specialist Novosadova N. – Environmental Protection Specialist	Crushed stone sandy mix pavement, compaction of wearing course, paving of second layer of porous asphalt
13.05.2019	1		Site visit, monitoring and control of quality of air and soil, noise and vibration	Aitenov S. - Environmental Specialist Novosadova N. – Environmental Protection Specialist	Construction of road bed, subbase layer, base course, wearing course are completed
24.05.2019		1	Site visit, monitoring and control of quality of air and soil, noise and vibration	Umirbekova N.- Environmental Specialist Tursunbayeva M.– specialist on Environmental Protection Novosadova N. – Environmental Protection Specialist	Crushed stone sandy mix construction, compaction of wearing course, paving of second layer of porous asphalt
11.06.2019		1	Site visit, monitoring and control of quality of air and soil, noise and vibration	Umirbekova N.- Environmental Specialist Novosadova N. – Environmental Protection Specialist	Fine-graded asphalt-concrete for bridge construction of cone strengthening by precast reinforced-concrete, reinforcing of monolithic drainage, compaction of median strip
18.06.2019	1		Review of the implementation of existing projects, MMF Investment Program of the CAREC Corridor 2 in the Mangystau region (Zhetybai-Zhanaozen)	Aitenov S. - Environmental Specialist Novosadova N. – Environmental Protection Specialist	Construction of SGM of bypass road, SGM from the right side of heavy vehicle parking, back filling of Crushed stone sandy mix of bypass road

20.06.2019		1	Site visit, monitoring and control of quality of air and soil, noise and vibration	Umirbekova N.- Environmental Specialist Novosadova N. – Environmental Protection Specialist	SMA strengthening, soil loading for back filling shoulders, watering the shoulders, setting back fill shoulders
27.06.2019		1	Site visit, monitoring and control of quality of air and soil, noise and vibration	Umirbekova N.- Environmental Specialist Tursunbayeva M.– specialist on Environmental Protection	Soil loading for shoulders fill, construction of shoulders, ramp 3 slopes levelling, ramp 3 cutting of asphalt, watering

93. **ADB site visit:** Tasks of mission: Implement observation of project realization with implementation agency.

- 1) Progress, issues, quality of construction
- 2) Compliance of the project implementation with conditions and provisions of the loan agreement and ADB policies on safeguards
- 3) Contract award (procurement) by projects and sample means for the period of the realization
- 4) Submission of reports to ADB.

94. **The mission includes the following ADB specialists:**

1. Zhangbo Ning, Head of Mission (Head office of ADB, Manila);
2. Nurlan Djenchuraev, Senior Environmental Specialist (Head office of ADB, Manila);
3. Glenda Dzhurado, Analytic of projects (Head Office of ADB, Manila);
4. Asem Chakenova, Project Specialist (Representative of ADB RK);
5. Zarukhi Khairapetyan, ADB consultant on social issues;
6. Kanat Serdaliyev, ADB consultant on social issues;
7. Laura Malikova, ADB consultant on environmental issues



Photo 3.1 Site visit of the ADB team (May 2019)

95. The purpose of this mission is to review the progress of the project: Loan No. 2967-KAZ: Investment Program of CAREC Corridor 2 in Mangystau region MMF (Zhetybay Zhanaozen).

3.3 ISSUES TRACKING (ON THE BASIS OF NON-COMPLIANCE NOTIFICATION)

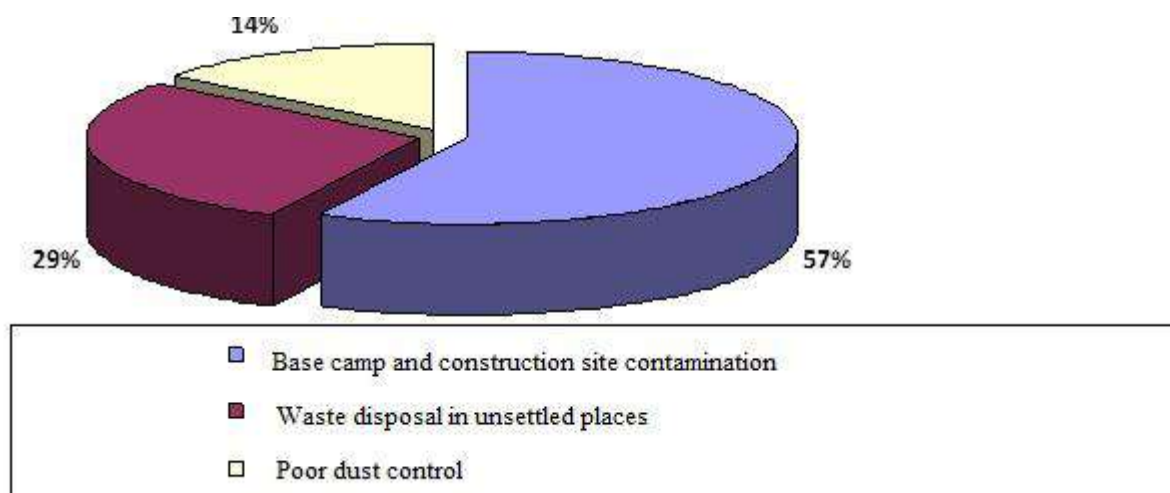
96. The Contractor is responsible for the implementation of the EMP during the construction works and the Construction Supervision Consultant (CSC) is primarily responsible for the supervision of the monitoring of the implementation of the EMP.

97. During the reporting period of 2019, during the regular monitoring and inspections, the PMC specialist and the Engineer identified insignificant non-compliances such as insufficient dust control by Contractors Lot 1 and Lot 2, used tires on the construction site (Contract 2, lot 2), traces of oil on the territory of the asphalt concrete plant, the remnants of asphalt mixtures, area for solid household waste

container is not fenced, hazardous waste is not sorted.

98. In respect of all revealed non-compliances Notices of non-compliance were issued with recommendations to organize the collection and removal of used tires to the designated location, to organize the cleaning of the territory.

99. For the 1st half of 2019 insignificant non-compliances have been identified, for which Notices were issued. Most of non-compliances are 50% dealt with the contamination of the construction territory, construction sites with waste. 25 % of the non-compliances are related to joint waste disposal and placement of waste in undesignated places, 12.5% of non-compliances – lack of dust control.



Picture 3.1: Analysis of identified non-compliances for 1st half of 2019

100. To eliminate non-compliances to the requirements of the EMP notices of non-compliance (letter) were issued given below (see *Table 5.4: Letters on environmental issues*)

101. The main reasons for the non-compliances found were:

- insufficient understanding by employees of the Contractors of the requirements of the EMP,
- poor monitoring of compliance with the requirements of the EMP of the Contractor's technical and engineering employees.

102. Notices/instructions were issued for all non-compliances revealed. After the implementation of the recommendations specified in the notice by the Contractor's ecologist, re-inspections were carried out. The degree of effectiveness of issued instructions is 100%.

3.4 Trends (general directions)

103. Comparative analysis of identified non-compliances in the 1st half of 2019 compared to the 2nd half of 2018 on Lot 1 and on Lot 2.

Number of inspection in 2 nd half of 2018	Total number of non-compliances in 2 nd half of 2018	Number of inspection in 1 st half of 2019	Total number of non-compliances in 1 st half of 2019
24	16	12	8

104. The number of inspections in the 1st half of 2019 compared with 2 half of 2018 was relatively less. Due to the schedule of construction works. Contractor Lot 1 JV Akkord/ "Akzhol Kurylys" LLP Lot 1, road section km 0-35 produced minor earthworks and announced the suspension of work for the period 01.01.2019 to 01.02.2019 the staff was on leave without pay. The Lot 2 Contractor "Cengiz Insaat" reported (letter No. ZZO-CGZ-GI-2018-0430 dd. 15.02.2018) reported about suspension of work, for the period 20.12.2019 to 01.03.2019 (actual mobilization of personnel has been started from 20/03/2019).

3.5 Unforeseen environmental impacts or risks

105. Unforeseen environmental impacts during the reporting period were not identified.

4. ENVIRONMENTAL MONITORING RESULTS

4.1 General information on monitoring conducted during the current period

106. Under the guidance of the Consultant Engineer/the local environmental specialist, jointly with the Contractor's environmental specialist, conducted regular site inspections to identify environmental problems. The findings and results of their monitoring activities are included in the monthly report of the consultant and the quarterly report on environmental monitoring, and are also included in the first semi-annual report on environmental monitoring for the Project.

107. The environmental specialist of the consultant engineer constantly visits construction sites and notifies the Project Manager of environmental and nonconformance issues, as outlined in the EMP. In case of non-compliance, the necessary instruction is given to the contractor on the site and issues or requirements are solved through letters of procedure. Field inspections were carried out in various areas of impact, such as a borrow pit, an asphalt plant, quarry areas, as well as the location of the base camp of the Contractor and settlements located near the project road. Environmental issues were identified and presented to the Contractor as part of the consultation process, as a result of which these issues will be resolved. The effectiveness of mitigation measures is assessed after performing work on the site in order to determine whether such measures have been effective. According to environmental requirements, the Contractor's measures are considered acceptable for the initial stage of the project, but there will be more improvements needed for environmental activities. The Contractor is obliged to take measures to eliminate all environmental problems for further improvements.

4.1.1 Contractor's Environmental Monitoring Procedures

108. The contractor began monitoring the environment in the immediate vicinity of the project road in April 2018 and continues to monitor regularly on the project sites. Parameters that are measured: (i) noise and vibration, (ii) air quality, chemical soil analysis (iii). These indicators of the initial monitoring of parameters for the project road can be considered during the construction of the project road, as well as during its operation. In addition, the following sites are also monitored by the Contractor to detect any impact from construction work: quarries, bypass roads, bridge sites, Contractor's construction site and temporary subcontractor camps, concrete plant, crusher, asphalt plant, villages (along the bypass road) and cross roads. The impact will be recorded and reduced in accordance with the EMP. The basic procedures are described below:

109. **Air quality:** The quality of air is monitored at all road construction sites, Contractors camps, concrete plants, crushers, asphalt concrete plants, by obtaining parameters of the all indicators for the reporting period Lot 1 - 8 samples were taken at 4 monitoring points and Lot 2, 27 samples were selected at 9 monitoring points. The indicators of air quality meet the standards and do not exceed the maximum permissible concentration.

110. **Noise and vibration:** The noise and vibration level is measured on a monthly basis along the project road (camp, settlements, etc.), where impacts are expected in connection with the construction. The environmental protection regulations against noise and vibration comply with established standards. No excessive noise was detected in this section.

111. **Soil quality:** Soil quality control is carried out on a monthly basis for all road construction sites by obtaining indications at 9 monitoring points. Indications of soil quality meet the standards and do not exceed the maximum permissible concentrations. Results of air, noise, vibration and soil measurements are shown below (see tables 4.2, 4.3, 4.4, 4.5, 4.6, 4.7).

112. In April 2018, the Contractors submitted an Environmental Management Plan (EMP) to the Engineer. The Environmental Protection Specialist of the CSC issued to the Contractor Lot 1 comments on the EMP to correct and submit to the Engineer for approval. The EMP describes the mitigation and monitoring requirements, including how, when, where and by whom mitigation and monitoring measures should be implemented during the construction period. In the course of construction, mitigation measures will focus on ensuring that the Contractor undertakes to perform all environmental work, namely proper disposal of waste, control of the use of fuel and lubricants, clearing the territory of waste during the construction, careful management of water use and Contractors should be aware that it is necessary to make dust removal in the construction site, since dust can spread over long distances. The Contractor appointed specialists (Umirbekova Natalia, Environmental Protection Specialist of the Contractor, Contractor Lot 2, Aytenov Serik, Environmental Protection Specialist of the Contractor Lot 1) as a representative of the Contractor for environmental protection to fulfill responsibilities in the field of environmental protection activities of the project.

113. In accordance with the EMP and in addition to the Environmental Monitoring Plan, Contractors are required to perform measurements and observations of air quality, soil, noise level, vibration and social and cultural resources. The measurement locations were identified at the beginning of the project. Accordingly, the principles of monitoring were established, as shown below:

Table 4.1: (a) Principles for measuring parameters Lot 1

Place of sampling	Point Numbers	Specific parameters	Frequency of monthly measurements
Chemical analysis of air			
Road section under reconstruction km 0-35	2	Dust inorganic, carbon monoxide, nitrogen dioxide, sulfurous anhydride	1 sample
The boundary of the SPZ of Asphalt concrete plant	2		1 sample
Chemical analysis of soil			
Road section under reconstruction km 0-35	2	pH	
Place of sampling	Point Numbers	Specific parameters	Frequency of monthly measurements
The boundary of the SPZ of Asphalt concrete plant	2	petroleum products, cadmium, lead zinc	1 sample
			1 sample
Noise, vibration measurement			
Road section under reconstruction km 0-35	2	Noise, vibration	1 sample
The boundary of the SPZ of Asphalt concrete plant	2		1 sample

b) Principles for measuring parameters Lot 2

Place of sampling	Point Numbers	Specific parameters	Frequency of monthly measurement s
Chemical analysis of air			
Along the road, every 10 km:	4	Dust inorganic, carbon monoxide, nitrogen dioxide, sulfurous, anhydride	1 sample
Base camp Zhetibay	4		1 sample
The boundaries of Zhanaozen settlement	1		1 sample
Chemical analysis of soil			
Along the road, every 10 km:	4	petroleum products, cadmium, lead zinc	1 sample
Base camp Zhetibay	4		1 sample
The boundaries of Zhanaozen settlement	1		1 sample
Noise, vibration measurement			
Along the road, every 10 km:	4	Noise, vibration	1 sample
Base camp Zhetibay	4		1 sample
The boundaries of Zhanaozen settlement	1		1 sample

Figure 4.1: Locations of air, noise, vibration and soil sampling points (measurements) Lot 1

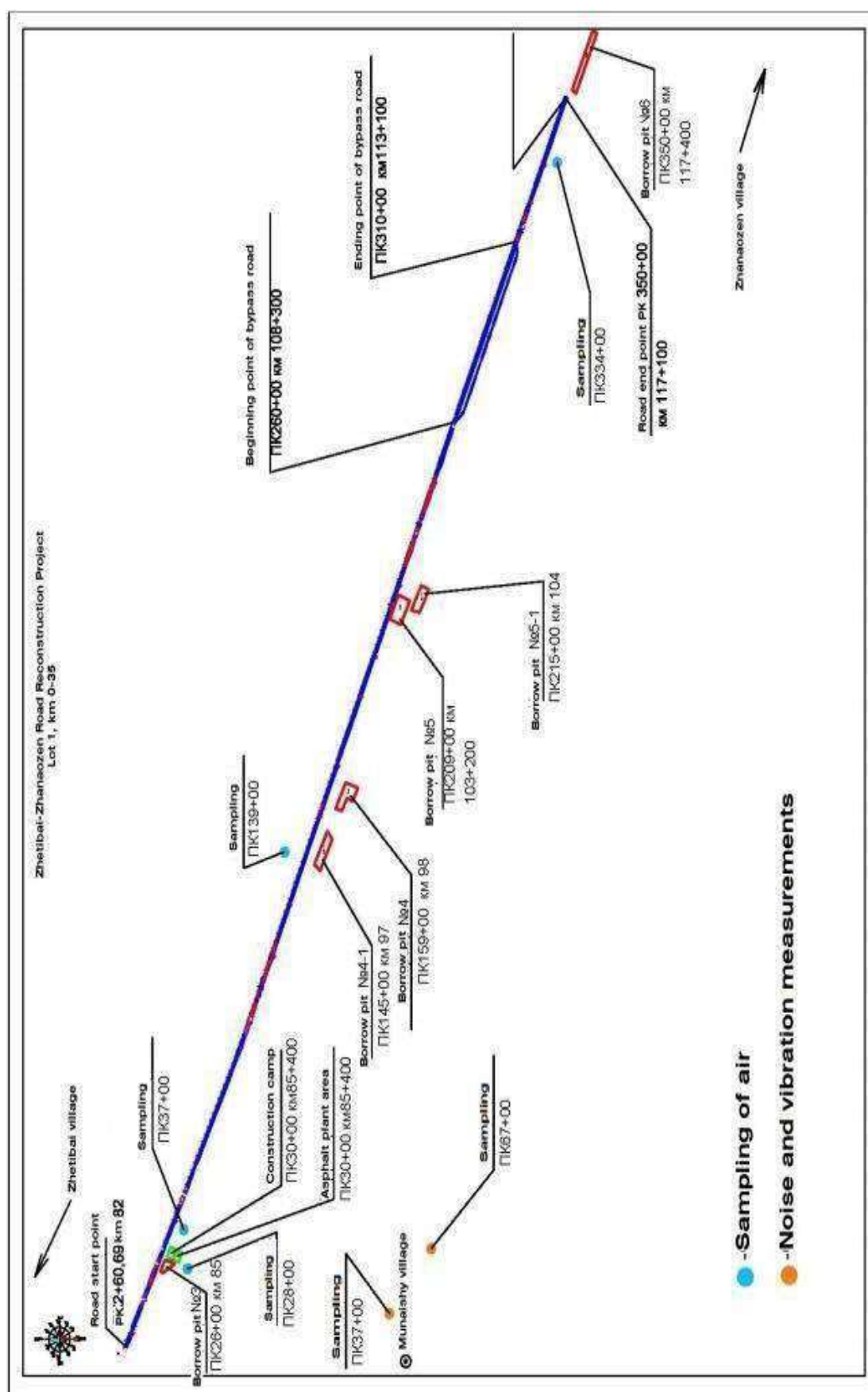
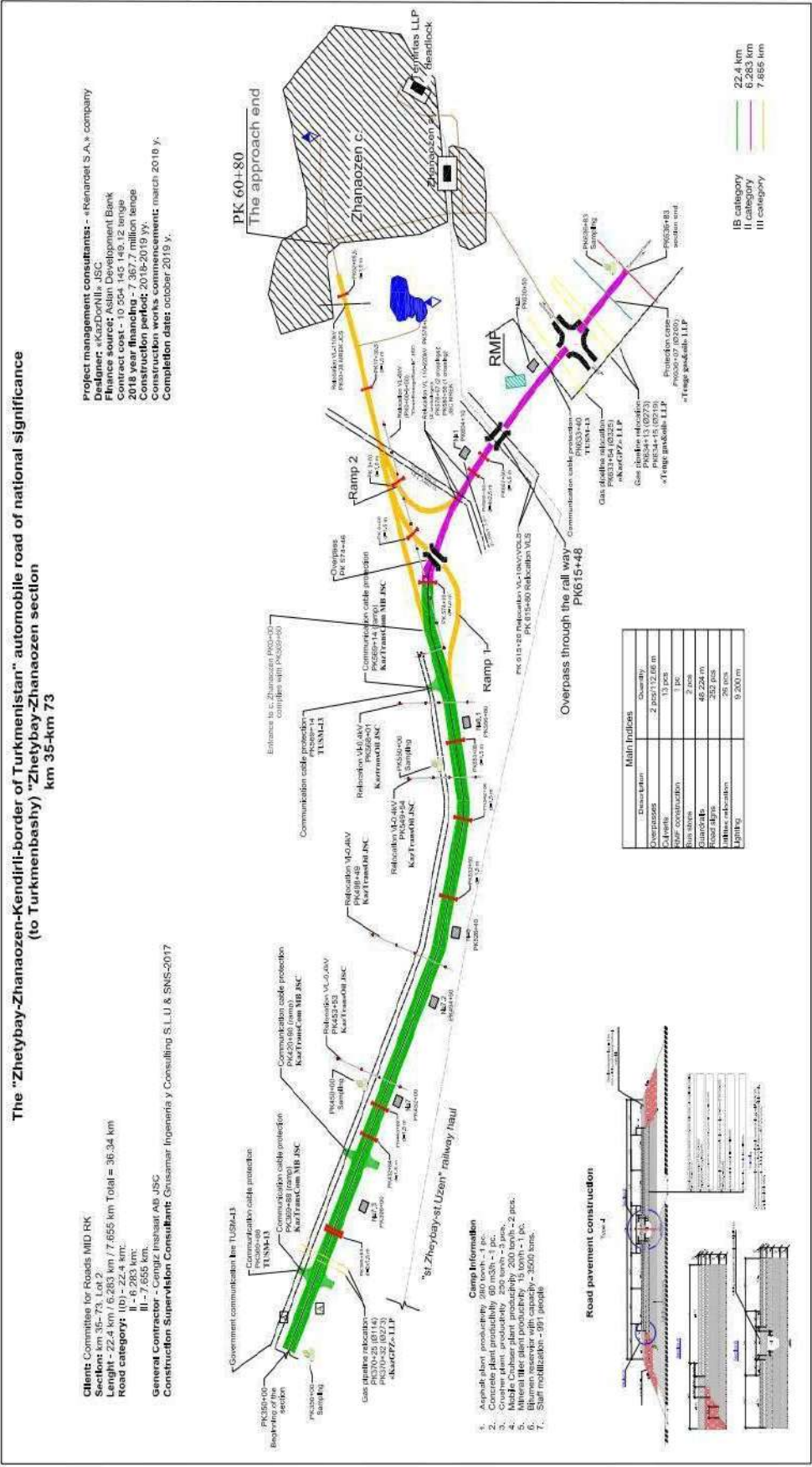


Figure 4.2: Locations of air, noise, vibration and soil sampling points (measurement) Lot 2



114. The monitoring program will include ongoing monitoring of construction activities for compliance with environmental requirements, in accordance with relevant laws, policies and regulations, standards, specifications and EMP.

115. During construction, environmental monitoring will contribute to the preservation of slopes and embankments from potential soil erosion, ensure the restoration of quarries, working areas and materials storage sites, a sorting plant, concrete and asphalt plants, maintain public relations, and provide security measures.

4.1.2 Analysis of atmospheric air quality

116. The results show that air quality is below the limit (MPC - maximum permissible concentration), as shown in Tables 4.2 and 4.3, indicating that the project does not affect air quality in close proximity. Tables 4.2 and 4.3 show a comparative analysis: the measurement results for the reporting months from January to June 2019 and the maximum allowable concentration of pollutants. According to the study Protocol of the sample in atmospheric air No. 133-168 dated 14.03.2019 in T1 /ABZ PC No. 30/ T2 road Zhetybai-Zhanaozen Pk No. 309/ detected maximum one-time concentration "Dust, suspended matter", mg/m³ 1.3-1.8 and "Cement Dust", mg/m³ to 1.2 at the rate of 0.5 mg/m³. On the day of measurement, 13.03.2019 on air, detected high concentrations are associated with wind weather. Letter explanation for dust excess, the Protocol for measuring atmospheric air and reference of RSE "Kazhydromet" is presented in **Appendix 3**.

It should be noted that the concentration of emissions will vary in accordance with meteorological conditions (speed and wind direction and relative humidity), by number and mechanical condition of construction equipment, and volume, vehicle type, direction of movement and traffic. The studies Protocol of atmospheric air for the period January-June 2019 are presented in **Appendix 4**.

113. Although concentrations are within the limit, the Contractor should continue the same work and increase the frequency of road irrigation to minimize the formation of dust from road traffic along roads that are not covered with asphalt. The measurements were carried out on a monthly basis at 2 sampling sites (photo 4.1, 4.2).



Photo 4.1: Air quality measurement (JV Akkord/Ak zhol kurylys). Atmospheric air sampling on the territory of SPZ AP (2 km, Pk20+00), April 2019

Table 4.2: Air quality measurement: Section 1: km 0-35 (Zhetibay-Zhanaozen)

Point No.	Measu reme nt date	Measure ment time	CO	RSH methanethiol/ CH ₄ S	C ₁₂ -C ₁₉	Dust suspended substances	Dust	Carbon
			MAC<5,0	MAC<0,006	MAC<1,0	MAC <0,5	MAC <0,5	MAC <0,15
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
T-1 (Pk30)	15.02. 2019	morning	<0,7	<0,002	<0,2	<0,03	<0,02	<0,13
		afternoon	<0,8	<0,002	<0,1	<0,03	<0,02	<0,13
		evening	<0,7	<0,002	<0,2	<0,03	<0,02	<0,13
T-2 (Pk220)		morning	<0,7	<0,001	<0,2	<0,03	<0,02	<0,025
		afternoon	<0,7	<0,002	<0,3	<0,03	<0,02	<0,025
		evening	<0,7	<0,002	<0,2	<0,03	<0,02	<0,025
T-1 (Pk30)	14.03. 2019	morning	<0,8	<0,002	<0,2	<1,3	<1,2	<0,11
		afternoon	<0,8	<0,001	<0,2	<1,5	<1,2	<0,11
		evening	<0,8	<0,001	<0,2	<1,8	<1,2	<0,11
T-2 (Pk309)		morning	<0,8	<0,001	<0,2	<1,3	<1,2	<0,05
		afternoon	<0,8	<0,001	<0,3	<1,2	<1,2	<0,05
		evening	<0,8	<0,001	<0,2	<1,3	<1,2	<0,05
T-1 (Pk231)	18.04. 2019	morning	<0,9	<0,001	<0,4	<0,03	<0,02	<0,06
		afternoon	<0,9	<0,001	<0,4	<0,02	<0,02	<0,07
		evening	<0,9	<0,001	<0,4	<0,03	<0,02	<0,06
T-2 (Pk30)		morning	<0,8	<0,001	<0,4	<0,03	<0,02	<0,06
		afternoon	<0,9	<0,001	<0,4	<0,02	<0,02	<0,06
		evening	<0,9	<0,001	<0,4	<0,02	<0,02	<0,07
T-1 (shift camp)	22.05. 2019	morning	-	-	-	<0,033	<0,032	-
		afternoon	-	-	-	<0,033	<0,034	-
		evening	-	-	-	<0,033	<0,032	-
T-2 (Pk30)		morning	<1,0	<0,002	н/о	<0,033	<0,028	<0,06
		afternoon	<0,9	<0,002	н/о	<0,032	<0,028	<0,05
		evening	<0,9	<0,001	н/о	<0,030	<0,027	<0,04
T-3 (Pk302)		morning	<0,9	<0,003	н/о	<0,043	<0,029	<0,06
		afternoon	<1,1	<0,004	н/о	<0,068	<0,032	<0,06
		evening	<1,1	<0,003	н/о	<0,079	<0,035	<0,06
T-1 (Pk153)	18.06. 2019	morning	1,8	0,001	0,46	<0,03	<0,02	н/о
		afternoon	1,9	0,001	0,44	<0,03	<0,02	н/о
		evening	1,8	0,001	0,43	<0,03	<0,03	н/о
T-2 (Pk30)		morning	<2,0	<0,001	0,01	<0,02	<0,02	н/о
		afternoon	<1,9	<0,001	0,008	<0,03	<0,02	н/о
		evening	<1,9	<0,001	0,005	<0,03	<0,02	н/о
T-3 (shift camp)		morning	-	-	-	<0,03	<0,02	-
		afternoon	-	-	-	<0,03	<0,02	-
		evening	-	-	-	<0,03	<0,03	-



Photo 4.2: Air quality measurement (Cengiz Insaat). Atmospheric air sampling on the territory of SPZ AP (2 km, Pk350), April 2019

Table 4.3: Air quality measurement: Section 2: km 35-73 (Zhetibay-Zhanaozen)

Characteristics of sampling points		Concentrations of harmful substances,mg/m3			
Description	Sampling date	Dust	Carbon monoxide	Nitrogen dioxide	Sulphur dioxide
		MPC values			
		Not more than 0,5	Not more than 5	Not more than 0,2	Not more than 0,5
HIGHWAY					
Pk350 (191 km)	19.04.2019	0,45	<1,5	<0,02	<0,03
Pk350 (191 km)	15.05.2019	0,46	2,01	<0,02	<0,03
Pk350 (191 km)	21.06.2019	0,37	2,07	<0,02	<0,03
Pk450 (181 km)	19.04.2019	0,44	<1,5	<0,02	<0,03
Pk450 (181 km)	15.05.2019	0,17	2,1	<0,02	<0,03
Pk450 (181 km)	21.06.2019	0,37	1,87	<0,02	<0,03
Pk550 (171 km)	19.04.2019	0,33	<1,5	<0,02	<0,03
Pk550 (171 km)	15.05.2019	0,44	1,94	<0,02	<0,03
Pk550 (171 km)	21.06.2019	0,38	<1,5	<0,02	<0,03
Pk636+83 (163 km)	19.04.2019	0,43	<1,5	<0,02	<0,03
Pk636+83 (163 km)	15.05.2019	0,45	1,93	<0,02	<0,03

Pk636+83 (163 km)	21.06.2019	0,33	<1,5	<0,02	<0,03
Pk60+80	19.04.2019	0,25	<1,5	<0,02	<0,03
Pk60+80	15.05.2019	0,45	2,12	<0,02	<0,03
Pk60+80	21.06.2019	0,36	1,66	<0,02	<0,03
Basic values	Average	0,314	2	<0,02	<0,03
	Minimum	0,3	<1,5	<0,02	<0,03
	maximum	0,33	2,40	<0,02	<0,03
For 1st half of 2019	average	0,38	1,96	< 0,02	<0,03
	minimum	0,170	1,66	< 0,02	<0,03
	maximum	0,46	2,12	< 0,02	<0,03

CONSTRUCTION CAMP ZHETIBAY (713 KM)					
Pk120 (AK-23)	19.04.2019	0,42	<1,5	<0,02	<0,03
Pk120 (AK-23)	15.05.2019	0,29	1,72	<0,02	<0,03
Pk120 (AK-23)	21.06.2019	0,32	2,12	<0,02	<0,03
Pk120 (AK-24)	19.04.2019	0,4	<1,5	<0,02	<0,03
Pk120 (AK-24)	15.05.2019	0,26	1,84	<0,02	<0,03
Pk120 (AK-24)	21.06.2019	0,37	2,62	<0,02	<0,03
Pk120 (AK-25)	19.04.2019	0,46	<1,5	<0,02	<0,03
Pk120 (AK-25)	15.05.2019	0,22	1,78	<0,02	<0,03
Pk120 (AK-25)	21.06.2019	0,48	1,82	<0,02	<0,03
Pk120 (AK-26)	19.04.2019	0,44	<1,5	<0,02	<0,03
Pk120 (AK-26)	15.05.2019	0,15	1,92	<0,02	<0,03
Pk120 (AK-26)	21.06.2019	0,48	1,66	<0,02	<0,03
Basic values	Average	0,3325	1,85	<0,02	<0,03
	Minimum	0,31	<1,5	<0,03	<0,03
	Maximum	0,35	2,1	<0,04	<0,03
For 1st half of 2019	Average	0,3575	1,94	< 0,02	<0,03
	Minimum	0,15	<1,5	< 0,02	<0,03
	Maximum	0,48	2,62	< 0,02	<0,03

*AK- name of sampling points, that have been saved from previous project Aktau-Shetpe.

4.1.3 Noise and vibration measurement

118. Regarding noise and vibration, Contractors Lot 1 and Lot 2 are required to conduct monthly monitoring of noise and vibration measurements along the project road. The noise level measurements were below the established level of **80 decibels**. The noise measured at the sites is below the limit, which

confirms that the noise is actually controlled by the Contractor. The contractor is instructed to reduce the amount of noise-generating equipment and to maintain them properly in order to reduce the noise level. However, there was no complaint about noise. Test report of noise and vibration measurement is presented in **Appendix 5**.



*Photo 4.3: Noise and vibration measurement Lot 1
at Pk302+00, km 30.2. May, 2019*

Table 4.4: Noise and vibration measurement results: Section 1: km 0 – 35 (Zhetibay-Zhanaozen)

Date of measurement	The equipment for which was evaluated the effects of vibration	Type of vibration		Equivalent corrective level of vibration acceleration, dB	Allowable equivalent corrective level of vibration acceleration, dB
		Total	Local		
15.02. 2019	Within the territory of residential house No. 48	+		93	118
				90	
				95	
13.03. 2019	Within the territory of residential house No. 95	+		83,7	118
				70,3	
				81,3	
	Within the territory of residential camp "Akzhol Kurylys" LLP	+		75,3	
				74,0	
				68,3	
	Point 2	+		82,6	
				85,3	
18.04. 2019	Within the territory of residential house No. 44	+		81,6	118
				94,3	
				92,7	
	Within the territory of residential house No. 81	+		84,3	
				93,6	
				92,4	
20.05. 2019	Within the territory of working area Pk	+		100,4	118
				92	
				93	

	No. 248, km 24,8	+		89	118
	Within the territory of working area Pk No. 303, km 30,3			91	
				95	
				98	
18.06.2019	Within the territory of shifting camp			89,7	118
				83,4	
				84,4	
	On road Zhetybay-Zhanaozen Pk153			94,2	118
				82,0	
				80,4	

Date of measurement	Measurement place	Additional information	Level of sound L _A (equivalent sound level) / Maximum sound level L _A , dBA	Allowable sound level звука L _A o norm/ Maximum allowable sound level L _A , dBA
15.02.2019	Within the territory of residential house No. 48	7.00-23.00	42	70
	Within the territory of shifting camp		46	
13.03.2019	Within the territory of residential house No. 44	7.00-23.00	48,9	70
	Within the territory of residential house No. 81		46,3	
18.04.2019	Within the territory of residential house No. 44	7.00-23.00	62,3	70
	Within the territory of residential house No. 81		60,7	
20.05.2019	Within the territory of working area Pk No. 248, km 24,8	7.00-23.00	70	80
	Within the territory of working area Pk No. 303, km 30,3		71	
18.06.2019	Within the territory of shifting camp	7.00-23.00	67,6	70
	On road Zhetybay-Zhanaozen Pk153		65,4	



Photo 4.4: Noise and vibration measurement at the border of Zhanaozen city (Lot 2), April, 2019

No noise excess detected at this site.

Table 4.5: Results of noise and vibration levels measurement: Section 2: km 35-73 (Zhetibay-Zhanaozen)

Sampling point	Measurement date	Noise, dBa		
		equivalent	maximum	minimum
Entrance to Zhanaozen city				
Pk60+80 (ЖЖ-5)	19.04.2019	66	68	62
Pk60+80 (ЖЖ-5)	15.05.2019	49	75	35
Pk60+80 (ЖЖ-5)	21.06.2019	50	75	34
Basic values		70	76	60
For 1 st half of 2019	average	55	73	44
	minimum	49	68	34
	maximum	66	75	62

CONSTRUCTION CAMP ZHETIBAY (730 KM)				
Pk120 (AK-23)	19.04.2019	59	66	47
Pk120 (AK-23)	15.05.2019	51	74	38
Pk120 (AK-23)	21.06.2019	48	70	36
Pk120 (AK-24)	19.04.2019	60	62	54
Pk120 (AK-24)	15.05.2019	50	73	36
Pk120 (AK-24)	21.06.2019	46	74	34
Pk120 (AK-25)	19.04.2019	51	60	32
Pk120 (AK-25)	15.05.2019	48	71	37
Pk120 (AK-25)	21.06.2019	43	68	38
Pk120 (AK-26)	19.04.2019	60	67	38
Pk120 (AK-26)	15.05.2019	52	76	39
Pk120 (AK-26)	21.06.2019	48	73	43

Basic values	average	62	72	52
	minimum	54	64	44
	maximum	70	80	60
For 1st half of 2019	average	51	70	39
	minimum	43	60	32
	maximum	60	76	54

VIBRATION

BOARDER OF THE CITY OF ZHANAOPEN.

No vibration excess detected at this site.

Sampling point	Measurement date	Vibration, dBa		
		equivalent	maximum	minimum
		Standard value, 100		
Entrance to Zhanaozen city				
Pk60+80 (ЖЖ-5)	19.04.2019	65	75	60
Pk60+80 (ЖЖ-5)	15.05.2019	81	87	69
Pk60+80 (ЖЖ-5)	21.06.2019	82	89	66
Basic value		75	80	68
For 1 st half of 2019	average	76	84	65
	minimum	65	75	60
	maximum	82	89	69

CONSTRUCTION CAMP ZHETIBAY (730 KM)				
Pk120 (AK-23)	19.04.2019	71	82	59
Pk120 (AK-23)	15.05.2019	82	88	71
Pk120 (AK-23)	21.06.2019	81	89	75
Pk120 (AK-24)	19.04.2019	68	80	57
Pk120 (AK-24)	15.05.2019	82	88	71
Pk120 (AK-24)	21.06.2019	84	87	72
Pk120 (AK-25)	19.04.2019	64	76	53
Pk120 (AK-25)	15.05.2019	82	88	70
Pk120 (AK-25)	21.06.2019	80	85	74
Pk120 (AK-26)	19.04.2019	63	79	56
Pk120 (AK-26)	15.05.2019	82	88	70
Pk120 (AK-26)	21.06.2019	76	81	69
Basic values	average	71	77	63
	minimum	68	74	60
	maximum	76	82	68
For 1st half of 2019	average	76	84	66
	minimum	63	76	53
	maximum	84	89	75

4.1.4 Soil quality monitoring

119. Soil monitoring involves the determination of concentrations of pollutants in the zone of active influence. The most accurate assessment of the impact on the state of the soil are direct measurements of pollutants. To this end, under an agreement with the Contractor, a specialized accredited environmental protection laboratory of Aktobe Plant of Chromium Compounds JSC during the first half of 2018 monitored the soil at the construction site. Selection points and frequency are defined in the monitoring program, which is a mandatory annex to the EMP. During the reporting period, 36 samples were taken at 9 control points.

120. In April 2018, basic measurements of soil samples were performed. Selected samples were compared: for lead with standard values - MPC maximum permissible concentration established by the regulatory requirements of the Republic of Kazakhstan. Due to the absence of standard values for other substances in regulatory documents of the Republic of Kazakhstan, generally accepted values for zinc are 23 mg / kg, for cadmium 0.5 - the average content in the soils of the world, standards for oil products have not been established.

121. A comparison of the average baseline results with the average data for the entire observation period showed a slight increase in zinc. At this site, no excess was detected for any of the controlled substances. At this site, no excess for any of the controlled substances was found. Test report of soil chemical analysis is presented in **Appendix 6**.



Photo 4.5: Soil sampling at Pk302+00, km 30.2 (Lot 1), May, 2019

Table 4.6: Soil testing results: Section 1: km 0 – 35 (Zhetibay-Zhanaozen)

Measurement date	Name	Unit of measurement	Results	ND for test method
19.02.2019	Oil products	mg/g soil	0,38	ПНД Ф. 16.1:2.21-98
	Zink	mg/g soil	n/d	МУ 08-47/152

	Lead	mg/g soil	0,012	МУ 08-47/152
	Cadmium	mg/g soil	n/d	МУ 08-47/152
15.03.2019	Oil products	mg/g soil	0,40	ПНД Ф. 16.1:2.21-98
	Zink	mg/g soil	n/d	МУ 08-47/152
	Lead	mg/g soil	0,02	МУ 08-47/152
	Cadmium	mg/g soil	n/d	МУ 08-47/152
23.04.2019	Oil products	mg/g soil	0,12	ПНД Ф. 16.1:2.21-98
	Zink	mg/g soil	n/d	МУ 08-47/152
	Lead	mg/g soil	0,01	МУ 08-47/152
	Cadmium	mg/g soil	n/d	МУ 08-47/152
27.05.2019	Oil products	mg/g soil	0,16	ПНД Ф. 16.1:2.21-98
	Zink	mg/g soil	n/d	МУ 08-47/152
	Lead	mg/g soil	0,08	МУ 08-47/152
	Cadmium	mg/g soil	n/d	МУ 08-47/152
24.06.2019	Oil products	mg/g soil	16.4	ПНД Ф. 16.1:2.21-98
	Zink	mg/g soil	n/d	МУ 08-47/152
	Lead	mg/g soil	n/d	МУ 08-47/152
	Cadmium	mg/g soil	n/d	МУ 08-47/152



Photo 4.6: Soil sampling on AK-25 Construction base camp (Lot 2), April, 2019

Table 4.7: Soil testing results: Section 2: km 35 – 73 (Zhetibay-Zhanaozen)

Characteristics of sampling points		Concentrations of harmful substances				
Description	Sampling date	pH	Oil products	Cadmium	Lead, mg/kg	Zink, mg/kg
			mg/g	mg/kg		
		MPC values				
		-	-	0,5	32	23
HIGHWAY						
Pk350 (191 km)	19.04.2019	8,35	0,009	0,063	2,9	17,16
Pk350 (191 km)	15.05.2019	8,32	<0,005	0,07	2,41	11,51
Pk350 (191 km)	21.06.2019	8,78	0,007	0,068	2,85	10,18
Pk450 (181 km)	19.04.2019	8.72	0.007	0.16	6.74	18,31

Pk450 (181 km)	15.05.2019	8,75	<0,005	0,18	3,39	17,81
Pk450 (181 km)	21.06.2019	8,44	0,006	0,17	4,2	18,01
Pk550 (171 km)	19.04.2019	8,05	0,008	0,064	4,11	13,34
Pk550 (171 km)	15.05.2019	8,08	<0,005	0,066	4,37	18,7
Pk550 (171 km)	21.06.2019	8,38	0,005	0,08	3,56	16,76
Pk636+83 (163 km)	19.04.2019	8,5	0,008	0,22	7,6	18,33
Pk636+83 (163 km)	15.05.2019	8,02	0,044	0,23	4,21	19
Pk636+83 (163 km)	21.06.2019	8,12	0,007	0,21	4,5	14,98
Pk60+80	19.04.2019	7,77	0,032	0,14	9,66	19,05
Pk60+80	15.05.2019	7,9	0,01	0,15	10,8	19,33
Pk60+80	21.06.2019	8,34	0,008	0,16	10,01	18,33
Basic values	average	8,86	0,029	0,144	6,852	18,314
	minimum	8,5	0,013	0,05	3,4	10,13
	maximum	9,4	0,081	0,21	11,27	21,32
For 1st half of 2019	average	8,30	0,01	0,14	5,42	16,72
	minimum	7,77	0,005	0,063	2,41	10,18
	maximum	8,78	0,044	0,23	10,8	19,33

Characteristics of sampling points		Concentrations of harmful substances				
Description	Sampling date	pH	Oil products	Cadmium	Lead mg/kg	Zink mg/kg
			mg/g	mg/kg		
		MPC values				
		-	-	0,5	32	23
CONSTRUCTION CAMP ZHATIBAY (730 KM)						
Pk120 (AK-23)	19.04.2019	8,63	0,005	0,16	3,89	18,99
Pk120 (AK-23)	15.05.2019	8,62	0,006	0,15	3,05	13,96
Pk120 (AK-23)	21.06.2019	8,17	0,006	0,16	3,57	12,66
Pk120 (AK-24)	19.04.2019	8,54	0,006	0,16	4,47	18,32
Pk120 (AK-24)	15.05.2019	8,57	0,007	0,24	2,75	14,11
Pk120 (AK-24)	21.06.2019	8,78	0,006	0,24	4,13	17,13
Pk120 (AK-25)	19.04.2019	7,99	0,012	0,22	10,73	19,01
Pk120 (AK-25)	15.05.2019	8,03	0,01	0,22	3,05	15,65
Pk120 (AK-25)	21.06.2019	8,77	0,01	0,28	5,21	12,25
Pk120 (AK-26)	19.04.2019	8,53	0,012	0,17	5,39	19,66
Pk120 (AK-26)	15.05.2019	8,5	0,006	0,21	2,66	16,72
Pk120 (AK-26)	21.06.2019	8,69	0,006	0,19	5,25	18,32
Basic values	average	8,67 5	0,015	0,1925	5,83	18,1
	minimum	8,6	0,012	0,15	4,98	17,02

	maximum	8,7	0,023	0,25	6,36	19,72
For 1st half 2019	average	8,48 5	0,008	0,200	4,51	16,40
	minimum	7,99	0,005	0,15	2,66	12,25
	maximum	8,78	0,012	0,28	10,73	19,66

122. Information of borrow pits and soil reserves:

Table – 4.8 Soil borrow pits

Section 1: km 0 – 35 (Zhetibay-Zhanaozen)

Borrow pit No.	Pk+	Borrow pit area, thousand m²	Volume of excavated soil, thousand m³	Excavations depth, m
3	26+00	65,38	-	-
4-1	145+00	200,00	-	-
4	159+00	213,72	-	-
5	215+00	242,89	80,342	2,00
5-1	209+00	169,94	-	-
6	350+00	234,24	-	-
Total		1126,17	80,342	2,00

Section 2: km 35 – 73 (Zhetibay-Zhanaozen)

Borrow pit No.	The volume of overburden	Mining operation
1	13100	477800
2	2300	125000
8-1	1900	103500
8	1700	94400
Total of c. Zhanaozen	19000	800700
7-2	2900	106300
7	3000	107600
7-3	2000	107400
Total of Karaliya region	7900	321300
Total	26900	1122000

Table – 4.9 Soil borrow pits. Depth of excavations

Section 2: km 35 – 73 (Zhetibay-Zhanaozen)

Borrow pit No.	Pk+	Borrow pit area, thousand m²	Volume of soil rocks, thousand m³
1	604+10	437,2	494,0
2	630+50	114,2	129,2
7	452+00	98,5	111,3
7,2	494+50	96,4	109,9
7,3	396+00	100,0	111,0
8	528+40	86,4	97,6
8,1	556+80	96,4	107,0
Total:		1029,2	1160,0

Depth of excavations

Pk+	Length, m	Average depth, m
350+00 – 356+20	620	0,5 – 2,0
362+00 – 369+00	700	0,5
539+00 – 540+20	120	0,5

4.1.5 Management and monitoring of labor protection and safety of the Contractor

123. As provided for in item 105 - Occupational Health and Safety of General Specifications, the Contractor has the following duties:

- Ensuring that all Subcontractors and their personnel are fully involved in the activities provided for in this item on occupational safety and health of workers.
- Take all reasonable precautions to prevent unauthorized access to the site and to protect the public from any activity under its control.
- Notify the Engineer immediately of any unsafe incidents or accidents that lead to death, serious injury or can lead to disability for more than three days.
- Providing and ensuring all the Contractor's personnel with protective equipment.
- Take all necessary measures to protect health, including from sexually transmitted infections (STI) and HIV/AIDS, safety and well-being of the Contractor's personnel.
- In order to establish a health and safety department, the Contractor must appoint one responsible person from his staff who will work full time as health and safety specialist and he/she should/will notify the Engineer about it. A HS specialist should organize an orientation course on safety during the first week of his stay on site and the Contractor's personnel must attend this seminar.
- Conduct regular meetings, at least monthly, with local healthcare authorities/institutions.
- To keep such records and prepare such reports related to occupational safety and health issues, including sexually transmitted infections (STI) and HIV/AIDS, and the well-being of persons that the Engineer may from time to time demand and at the request of authorized representatives bodies.
- Provision with lighting (including backup facilities in case of electricity failure), especially where any work is being done at night to ensure safety at that workplace.
- Ensure that there are enough toilets and other sanitation facilities in the areas where work is being done.
- Ensuring that the work remains in a safe condition, in the event that the Contractor temporarily closes work on the site, seasonally or for any other reason.

In addition, the following security issues should be checked:

124. **Use of personal protective equipment (including replacement in accordance with climatic conditions):** summer and winter personal protective equipment (PPE) were provided. Managers should control and strictly monitor the safety of the worker, providing with special protective clothing and personal protective equipment, including monitoring the mandatory use of this clothing on the site. Violations of non-use of PPE, use of alcohol and drugs can lead to the immediate dismissal of on employee.

125. **Dust and noise:** Additional water carriers were mobilized to prevent dust during the summer period. Long-term adverse effects should be minimized, consisting of poor air quality, mechanical vibration (noise, vibration, ultrasounds and others) and emissions (ion, electromagnet, laser, ultraviolet rays and others) at workplaces.

126. **Operation of equipment and machinery:** For all equipment on the site there must be necessary copies of documents and test certificates. For dump trucks, there must be registration certificates, and drivers must have a driver's license. Every day, drivers should be checked for alcohol, blood pressure should be checked as well. The Contractor checks the technical condition of vehicles intended for the transportation of people and conducts systematic training for drivers on the rules of road traffic and road safety.

127. **Construction Danger (height, electric shock, etc.):** The Head of the Subcontractor must issue instructions or orders for the observance of safety. Everywhere should be provided for the protection of workers, for example, protection from electricity, from an electric tool, from gas, and it is necessary to use seat belts.

128. **Emergency procedures/Coordination with external medical institutions:** For emergency situations, an action plan was developed to provide first aid and in such cases to deliver a victim to the city hospital in Aktau. The medical center was established in the contract base camp at the beginning of June 2018, and is fully operational since July 2018. In case of fire, it is necessary to fulfill the evacuation plan. Emergency telephone numbers and ambulance services were easily accessible.

4.1.6 Required Reporting on Environmental Protection issues

129. As mentioned **in the item 106 of the Technical Specification:** environmental protection of section 100: general requirements, the Contractor's environmental management plan should include a description and explanation of the communication procedures between personnel of construction and the environment, including (i) communications and regular contacts and reporting system.

130. As well as section 106 of the TS mentions: initial environmental report should be submitted in accordance with section 106. Based on this section, the initial monitoring program should be presented with the content of the basic environmental study (BES) (I) air quality; (II) water quality; and (III) the noise level. In addition, Environmental Reports should include brief weekly updates and be prepared for the Engineer's monthly reports. The Contractor will submit to the Consultant a semi-annual report on environmental monitoring as required. The Engineer should also be notified of any EMP activities, and effective communication should be established with all Subcontractors. Summary of these items should be a part of the Contractor's monthly environmental monitoring report.

131. For the second half of the year from January to June 2019 on Lot 1 provided 4 reports and Lot 2 provided 3 monthly reports. As indicated in the TOR, the consultant should submit a semi-annual report on environmental monitoring, compiled from monthly reports with relevant issues, activities and measures undertaken during this period. Therefore, this report is the third semiannual report on environmental monitoring for the Project. In addition, the local environmental specialist of the Consultant/Engineer will often monitor the environmental contractor's activities in accordance with the EMP and regularly prepare a monthly environmental monitoring report for the Project.

4.1.7 Flora and Fauna

132. There are no specially protected natural areas (SPNR) around the project area, vegetation cover is rare, desert type, and the project will not affect ecologically sensitive animal habitats.

4.2 Trends

133. Based on the results of environmental monitoring, it can be concluded that the measures taken by the Contractors to reduce the environmental impact are sufficient. The activities of the Contractors exert an acceptable load on the environment.

4.3 Summary of monitoring results

134. It is recommended to continue to carry out environmental monitoring in accordance with the previously agreed Environmental Monitoring Program at the approved points. Monitoring of air quality, noise and vibration, soil, flora and fauna, water during the reporting period shows that construction work from 82 km to 155 km had no impact on the environment.

4.4 Use of Material Resources

4.4.1 Current period

Table 4.10: Consumption of resources in the reporting period

Section 1: km 0- 35 (Zhetibay village-city of Zhanaozen):

Resources	The number of consumed resources for the 1st half of 2019 *
Electricity, kW/h	648777
Natural gas, thousand/m3	1386,231
Drinking water, m3	3645
Water for technical needs, m3	8737

Section 2: km 35- 73 (Zhetibay village-city of Zhanaozen):

Resources	The number of consumed resources for the 1st half of 2019 *
Electricity, kW/h	1 558 098
Natural gas, thousand/m3	892,108
Drinking water, m3	-
Water for technical needs, m3	28620

*since this report is prepared before the end of July 2019, the data in the table are presented excluding expenses in July 2019.

4.4.2 Cumulative use of resources

Table 4.11: Consumption of resources from the beginning of the project

Resources	The number of consumed resources for the 1st half of 2018 *	The number of consumed resources for the 2nd half of 2018 *	The number of consumed resources for the 1st half of 2019 *
Electricity, kW/h	1 877 573	1 823 488,8	2 206 875
Natural gas, thousand/m3	1 230, 744	1 491,269	2278,339
Drinking water, m3	26 983	18 331	3645
Water for technical needs, m3	39 494	34 185	37 357

4.5 Waste management

135. Contractor's activity is related to waste generation. To reduce the impact of waste on the environment, the following actions were taken:

- the requirements for the prevention of emergency situations associated with waste management were complied with,
- production and household wastes were collected, temporarily stored, then transported to sites for disposal or dumping,
- construction sites were equipped with special waste collection containers,
- all waste was stored in designated areas,
- waste passports were developed for waste generated,
- all production and consumption wastes were exported to specialized enterprises for further processing, utilization or dumping: Landfil LLP, "Mactanov S.K." IE - Lot 1; Landfil LLP and Caspy Operating LLP - Lot 2.

4.5.1 Current period

Table 4.12: List of wastes generated in the 1st half of 2019

Waste name	Waste types	Source of waste	Amount of waste in first half of 2019		Method for removing / waste final disposal area
			Lot 1	Lot 2	
containers from PWM	Amber AD070	repair work, fences painting	-	1.16	dumping / specialized landfill
soil impregnated with petroleum products	Amber AE020	repair work	-	6,1	dumping / specialized landfill
used filters	Amber AC030	motor vehicle service	-	0,7	dumping / specialized landfill
oily rags	Amber AC030	repair work	-	0,16	dumping / specialized landfill
construction wastes	Green GG170	construction works	12,080	1,9	dumping / specialized landfill
metal scrap	Green GA090	residue from metal working process	-	-	dumping / specialized landfill
stubs of welding electrodes	Green GA080	residue from technological processes	-	-	dumping / specialized landfill
SHW	Green CO060	staff activity	67,5	74	dumping / specialized landfill

136. During the reporting period, all waste generated was stored in specially provided containers and, as it was generated, was sent for disposal / dumping to specialized organizations.

Contractor “**Akzhol Kurylys**” LLP concluded the following contracts:

- “Landfil” LLP No. 27-2019 dated 09/01/2019 for the provision of services for the management of industrial waste (amber and green list);
- “ECO OPERATING” LLP No. 2019-60 dated 31/05/2019 for the disposal of mercury-containing lamps;
- “Ybrayev” IE No.5 dd. 04/01/2019 providing services for removal of domestic fecal water and disposal of solid waste.

The Contractor of **Cengiz Insaat Sanayi Ve Ticaret Anonymous Sirketi JSC** concluded the following contracts:

- “Landfil” LLP No. 73-2019 dated 22/05/2019 for the provision of services for handling industrial waste (amber and green list);
- “Realos” LLP No. 2018-26 dated 05/04/2018 for the provision of services for pumping, removal and disposal of domestic waste water;
- “Realos” LLP No. 2018-27 dated 05/04/2018 for the provision of services for the supply of industrial water.
- «Eco Servis Neftegas» № 2019-08 dd. 27.05.2019 for the provision of services on production wastes.
- «Caspi Y Operating» № AO-12C/19 dd. 27.04.2019 for the provision of services on solid waste disposal;

4.5.2 Total waste generation

Table 4.13: Results of cumulative waste generation

Waste name	Class of hazard		Source of waste	Amount of waste in first half of 2018	Amount of waste in second half of 2018	Amount of waste in first half of 2019
containers from PWM	Amber	AD070	repair work, fences painting	0,7	0,24	1,16
soil impregnated with petroleum products	Amber	AE020	repair work	3,72	6,7	6,1
used filters	Amber	AC030	motor vehicle service	2,6	5,37	0,7
oily rags	Amber	AC030	repair work	2,22	1,04	0,16
construction wastes	Green	GG170	construction works	17,36	25,1	1,9
metal scrap	Green	GA090	residue from metal working process	--	--	--
stubs of welding electrodes	Green	GA080	residue from technological processes	--	--	--
SHW	Green	CO060	staff activity	196,4	184,8	74

According to the Environmental Code of the Republic of Kazakhstan dated January 9, 2007 No. 212 (Article 287. Classification of Hazardous Wastes), the above production wastes belong to a certain level of danger.

137. According to the results of monitoring and implementation of the EMP, it can be concluded that during the reporting period there were observations on the storage of waste, which were eliminated as soon as possible. All waste generated was timely disposed at specialized organizations.

4.6 HEALTH AND SAFETY

4.6.1 Public health and safety

138. Traffic management plan covers the basic safety instruction for the development and implementation of the traffic management and traffic safety plan with monitoring indicators.

139. During regular on-site inspections, the road safety engineer identified the following activities and non-compliances:

- Not all road signs and signal posts comply with ST RK 2607;
- Flagmen are not involved to control the traffic movement;
- In some places there is rutting and extruding of the pavement, as a result of which the roadway narrows;
- In places where the carriageway is reduced to 4.5 m - make widening;
- There are no flashing lights on dangerous sections of the road;
- Patrol inspection of the road is not conducted regularly.

140. In accordance with the revealed non-compliances, the Contractor was given instructions, notices/site instructions and letters:

- install all necessary road signs and signal posts according to ST RK 2607;
- flagmen to be involved;
- perform patching of the road;
- install signal lights according to the order for the right to perform work;
- perform a widening of the road.

141. Contractors have remedied all specified non-compliances within the prescribed time limits. The Traffic Safety Engineer pays close attention to this issue and gives timely gives directions and instructions for accident situation prevention.

Information on accidents and incidents for the reporting period (January-June 2019) is given in Table 4.14.

Table 4.14: Accidents / Incidents

No.	Date/time	Accident place	Accident description	Result
1	02.01.2019 18:13 ч.	On the “Zhetibay-Zhanaozen” road at Pk29	there was a traffic accident, HYUNDAI vehicle, moving from the city of Zhanaozen to Aktau, having exceeded the established speed, unable to cope with the steering, drove into the oncoming lane and then made a head-on collision with TOYOTA vehicle, which was moving from the city of Aktau	As a result of an accident, the driver of Toyota received trivial injury and after first aid was allowed to go home. Police officers from the Karakiya Department of Internal Affairs arrived at the scene of the accident for further investigation.
2	13.02.2019 13:10 ч.	On the “Zhetibay-Zhanaozen” road at Pk230	Road accident, Toyota Camry vehicle made a traffic accident, Toyota Land Cruiser that was also moving in the corresponding direction. The driver exceeded the set speed.	There are no victims at the scene of the accident. Traffic police is conducting investigations on this fact
3	01.07.2019 23:30 ч.	On the “Zhetibay-Zhanaozen” road at Pk334+00	A traffic accident was occurred at Pk334+00 on the left side of the road, the vehicle “Toyota Land Cruiser 100” that moving from the city of Zhanaozen to the city of Aktau without observing the driving regulations entered the closed section, ignoring the prohibition of road signs (3.1, 5.32.3, 1.23, 1.31.2, 4.2.2) made a collision with special equipment parked along the closed road.	As the result of accident, there are no victims. The driver is aware of his guilt and does not have complaints.

142. Based on results of consideration of evidences received within the investigation of the causes of accidents and conducted monitoring for the full reporting period it can therefore be concluded that the accidents were not caused by the project activities (construction works) but are the consequence of non-compliance of driving regulations by vehicle drivers. The Contractors at Lot 1 and Lot 2 and CSC's Traffic Safety Engineer take all necessary measures in the full extent for ensuring traffic safety at road

construction working sites.

4.6.2 Workers health and safety

143. On June 11, 2019 at about 06:30 a.m. there was a fire at the site of the repair zone in the container intended for rest and changing of workers. Established ignition cause is electrical wires short circuit. When a fire was detected, workers followed the fire safety instructions and called the fire service and tried to extinguish the fire by their own efforts. During fire extinguishing, workers used appropriate means, water, sand and fire extinguishers. As a result of the fire there were no injuries or material damage.



Photo 4.7: Accident in the repair area, Lot 2 (Cengiz Insaat)

144. The Contractor at Lot 2 has formed a fire safety commission and drawn up an act on uncontrolled burn and a report of the firefighting service. For the purpose of prevention of potential fires the order on appointment of persons responsible for the fire safety at sites has been updated, the fire extinguisher inspection log has been submitted, instruction on weekly fire safety trainings/briefings has been issued. The incident report in detail is presented in detail in **Appendix 7**.

145. According to the comment of the Consultant for Environmental Protective Measures ADB regular

training was recommended. The purpose of the measures is the management of hazardous waste, fire safety techniques, as well as ensuring the safety of roads and traffic safety on the road. According to the recommendation of ADB Consultant of Environmental Protective Measures, training and audits are conducted. The minutes of the audits are presented in **Appendix 8**.

4.7 Training

146. One of the functional responsibilities of an environmental specialist is to develop an environmental protection program to train the staff of the Consultant and the Contractor. The aims of the training program for environmental protection are environmental audits and monitoring of their compliance with the environmental reporting procedure, which is conducted with the assistance of the Environmental Specialist. It is the responsibility of the Environmental Specialist to develop a program to train the staff of the Consultant and the Contractor on the implementation of the EMP.

147. The main purpose of the training is environmental inspections and their compliance with the monitoring of environmental reporting, which will be conducted with the assistance of the Environmental Specialist. The training will be useful for everyone, as questions will be clarified and measures for its implementation will be determined.

148. In the course of the pre-audit in the context of environmental impact and project management in accordance with the approved regulatory legal acts on labor protection and safety, May 13-14, 2019 L. Malikova, the National Consultant on Environmental Protective Measures of the ADB Office in Kazakhstan, held training "Labor protection, safety and environmental protection on road projects". The main purpose of the training is environmental inspections and their compliance with the monitoring of environmental reporting.

5. SEMP FUNCTIONING (SSEMP-SITE-SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN)

5.1 Review of SSEMP

149. During the construction phase, certain situations can arise which may not have been anticipated by the Contractor. It is for this reason that the project EPMP is considered as a dynamic document, which need to be revised by the Contractor as the need arises. The EPMP will be continuously updated to include issues unforeseen during the formulation of the PEA. In relation to this MFF CAREC CORRIDOR II Project, efforts were made to avoid and reduce adverse environmental impacts in the Project Design, and additional recommendations to further avoid or reduce impacts are provided to Contractors, which should reflect in the EPMP upgraded by the Contractors. Additionally, the Safeguard Policy Statement (ADB-SPS 2009) goes on to state that concerning mitigation and compensation, the EPMP should address "the following key components: Mitigation, Monitoring, Implementation, and Performance Indicators" through defined plans. As such, the Contractors should reflect the level of detail and complexity of the environmental planning documents and the priority of the identified measures and actions that commensurate with the project's impacts and risks. Key considerations include monitoring and mitigation of potential adverse impacts to the level of "no significant harm to nature and humans"; the polluter pays principle, the precautionary approach, and adaptive management, etc.

150. An analysis of the implementation of the EMP requirements shows that the activities carried out are effective, as evidenced by the results of analytical monitoring of the environment, and there were no complaints during the reporting period. No changes to the EMP are required.

5.2 Implementation of the SSEMP

151. The Contractors are responsible for implementation of EMP during construction works and Construction Supervision Consultant (CSC) and primarily responsible for supervision of monitoring of the implementation of the EMP. The Committee for Roads engaged PMC as an external monitoring consultant' to monitor implementation and supervision of EMP.

152. **Site Specific Environment Protection Management Plan:**

The IEA project requires the Contractor to prepare a Site-Specific Environment Protection Management Plan (SSEMP) to provide a guidance document for staff on the site at their request. The SSEMP was prepared by the Contractor, but another relevant management plan has not completed yet. The SSEMP is the main document on environmental protection at the project implementation stage, and supplemented by other environmental plans established in the IEA and indicated below in Figure 5.1.

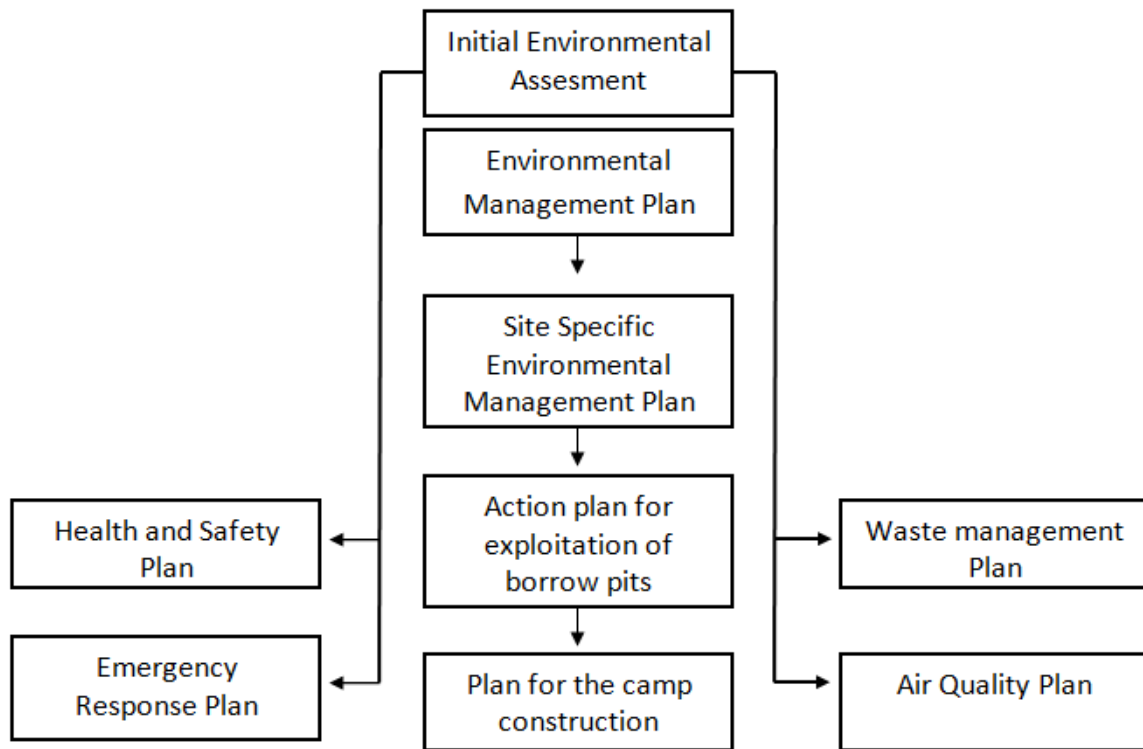


Figure 5.1: The SSEMP and its supporting documents

153. In accordance with the requirements of the contract prior to the work commencement the Contractor Lot 1 “JV Akkord/Akzhol Kurylys LLP” LLP developed an Environmental Management Plan which includes:

- Water quality management plan;
- Management plan for air protection and dust prevention activities;
- Management plan and borrow pits restoration;
- Soil management plan;
- Fuel and Chemical Management Plan;
- Solid waste management plan;
- Noise and vibration management plan;
- Historical and cultural heritage management plan.

154. The environmental management plan is designed to determine the consequences of planned economic and other activities for the environment, including health and safety of people, air, water sources, flora, soil, landscape, cultural and historical monuments and other material objects, the relationship between these factors, as well as developing recommendations for improving the environment preventing the destruction, degradation, damage to ecological systems and natural resources. Grusamar Ingenieria Y Consulting S.L.Y & “SNS-2017” LLP approved the submitted Environmental Management Plan and additional management plans by letter No. 0297 dated June 11, 2018.

155. In accordance with the requirements of the contract prior to the work commencement the Contractor Lot 2 “Cengiz Insaat” JSC developed an Environmental Management Plan which includes:

- Water quality management plan;

- Management plan for measures to protect the air and to prevent dust;
- Quarry Management and Recovery Plan;
- Soil (soil) management plan;

156. The Contractor developed and submitted for approval the Environmental Impact Reduction Plan and the Monitoring Program. Grusamar Ingenieria Y Consulting S.L.Y & "SNS-2017" LLP approved the submitted Environmental Management Plan and additional Management Plan by letter No. 0137 dated April 13, 2018.

Table 5.1: Status of environmental management plans Lot 1

Management plan	Status
Environmental Management Plan	Submitted 11/04/2018 Approved 11/06/2018
Noise management plan	Submitted 11/04/2018 Approved 11/06/2018
Waste management plan	Submitted 11/04/2018 Approved 11/06/2018
Water quality management plan	Submitted 11/04/2018 Approved 11/06/2018
Air quality management plan	Submitted 11/04/2018 Approved 11/06/2018
Construction noise and vibration management plan	Submitted 11/04/2018 Approved 11/06/2018
Waste management plan	Submitted 11/04/2018 Approved 11/06/2018

157. Letter No. AAZK-CS-0079-2018 dated 11/04/2018. Provision of an Environmental Protection Plan / Lot 1. Submitted by the Contractor Lot 1 JV Akkord LLP / Akzhol Kurylys LLP The Environmental Management Plan / EMP / and additional management plans were approved by Engineer Grusamar Ingenieria Y Consulting S.L.Y & SNS-2017 LLP by letter No. 0297 dated June 11, 2018.

158. Contractors submitted additional management plans to the Engineer in June 2018. The PMC environmental specialist was mobilized for the project on April 15, 2018, after reviewing the submitted EMPs / SSEMPs and plans to reduce environmental impacts verbal recommendations were given to CSC by the PMC Environmental specialist: Conditionally approve the EMP LOT 1 (Letter No. AAZK-CS-0079-2018 dated 11/04/2018) with the condition to finalize the EMP / SSEMP and submit Management Plans:

- historical and cultural heritage;
- fuel and chemicals;
- soil;
- quarriers restoration;
- dust.

Environmental Impact Reduction Plan EMP / SSEMP LOT 2 (Letter No. ZZO-CGZ-GI-2018-071 dated 03/30/2018) Additional Management Plans and Environmental Management Plan approved, that submitted by Contractor Lot 2 of Cengiz Inshaat Sanayi Ve Tijaret Anonymous Sirketi JSC environmental management were approved by Grusamar Ingenieria Y Consulting SLY Engineer & SNS-2017 LLP by letter No. 0137 dated April 13, 2018. After the provision of the adjusted EMPs by the LOT 1 Contractor, the PMC was reviewed and approved by the Grusamar Ingenieria Y Consulting S.L.Y Engineer & SNS-2017 LLP by letter No. 0297 dated June 11, 2018. CSC Letter No. 0297 dated June 11, 2018.

159. In accordance with the recommendations specified in the Guidelines for Monitoring the Implementation of Environmental Protective Measures, the EMP was updated and presented to the CSC and PMC LOT 1 - by letter AAZK-CS-0110-2019 dated 31/05/2019, LOT 2 dated 10.06.2019.

Table 5.2: Status of environmental management plans Lot 2

Management plan	Status
Environmental Management Plan	Submitted 30/03/2018 Approved 13/04/2018
Water quality management plan	Submitted 30/03/2018 Approved 13/04/2018
Air Protection and Dust Prevention Management Plan	Submitted 30/03/2018 Approved 13/04/2018
Career Management and Recovery Plan	Submitted 30/03/2018 Approved 13/04/2018
Soil Management Plan	Submitted 30/03/2018 Approved 13/04/2018
Fuel and Chemical Management Plan	Submitted 30/03/2018 Approved 13/04/2018
Site management plan	Submitted 30/03/2018 Approved 13/04/2018
Solid Waste Management Plan	Submitted 30/03/2018 Approved 13/04/2018
Noise minimization control plan	Submitted 30/03/2018 Approved 13/04/2018
Management Plan with Specific Building Operations	Submitted 30/03/2018 Approved 13/04/2018
Management Plan with Historical and Cultural Heritage	Submitted 30/03/2018 Approved 13/04/2018

160. Letter No. ZZO-CGZ-GI-2018-071 dated 30/03/2018. Submission of an Environmental Protection Plan / Lot 2. The additional management plans and the Environmental Management Plan were submitted by Contractor Lot 2 approved by the Engineer Grusamar Ingenieria Y Consulting SLY & SNS-2017 LLP by letter No. 0137 dated April 13, 2018.

5.3 Corrective Action Plans

161. From January to June 2019, the environmental monitoring was carried out on the road under the Contract of the company LLP "SNS- 2017", for the sections of Mangistau Oblast connecting the road Zhetibay-Zhanaozen. This created a number of observed negative moments that the Contractor should minimize. In a number of cases, the Contractors of Lot 1 and Lot 2 were able to minimize some of the problems identified in the sites. This report also presents recommended mitigation measures that can be implemented by the Contractors to mitigate the observed situation and should be monitored by CSC Engineers. Issues arising during the periodic inspection were in the aspects of site safety, the organization of an asphalt plant, and the management of dust formation, road traffic obstruction and oil pollution. Works related to the environment, health and safety were raised during the period.

162. Most of the issues encountered during periodic inspections were identified in the initial stages of construction, such as safety issues, environmental issues, and documentation and dust pollution issues. Accordingly, mitigation measures were also recommended and included in this report. An intensive inspection was conducted by the Environmental Protection Specialist in May-June 2019 and the result was presented and discussed in the training program and meetings were held at the Engineer office of Lot 1 and Lot 2 (Zhetibay). Descriptions of the proposed measures are included in Table 5.2. The Contractors "Cengiz Insaat" and "JV Akkord/Akzhol Kurylys" LLP should decide the observed problems identified during the environmental inspection in the monthly environmental report. Inspectors of the CSC will have to regularly include these points during their regular site inspection. The above issues should be resolved timely by the Contractors. Some problems are easily solved and only a few needed to be promptly adjusted by the Contractor. In addition, the format of the Procedures for Monitoring the Environmental Inspectorate was previously provided to the Environmental Contractor Specialist by the Environmental Specialist as a guide to facilitate regular inspections and monitoring of environmental,

health and safety.

163. In April, May and June 2019, the CSC mobilized the Environmental Protection Specialist for environmental inspection and auditing, as described in the ToR and for the preparation of the third semiannual environmental monitoring report (January to June 2019) for the supervision of the quality of construction works. The work was carried out with the participation and coordination of representatives of “Renardet S.A.” PMC, Contractors “Cengiz Insaat” and “JV Akkord/Akzhol Kurylys LLP”, local CSC Engineers on Road Safety, Health and Safety Engineers and other Project Engineers. The activities carried out by the environmental specialists are listed below:

- Discussion with the acting Team Leaders regarding their duties and obligations.
- Meeting with representatives of ADB, PMC, CSC and Contractors.
- Reviewing the monthly progress reports and other relevant documents on Environment and Safety.
- Acquaintance with ecological parameters and records on environment and safety prepared by the Contractors of Lot 1 and Lot 2.
- Meeting with representatives of the Contractors and discussing issues related to environmental protection, the mobilization of a specialist in environmental protection of Contractors, environmental monitoring procedures, monthly and semiannual reports on environmental monitoring.
- Meeting with CSC Engineers regarding the rehabilitation work on the borrow pit performed by the Contractors.
- Initiate an environmental inspection and carry out an inspection under Contracts 001 and 002 (with Road Safety Engineers).
- Meeting with the Acting Project Manager and with CSC Engineers to discuss the environmental monitoring report.
- Subsequent inspections with regard to documentation are carried out as the identified environmental problems are resolved.

164. In addition, the EMP of the Contractors was approved, and the Contractors` monthly environmental reports are required further discussions of technical issues for clarification in presentation so that the Contractor can show solutions to these issues. The specialist made a note and instructed the Contractor to make further constructive improvements. The status of the implementation of the Corrective Action Plan recommended for the period from January to June 2019 is presented below in Table 5.3.

Table 5.3: Corrective action plan for Contracts 001 & 002 for January-June 2019

No.	Description	Action Required	Period	Status
1	In connection with the implementation of construction work, careful monitoring is necessary in order to avoid the formation of dust, especially in windy weather.	The Contractor complies with the low speed when traveling with heavy equipment during the maintenance of the road.	January-June 2019	fulfilled
2	The Contractor uses traffic control techniques to limit interference to traffic and ensure traffic and pedestrian safety.	Road Safety Service installed the appropriate road signs; security and traffic control are provided.	January-June 2019	fulfilled

3	Possible contamination of waterways or soil water with oil products or solvents used in road paving	Since it is possible to spill oil products during construction, it is recommended that all equipment and machinery be cleaned from oil, solvent and bituminous material flowing along the road construction site	January-June 2019	fulfilled
4	The checklists were distributed for the purpose of implementation of the inspection during the execution of work and attempts to mitigate the consequences if there were any environmental problems. During this period, the availability of adequate sanitation facilities were noted.	It was noted that up to the present time there is no sewage pollution in connection with the construction of the road.	January-June 2019	fulfilled

5.4 Notices and Letters

165. In the previous six months, the Environmental Consultant actively monitored the performance of the Contractor's work in environmental aspects. The issues were identified and communicated officially to the Contractor in the form of official letters. The list of such letters on environmental aspects and their status is indicated below:

Table 5.4: Letters on Environment Issues

Ref. No. of letter	Date	From	To	Subject
AAZK-CS-056-2019	29.03.2019	Akkord/Akzhol Kurylys	SNS-2017	Monthly report on environmental monitoring for March 2019
KZpmc01/CON/04/2019/0085	24.04.2019	PMC Renardet S.A.	SNS-2017	EMP requirements violation
KZcsc01/L1/04/2019/0662	24.04.2019	SNS-2017	Akkord/Akzhol Kurylys	EMP requirements violation
KZcsc01/COR/04/2019/0670	26.04.2019	SNS-2017	CoR	Submission of social and environmental reports for IQ of 2019
ZZO-GCZ-GI-2019-055	30.04.2019	Cengiz Insaat	SNS-2017	Environmental monitoring checklists
AAZK-CS-084-2019	02.05.2019	Akkord/Akzhol Kurylys	SNS-2017	Submission of information
AAZK-CS-087-2019	03.05.2019	Akkord/Akzhol Kurylys	SNS-2017	Monthly report on environmental monitoring for April 2019
KZcsc01/PMC/05/2019/0683	08.05.2019	SNS-2017	PMC Renardet S.A.	EMP requirements violation

ZZO-GCZ-GI-2019-067	10.05.2019	Cengiz Insaat	SNS-2017	Environmental monitoring checklists
ZZO-GCZ-GI-2019-068	10.05.2019	Cengiz Insaat	SNS-2017	Sampling of air, soil and noise
KZcsc01/L2/05/2019/0700	17.05.2019	SNS-2017	Cengiz Insaat	During the site inspection
KZcsc01/L1/05/2019/0701	17.05.2019	SNS-2017	Akkord/Akzhol Kurylys	During the site inspection
ZZO-GCZ-GI-2019-081	22.05.2019	Cengiz Insaat	SNS-2017	Environmental monitoring checklists
AAZK-CS-0100-2019	22.05.2019	Akkord/Akzhol Kurylys	SNS-2017	Elimination of revealed remarks
AAZK-CS-0101-2019	22.05.2019	Akkord/Akzhol Kurylys	SNS-2017	Elimination of revealed violations
KZcsc01/L1/L2/05/2019/0713	23.05.2019	SNS-2017	Akkord/Akzhol Kurylys Cengiz Insaat	Minutes of pre-audit
KZpmc01/CON/04/2019/0089	24.05.2019	PMC Renardet S.A.	SNS-2017	Elimination of remarks/violations voiced during the pre-audit. Submission of permitting documents
KZcsc01/L1/L2/05/2019/0716	24.05.2019	SNS-2017	Akkord/Akzhol Kurylys Cengiz Insaat	Elimination of remarks/violations voiced during the pre-audit. Submission of permitting documents
ZZO-GCZ-GI-2019-086	25.05.2019	Cengiz Insaat	SNS-2017	Elimination of violation on site
AAZK-CS-0106-2019	29.05.2019	Akkord/Akzhol Kurylys	SNS-2017	Monthly report on environmental monitoring for May 2019
KZpmc01/CON/04/2019/0090	29.05.2019	PMC Renardet S.A.	SNS-2017	EMP updating. Submission of permitting documents before 31.05.2019, reports on trainings held (weekly)
KZcsc01/L1/L2/05/2019/0722	30.05.2019	SNS-2017	Akkord/Akzhol Kurylys Cengiz Insaat	EMP updating. Submission of permitting documents before 31.05.2019, reports on trainings held (weekly)
AAZK-CS-0110-2019	31.05.2019	Akkord/Akzhol Kurylys	SNS-2017	EMP updating
ZZO-GCZ-GI-2019-092	03.06.2019	Cengiz Insaat	SNS-2017	Monthly report on environmental monitoring for May 2019
ZZO-GCZ-GI-2019-0106	13.06.2019	Cengiz Insaat	SNS-2017	Sampling of air, soil and noise
ZZO-GCZ-GI-2019-0113	17.06.2019	Cengiz Insaat	SNS-2017	Environmental monitoring checklists
ZZO-GCZ-GI-2019-0140	01.07.2019	Cengiz Insaat	SNS-2017	Environmental monitoring checklists
ZZO-GCZ-GI-2019-0143	02.07.2019	Cengiz Insaat	SNS-2017	Monthly report on environmental monitoring for June 2019
AAZK-CS-0126-2019	02.07.2019	Akkord/Akzhol Kurylys	SNS-2017	Monthly report on environmental monitoring for June 2019

5.5. Complaints and consultations

166. A grievance mechanism was established to review complaints / suggestions of local people on the increased level of dust, noise, improper waste disposal and other environmental issues. The grievance mechanism is complementary to existing petitions in the form of letters and personal requests established by local authorities.

167. The Contractors of Lot 1 and Lot 2 maintain a recording complaints book, which is stored at work sites / construction sites and is accessible to members of the local community. Ms. Umirbekova Nataliya, an environmental specialist for Contractor of Lot 1 and Aitenov Serik, an environmental specialist for the Contractor of Lot 2, are responsible for collecting complaints about the project activities. There are no registered complaints and / or proposals for environmental issues for the reporting period.

168. The Environmental Specialist consulted with stakeholders from the local community and Akimats to provide them with information on the progress of construction and on upcoming construction activities. Construction work is carried out in rural areas, which have limited access to electronic media, such as the Internet. During the consultations, local residents were informed of the above by the staff of consultants and local authorities (the village Akimat), also directly by the Environmental Specialist.

169. During this reporting period, no difficulties or complaints were received from local residents.

6. ADVANCED METHODS AND OPPORTUNITIES FOR THEIR IMPROVEMENT

6.1 Advanced methods (good practices)

170. In implementing the EMP, advanced methods were not applied. All actions of the Contractors were in full compliance with the requirements of the EMP.

6.2 Opportunities for improvement

171. During the reporting period, no areas were identified that may be outside the official Non-Compliance Notice (NCN) process but which, with changes in construction methods, mitigation, etc., will lead to an improvement in environmental, health and safety indicators of the project.

7. BRIEF CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

172. This is the third Semiannual Environmental Monitoring Report (from January to June 2019), prepared in the form of a report with the requirements of the Contract for the provision of the Construction Supervision Service, the Ministry of Industry and Infrastructural Development (MIID), the Committee for Roads of the Republic of Kazakhstan for Loan 2967-KAZ: MFF CAREC Corridor 2 (sections in Mangistau Oblast), Investment Program, Project 2, under the leadership of the Asian Development Bank, Loan No. 2967-KAZ. This report is developed by the CSC Environmental Specialist on the basis of interaction and consultation with CSC Engineers, review of relevant environmental documents (IEA and the Project EPMP, Monthly / Quarterly / Semiannual Reports prepared by the Contractors); site visits, the results of the necessary sampling, laboratory analysis and measurements.

173. During the current monitoring period, a number of problems related to the environment and safety were observed by the monitoring team and brought to the attention of the Contractors for adjustment. The audit was carried out by the CSC Environmental Specialist in April-June 2018, which became the basis for writing the first bi-annual report on environmental monitoring for Implementing Agency (COR, MID) and the Financier (ADB). Environmental problems identified during the period, usually regarding the operation of existing borrow pits, dust formation in a crushing plant, soil contamination due to a spillage of fuels and lubricants, aspects of septic tanks of Contractors camps, general safety and monitoring program, etc. Continuous tracking through inspections is one of the necessary processes to improve the environmental performance of the project in accordance with the requirements of the (Implementing Agency) and ADB (Financier). Training and competence development are carried out by an environmental specialist for the Contractor's personnel and Engineer staff through a series of discussion meetings, PowerPoint presentations, joint audits, development of checklists, instructions, etc. The meetings were useful in clarifying environmental issues, and facilitated the implementation of necessary measures.

174. During the reporting period from January to June 2019, the Contractor conducted monitoring of atmospheric air, soil, noise and vibration. In all aspects, the results of monitoring comply with the standards of the Republic of Kazakhstan.

175. During environmental monitoring, the followings were determined:

- Lack of serious environmental problems of construction. Accommodation, office premises are ready in accordance with environmental requirements;
- Contractors take the necessary measures to implement the requirements of the EMP. Currently, necessary permits have been obtained from local authorities;
- Monitoring and checklists specified in the EMP are carried out regularly as required.

176. Grievance redressing mechanism is functioning and no complaints were registered during the reporting period. In addition, a list for the inspection procedure for environmental monitoring was provided by the CSC Environmental Specialist as a model to facilitate regular environmental inspections and monitoring.

7.2 Recommendations

177. The conduct of several site inspections by the International Ecologist identified a number of potential environmental problems. These issues were discussed with the Contractors, which promptly eliminated some of the identified elements. However, some issues remain unresolved and must be corrected by the Contractors within the next reporting period. In addition, it was noted that some issues, such as waste management, the use of personal protective equipment, the storage of hazardous materials, require continuous monitoring to ensure the requirements of the Contractor's

EPMP (and its additional plans). In order to minimize the negative impact on the environment, Contractor's monitoring should also be focused on construction activities such as blasting, excavations, top soil removal, compaction, unsuitable soils, removal and backfilling, sub- base layer, CSCM base, slopes, drainage.

178. The Contractor is also required to complete and submit environmental checklists (daily monitoring), submit monthly reports, a semiannual environmental monitoring report and today the Contractors have submitted a monthly reports for March, April, May, June 2019 and semiannual environmental monitoring report (from January to June 2019). The Contractor was instructed that the checklists, monthly and semiannual reports are the Contractor's obligation under the Contract and these reports / checklists must be filled daily, and a monthly report and a semiannual report on environmental monitoring should be timely provided for review to the Engineer.

Table 7.1: Corrective action plan for July-October 2019

No.	Identified environmental issues	Necessary corrective action	Execution period	Responsible for execution / supervision
1	Breach of EMP requirements	Continue work on the implementation of the EMP (dust suppression, disposal of residual asphalt, collection and removal of used tires). Training on environmental monitoring observance shall be held for technical staff of the Engineer.	July-October 2019	Contractor Lot and Lot 2 CSC and PMC Engineer
2	Safety measures at site, fire safety and traffic safety	Continue monitoring, take measures to ensure road safety at the construction sites on a daily basis. Use of personal protective equipment (gloves, glasses, masks). Conduct training on compliance with safety requirements and fire safety requirements.	July-October 2019	Contractor Lot and Lot 2 CSC and PMC Engineer
3	Training	Continue regular health and safety briefings; fire safety briefings n fire safety trainings with responsible persons, at sites, monitor the fulfillment by contractors of their obligations to protect the environment.	July-October 2019	Contractor Lot and Lot 2 CSC and PMC Engineer

4	Post-construction environmental audit	Auditing, filling out checklists, preparing a final six-month environmental monitoring report	November 2019	Contractor Lot and Lot 2 CSC and PMC Engineer
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Appendices

- Appendix 1: Environmental Monitoring Photos
- Appendix 2: Environmental Monitoring check-lists
- Appendix 3: Clarification letter on dust excess
- Appendix 4: Air test report
- Appendix 5: Test report of noise and vibration measurement
- Appendix 6: Test report of soil chemical analysis
- Appendix 7: Incident report
- Appendix 8: Report on training

Appendix 1

Environmental Monitoring Photos Lot 1



Filling of soil at PK 293+00



Compaction of asphalt base course at PK 108+00



Construction of retaining wall at the Nysan guest house at PK 314+00



Laying of asphalt on PK 199+00



The device of the top layer of the basis on the PK 198+00



Embankment filling on the PK 274+00



Construction of the wearing coarse of bypass road on the PK 44+00



Paving of wearing course on the PK 35+00



Milling of existing road on PK 288+00



Construction of retaining wall in front of hotel "Nysan" at PK 314+00

Environmental Monitoring Photos Lot 2



ПК 10 – разравнивание грунта

Leveling of soil at PK 10, May 2019



Loading material (soil) at PK 15, May 2019



ПК 360 – профилировка основания разделительной полосы

Profiling the base of the dividing strip at PK 360, May 2019



ПК 402 – 405 – устройство верхнего слоя покрытия

Compaction of base course at PK 402-405, April 2019



Мероприятие по пылеподавлению

Watering of service road, June 2019



Median strip compaction, June 2019

**Compliance with Environmental Protective Measures
Monitoring check-lists**

Country	:RoK Loan No. 2967-KAZ CAREC TRANSPORT CORRIDOR 2 MANGISTAU OBLAST PROJECT 2
Audit date	:10/06/2019

Project data			
Project title: RECONSTRUCTION OF THE ROAD «ZHETIBAY-ZHANA OZEN-KENDERLI-TRUKMENISTAN BORDER» Section 0 km – 73 km			
Overall project progress (%) :	Performed by date: Lot 1 – 67,87 %, Lot 2 – 84,69 %.		
Completed construction works (%)	100%: arrangement of the site and offices, laboratory arrangement, crossing plan of the axis and the road, transverse profile of the natural surface of the existing road, engineering and geological surveys, the lower and upper layers of the base (Lot 2), dismantling and reconstruction of existing utilities (Lot 1), construction of reinforced concrete culverts (Lot 1), sub-base layer (Lot 2), binder course (Lot 2), culverts (Lot 2), construction of a RMD (Lot 2).		
Categorization on environmental protective measures	A	B	C
		B	

General Compliance Status		
<input type="checkbox"/> <u>Do not comply</u> – Corrective actions and monitoring required	<input checked="" type="checkbox"/> <u>Mostly comply</u> - minor corrective actions and monitoring required	<input type="checkbox"/> <u>Fully comply</u>

A. Loan / Grant Obligations for Safeguards

Issue No.	Obligation	Compliance status
1	The Contractor shall (a) introduce an operating system for environmental impact management, (b) carry out all monitoring and mitigation measures specified in the IEA and the Environmental Management Plan attached to the contract in Appendix A, respectively, as well as (with) allocate the necessary funds to ensure the implementation of such measures. The Contractor shall submit (Quarterly, Semiannual) reports on the implementation of such measures to the Employer.	
2	The Engineer (a) shall ensure that all necessary measures to reduce environmental impacts are reflected in the contract documentation, (b) provide supervision and monitoring of the implementation of the EMP, IEA and Environmental Impact Reduction Plan. Conduct monitoring and keep reporting.	
3	PMC: Implementation of the EMP in accordance with ADB environmental policy and the legislation of the Republic of Kazakhstan on environmental protection - Monitoring of environmental impact measures. - Coordination of the preparation and finalization of reports on environmental impact assessment (EIA) in accordance with the ADB protection policy and the legislation of Kazakhstan; - Ensuring compliance of the terms of	

	<p>construction contracts and consulting services with the provisions of the loan on the environment; - Monitoring of implementation (EMP) for each road section - Assessment of the compliance of work of contractors and consultants with environmental conditions in their contracts, and informing of violations with recommendations - Careful monitoring of project sites for possible single environmental impacts -Creation of an internal monitoring system for environmental issues and measures -Preparation of environmental reportsKYΠ:</p>	
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B. Environmental Management Planning (Before commencement of construction works)

Issue	Status ¹ (Yes/To)	Tracking is required (Yes/No)	Comments/Necessary Actions
An Environmental Department (EP) has been established at the Project Implementation Center	Yes		-
The environmental protection has environmental registration (accounting) system	Yes		-
Basic monitoring was carried out	No	No	Basic monitoring was carried out a month after the commencement of construction works
EMP design requirements are included in the project brief description (Evidence that the EMP has verified the project summary in this regard)	Yes		-
EMP requirements are included in bidding documents	Yes		-
Environmental protection is involved in the evaluation of tender proposals			-
Site-specific Environmental Management Plans (SSEMP) of the Contractor were reviewed and approved by the Project implementation center/Project implementation group before the commencement of construction works by the contractors	No	Yes	<p>1. After the provision of the revised EMP by Contractor LOT 1, PMC reviewed and it was approved by the Engineer Grusamar Ingenieria Y Consulting S.L.Y & "SNS-2017" LLP by letter No. 0297 dated June 11, 2018.</p> <p>2. SSEMP provided by the Contractor Lot 2 was approved by Engineer Grusamar Ingenieria Y Consulting S.L.Y & "SNS-2017" LLP by letter No. 0137 dated April 13, 2018.</p>

¹ Documentary evidence of each element that must be stored in the environmental management system of the environmental protection system and submitted for audit.

C. Compliance with the environmental management requirement during the construction phase (for completion)

Issue	Status (Yes/No)	Tracking is required (Yes/No)	Comments/Necessary Actions
Monitoring data according to the EMP ² monitoring plan.	Yes	Yes	By the results of the research protocol, excess for controlled substances was not found
Unforeseen environmental impacts are identified and options for recording are assessed.	Yes	Yes	В отчетный период не обнаружено Not detected during the reporting period
Significant environmental - health - safety incidents were reported	Yes	Yes	on 11/06/2019 at 06:30 a.m. local time on Lot 2 of "Cengiz Insaat" JSC a fire occurred on the site of the repair area in a container intended for rest and changing rooms for workers. An accident report is detailed in Appendix 7
EMP has been reviewed and updated	Yes	Yes	EMP was actualized/updated and submitted to CSC and PMC by Lot 1 with letter No. AAZK-CS-0110-2019 dated 31/05/2019, Lot 2 with letter dated 10/06/2019
Records of site inspection (using tools and templates for supervising the EMP implementation or monitoring check-lists)	Yes	Yes	Check-lists are attached in Appendix 2
Notifications of non-conformities and requests on corrective actions	Yes	Yes	-
Book (register) of complaints	Yes	Yes	Record book for handling the complaints within the territory of construction base camp of Lot 1 and Lot 2
Compliance with environmental protective measures are included in progress reports	Yes	Yes	-
Мероприятия по обучению/наращиванию потенциала проведены в соответствии с требованиями ПУОС (записи о тренингах) Training / capacity building activities were conducted in accordance with EMP requirements (training records)	Yes	Yes	Records of training are attached in Appendix 8
Общий имеющийся статус выполнения ПУОС/ПУОСКУ/КПУОС проекта (Все смягчающие меры, представленные в одобренном ПУОСКУ (КПУОС) должны быть подразделены по тематикам и оценены согласно статусу выполнения) Overall existing status of the implementation of the EMP / SSEMP / SEMP project (All mitigating measures presented in an approved SSEMP (SEMP) should be categorized and evaluated according to implementation status)	Yes	Yes	-
Semiannual reports on environmental monitoring were submitted to the ADB and published on the ADB's website	Yes	Yes	First approved semiannual report was published on the ADB's

²For recording in the appropriate format (template) according to the "Tools for Supervision of EMP Implementation Templates" (Appendices)

Issue	Status (Yes/No)	Tracking is required (Yes/No)	Comments/Necessary Actions
			website – in July 2018, second one – in January 2019
Semiannual reports on environmental monitoring are disclosed to local communities and relevant government agencies	Yes	Yes	
Audit report was prepared after completion of construction works	No		Completion of construction works is planned for October 12, 2019

Appendices: Tools and templates for supervising the EMP implementation

**TEMPLATE
ENVIRONMENTAL REPORT**

Prepared for adaptation to specific projects

Project name: Zhetibay-Zhanaozen road The site, on which the report is made: 3rd semi-annual on EM 0-73km

Date: 03.06.2019

Time: 10:00

Essential conditions:

Note: For questions that were answered “yes”, explanations and / or attachments should be given below, if necessary.

1.0 SITE MASTER PLAN	YES	NO
1.1 Does the existing organization of the site (place of work) differ greatly from the approved plans?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, then this is due to the fact that: <input type="checkbox"/> The site is still developed up to the stage indicated in the Plan. <input type="checkbox"/> <input type="checkbox"/> Due to other reasons listed below.		
1.2 Are there obvious problems with the site plan or organizational problems?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.3 Are there conditions that require the transfer of any control points?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If so, which: <input type="checkbox"/> Air quality Why? <input type="checkbox"/> To avoid conflict with construction activities. <input type="checkbox"/> Noise <input type="checkbox"/> For impact data to be more representative. <input type="checkbox"/> Water <input type="checkbox"/> Other is indicated below.		
2.0 AIR QUALITY Note: In designated locations, a monthly systematic monitoring of air quality is recommended - more often if necessary.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.1 Have there been any recent complaints about air quality regarding this site?		
2.2 Is the asphalt plant properly located and organized?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.3 Is the plant located no less than 500 meters from social facilities (schools, hospitals, residential buildings)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.4 Dust forming materials appropriately:		
• Stored under cover	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Stored in a fenced area	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Transported under cover	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.5 Are there signs of burning outdoors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.6 If special places for washing the wheels are required, have they been properly organized If not, then because: <input type="checkbox"/> They are missing. <input type="checkbox"/> They are not used. <input type="checkbox"/> Due to other issues listed below..	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.7 Are volatile substances (solvents, fuels, etc.) properly stored and labeled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.8 Have you noticed any air quality problems caused by:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Increased dust concentration due to vehicles entering and leaving the site? If yes, then this is caused by: <input type="checkbox"/> Lack of sweeping. <input type="checkbox"/> Lack of watering.. <input type="checkbox"/> Other indicated below..	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Overspeed vehicles (i.e. over 15 km / h)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Emissions (e.g. increased emissions of black exhaust smoke)? If so, is it because of: <input type="checkbox"/> Vehicles <input type="checkbox"/> Construction equipment..	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Emissions or leaks of volatile substances (solvents, fuels, etc.?)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Air quality problems caused by another cause ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Are there any conditions that suggest the need for additional monitoring of air quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Along Roads		
2.9 Are dust areas sufficiently moistened?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.10 Do they get wet as often as conditions require?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.11 Is there a clear and significant impact of dust on land use in the surrounding area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.12 Are dusty materials transported under a shelter?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.0 WATER Note: In designated areas, systematic monitoring of water quality is recommended at least once a month or more often if circumstances so require.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**TEMPLATE
ENVIRONMENTAL REPORT**

Prepared for adaptation to specific projects

3.1 Have any complaints been received recently regarding water quality issues?		
3.2 Is there a proper sewage system in place?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.3 Does the sewage system negatively affect the use of land located outside the site, or environmental conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.4 Is clean drinking water adequately ensured?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.5 Are proper standards for wastewater (e.g. septic tanks) ensured?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.5 Is the wastewater disposal system working properly? Are there any signs of leakage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.6 If there are areas that require systematic spraying of water for dust suppression, is the water recirculated (circulating)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.7 Are there signs of inadequate entry into waterways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.8 Are there any effects on domestic and irrigation water supply?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.9 Have you noticed:		
• Clogging of the sewer system due to project related activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Inadequate sewage equipment and pumping equipment for wastewater pumping, etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Solvent and fuel runoff that potentially pollutes waterways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Signs that a waterway or drainage system in this area is used to discharge household waste (feces)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Signs that a waterway or drainage system is being used to discharge other waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Conditions to suggest that more frequent monitoring of water quality is required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.0 SOIL AND LAND RELIEF		
4.1 Have there been any recent complaints regarding soil or topographic impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.2 Are there official and <u>binding</u> procedures for opening or closing quarries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.3 Was the topsoil removed and moved to the dump at the open pit for future use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.4 Are there adequate plans with binding provisions for career remediation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.5 If commercial quarries are used to obtain building materials, are they properly licensed and properly operated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.6 If the Contractor uses its own crusher, have the site and use of the crusher been approved by the Resident Engineer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.7 Have all necessary local permits been obtained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.8 Have routes for transporting materials been approved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.9 Is there quick renewal of vegetation on affected territories?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.10 Are there any signs of erosion due to errors in design, construction activities or other conditions, requiring remedial action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.0 NOISE		
5.1 Have you recently received any complaints regarding the noise level in this section?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.2 Are the requirements for restricting construction for certain hours met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.3 Does the public receive warnings about possible noise impacts (for example, during blasting operations)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.4 Have you observed:		
• Equipment requiring maintenance to reduce noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Vehicles entering / leaving the site, creating a noise level that exceeds the normative indicators?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Conditions that suggest that additional noise monitoring is necessary?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6.0 VIBRATION		
6.1 Have you recently received complaints regarding the level of vibration?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6.2 Did you know about vibration in or near the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6.3 Are there signs of damage to buildings or other structures (bridges, culverts, power transmission towers, etc.) due to vibration?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7.0 WASTE MANAGEMENT AND DISPOSAL CONSIDERATIONS		
7.1 If this is a road reconstruction project, is asphalt recycled for reuse?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.2 If old asphalt is not reused, are there places to place it?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.3 If placed in bulk or in a landfill, is old asphalt on the surface drained properly to prevent leaching?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.4 For other waste, did you find it improper:		
• Storage of building debris or excavated soil until disposal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Transporting construction debris or excavated soil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Use of unapproved waste disposal sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**TEMPLATE
ENVIRONMENTAL REPORT**

Prepared for adaptation to specific projects

• A household waste disposal system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• The organization of the disposal of toxic and hazardous waste (including waste oil)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.0 ROAD MANAGEMENT		
8.1 Is there an approved traffic management plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.2 Have detours and deviations been minimized as much as possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.3 Was a continuous flow of transport ensured all the time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.4 Are proper signs and warnings provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.0 LABOR PROTECTION AND SAFETY OF POPULATION AND EMPLOYEES		
9.1 Does the Contractor provide safety and health training for new employees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.1 Does this briefing include information on sexually transmitted diseases and HIV / AIDS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.2 Do employees receive periodic safety training?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.3 Are workers equipped with safety equipment and protective clothing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.4 Do labor camps (of any kind - official, unofficial, spontaneous, etc.) create health problems for the population as a result of inappropriate waste management, etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.5 Are fuel storage areas away from waterways and water bodies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.6 Are fuel and chemical storage areas on tight shafts and enclosed by fencing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.7 Are the bases and shafts impermeable and have sufficient strength and capacity to contain 110 percent of the volume of tanks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.8 Are valves and triggers resistant to unauthorized access and vandalism, and are turned off and blocked when not in use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.9 Do tanks and containers have clear and precise markings indicating their contents?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10.0 IMPACT ON THE USE OF ADJACENT LANDS		
Have you noticed any problems regarding the following, have you become aware of any problems regarding the following:		
10.1 Pedestrian traffic?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10.2 Access for transport to neighboring property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10.3 Signs of structural effects on neighboring properties?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10.4 Impact on neighboring properties that you need to pay attention to?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11.0 VISUAL IMPACTS		
Have you noticed any problems regarding the following, have you become aware of any problems regarding the following:		
11.1 Covering unsightly places?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11.2 Placement of tanks, storage places, etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11.3 Unsightly disposal or storage of old asphalt, sewer waste or other facilities, etc.?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11.4 Construction activity causing a removable negative impact on visually sensitive land use objects (e.g. special views, such as important mosques or other religious buildings, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12.0 OTHER		
12.1 Were other problems requiring attention discovered during the site visit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CLARIFICATIONS

Please explain any question you answered yes to. If necessary, attach additional pages.

№	Explanation	Measures
p.2.8	increased dust formation due to the region's peculiarities: wormwood and saline desert with areas of shrub vegetation on brown soils with a sharply continental climate, extremely arid and elevated winds	
p.7.4	lack of marking and containers near the repair zone in the construction camp Lot 1	organized area and equipped with labeled containers report p.152
p.11.3	on the shoulders of the project road, the placement of residual asphalt on Lot 2 was observed	disposed

Filled out the form: Novosadova N. **Date** 03.06.2019

Prepared for adaptation to specific projects

Environmental specialist of PMC “Renardet S.A” signed

Tursynbaeva M. environmental specialist of CSC “SNS-2017 ”



To: Mr. Virili Massimiliano
Team Leader /Resident Engineer
Renardet S.A. (CSC)
Engineering Consultants

Cc: Mr. C.Ablaliyev
Deputy Chairman RoK CoR MIID

Mr. E. Omarov
Director "NC"KazAutoZhol" JSC

Mr. Luciano Sanna
Team Leader
PMC "Renardet S.A."

Ref. No.: AAZK-CS-084-2019

Date: 02.05.2019

Project: Construction works by Contract 001-ADB/CW-2017 Loan 2967-KAZ: CAREC 2 Corridor (Sections in Mangistau Region), "Zhetybay - Zhanaozen" Project, Km 0 - Km 35

Кому: Г-н Вирили Массимилиано
Руководителя Проекта/
Резидент Инженера
Renardet S.A. (КНС)

Копия: Г-н С. Абляев
Заместитель председателя КАД МИИР РК

Г-н Е. Омаров
Директор АО «НК «КазАвтоЖол»

Г-н Лучиано Санна
Руководитель Проекта
КУП "Renardet S.A."

Исх.№: AAZK-CS-084-2019

Дата: 02.05.2019

Проект: Строительные работы по Контракту 001-ADB/CW-2017 Заём 2967-KAZ: Коридор ЦАРЭС 2 (Участки в Мангистауской Области), Проект «Жетыбай - Жанаозен», км 0 - км 35

Subject: Provision of information

Тема: Предоставление информации

Dear Sir,

Уважаемый господин,

"Ak Zhol Kurylys" LLP explains the reason for the excess dust in the monthly report on environmental protection for March 2019. On the day of the measurements, that is, on March 13, 2019, for atmospheric air, the excess was associated with windy weather.

ТОО «Ақ жол кұрылыс» разьясняет причину превышения пыли в ежемесячном отчете по охране ОС за март 2019г. В день проведения замеров т.е. 13 марта 2019 года по атмосферному воздуху, выявленные превышения пыли связаны с ветряной погодой.

Attachment: Report of research sample of atmospheric air, certificate of RSE "Kazhydromet".

Приложение: Протокол по замеру атмосферного воздуха, и справка РГП «Казгидромет».

Best regards,

С уважением,

T.Kudrinov
Project Manager

Т.Кудеринов
Руководитель Проекта

Drafted by Bekenzhanov B.
Mob.: 87027734494



Вх. N 1076
02.05.2019г

Ministry of Health of the Republic of Kazakhstan	The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region	Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT

of research sample of atmospheric air populated areas

№277-312

(from) « 18 » 04 2019

1. Place of the selection of an air sample «Ak zhol kurylys» LLP
 2. Type of sample (single, daily average) single
 3. Reference Documentation, according to which the sample was taken Order No. 237 dated 03/20/2015 Sanitary regulations "Sanitary-epidemiological requirements for the establishment of the sanitary protection zone production facilities "
 4. Date of research 18.04.2019 r.
 5. Measuring instruments used in sampling Flexible gas-analyser Gank-4: No. 1539:2308 Meteorological meter MES-200 A № 1799
 6. Scope
 7. Number of
 8. Date of testing
 9. Data of state research № 1799 гос. поверен до: 07.12.19г.
 - Зав. №1539:2308 state believed to: 19.12.2019
 10. Characteristics of the area: (relief) flat
 11. Woodland- Hight- Distance from the source of pollution- C33 300 m.
 12. Nearest facility locality Zhetybai village
 13. Height and power of emission
 14. Type of fire
 15. The scheme of the area, with an indication of the source of pollution and air sampling points - SZZ border 300 m. The northern side of the asphalt plant 3 km: PK No.30: Reconstruction road Zhetybai-Zhanaozen section 23.1 km. PK No231
- Position, full name of the person performed the sample selection specialist Sabieva R.Zh. (signature)
- Position occupied as representative of the district, full name- Environmental engineer of Ak Zhol Kurylys LLP S. Aitenov (signature)

T2

T1

The name of the analyte, ingredient	Units of measurement, concentration test result				Regulatory documentation in accordance with which the research was conducted
	Maximum one-time		Average daily		
	Discovered mg / m³	maximum concentration limit	Discovered mg / m³	maximum concentration limit	
14	15	16	17	18	19
CO (carbon monoxide)	0,9; 0,9; 0,9	5,0			St RK 2.302-2014
RSH (methanethiol)	0,001; 0,001; 0,002	0,006			PM 4215026565914092014
C 12-C 19 (saturated hydrocarbon)	0,4; 0,4; 0,4	1,0			PM 4215007565914092009
Dust suspended matter	0,03; 0,02; 0,03	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,02	0,5			PM 4215006565914092009
Soot	0,06; 0,07; 0,06	0,15			PM 4215006565914092009
CO (carbon monoxide)	0,8; 0,9; 0,9	5,0			ST RK 2.302-2014
RSH (Methanethiols)	0,001; 0,001; 0,001	0,006			PM 4215026565914092014
Hydrocarbons limit With 12-C 19	0,4; 0,4; 0,4	1,0			PM 4215007565914092009
Dust suspended matter	0,03; 0,02; 0,02	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,02	0,5			PM 4215006565914092009
Soot	0,06; 0,06; 0,07	0,15			PM 4215006565914092009
Dust suspended matter					

Sample studies were performed for compliance with reference documentation. The method of measurement is determined by the mass concentration of harmful substances in the atmospheric air, in the air of the working area, in industrial emissions by the gas analyzer ST RK 2.302 - 2014 Order of the PKTRiMMI and RK № 240 from 20.11.2014r.

"On approval of hygienic standards for atmospheric air in urban and rural areas" Order of the MNE RK 168 dated 02.28.2015 Applications # 2

Research conducted specialist Sabiév R Zh.

Surname, name, patronymic, signature of the head of the laboratory Duisenbayev
N.D.

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region


signature

Rsymbetova R.S.

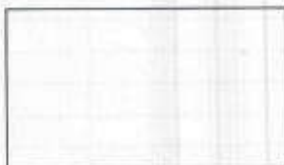
Нысанның БҚСЖ бойынша коды Код формы по ОКУД КҰЖЖ бойынша ұйым коды Код организации по ОКПО	
Қазақстан Республикасы Денсаулық сақтау министрлігі Министерство здравоохранения Республики Казахстан	Қазақстан Республикасы Ұлттық экономика министрінің 2015 жылғы «30» мамырдағы № 415 бұйрығымен бекітілген № 165/е нысанды медициналық құжаттама Медицинская документация Форма № 165/у Утверждена приказом Министра национальной экономики Республики Казахстан от «30» мая 2015 года № 415
ҚР ДСМ ҚҚТСБК «Ұлттық сараптама орталығы» ШЖҚ РМК Маңғыстау облысы бойынша филиалы Ф РГП на ПХВ «Национальный центр экспертизы» КККБТУ МЗ РК по Мангистауской области	

Елді мекендер ауасы үлгілерін алу және зерттеу
ХАТТАМАСЫ
ПРОТОКОЛ
исследования образца атмосферного воздуха населенных мест

№ 277 – 312
(от «18» 04 2019 ж. (г.))

1. Ауа үлгісін алған орын (Место отбора образца воздуха) ТОО «Ақ жол құрылыс»
 2. Үлгінің түрі (бір жолғы, тәуліктік орташа) (Вид образца (разовая, среднесуточная)) разовая
 3. НҚ-ға сәйкес алынған үлгі (НД, в соответствии с которой произведен отбор образца) Приказ № 237 от 20.03.2015 г. Санитарные правила «Санитарно-эпидемиологические требования по установлению санитарно-защитной зоны производственных объектов»
 4. Үлгілердің алыну күні мен уақыты (Дата и время отбора образца) 18.04.2019 г.
 5. Үлгілерді алуда қолданылған өлшем құралы (Средства измерений, применяемые при отборе образца) Универсальный газоанализатор Ганк-4; Зав. № 1539; 2308 Метеометр МЭС-200 А Зав. № 1799
 6. Мөлшері (Объем) -
 7. Топтамалар саны (Номер партий) -
 8. Өндірілген мерзімі (Дата выработки) -
 9. Мемлекеттік сәйкестігі туралы мәлімет (Сведения о государственной поверке) Зав. № 1799 гос. поверен до: 07.12.19г. Зав. № 1539; 2308 гос. поверен до: 19.12.2019г.
 10. Өңірдің сипаттамасы (Характеристика местности): рельефі (рельеф) ровный
 11. Жасыл желектер (зеленый массив) - оның биіктігі (его высота) - ластану көзінен ара қашықтығы (расстояние от источника загрязнения) СЗЗ 300 м.
 12. Жақын орналасқан нысандар (Близлежащие объекты) населенный пункт пос. Жетыбай
 13. Шығарындының биіктігі мен қуаты (Высота и мощность выброса) -
 14. Алау түрі (Вид пламени) -
 15. Ластану көзі мен ауа сынамаларын алу нүктесі көрсетілген өңірдің сызбасы (үй-жайлар ауасының сынамаларын алу нүктесінің реттік нөмірі) (Схема местности, с указанием источника загрязнения и точек отбора образца воздуха порядковый номер отбора образца воздуха помещений) Т₁ Граница СЗЗ 300 м. северная сторона Асфальта-бетонного завода 3 км. ПК № 30; Т₂ Участок реконструкции дороги Жетыбай-Жанаозен 23,1 км. ПК № 231
- Үлгіні алған адамның лауазымы, тегі, аты, әкесінің аты (Должность, фамилия, имя, отчество лица производившего отбор образца) Ф РГП на ПХВ «НЦЭ» КООЗ МЗ РК по МО специалист Сабиева Р.Ж. қолы (подпись) [подпись]
- Аудан өкілінің атқаратын қызметі, тегі, аты, әкесінің аты (Занимаемая должность представителя района, фамилия, имя, отчество) Инженер эколог ТОО «Ақ жол құрылыс» Айтенев С. К. қолы (подпись) [подпись]

Т₂



Т₁



[illegible]

Жұтқыштар мен сүзгіштердің нөмірі атмосфералық ауаны зерттеу нәтижелерін тіркеу журналынан көшіріп жазылады.
(Номера поглотителей и фильтров переписываются из журнала регистрации результатов исследования атмосферного воздуха)

Анықталатын заттың, ингредиенттің атауы Наименование определяемого вещества, ингредиента	Өлшем бірліктері, қанықтығын зерттеу нәтижесі Единицы измерения, результат исследования концентрации				Сәйкестігімен зерттеу өткізілген нормативтік құжаттама Нормативная документация в соответствии с которой проводились исследования
	Максимальді-бір жолғы Максимально-разовая		Тәуліктік орташа Среднесуточная		
	Анықталған Обнаруженная мг/м³	РЕШШ ПДК	Анықталған Обнаруженная мг/м³	РЕШШ ПДК	
14	15	16	17	18	19
CO (окись углерода)	0,9; 0,9; 0,9	5,0			СТ РК 2.302-2014
RSH (метантиолы)	0,001; 0,001; 0,002	0,006			МВИ 4215026565914092014
Углеводороды предельные C ₁₂ -C ₁₉	0,4; 0,4; 0,4	1,0			МВИ 4215007565914092009
Пыль взвешенные вещества	0,03; 0,02; 0,03	0,5			МВИ 4215006565914092009
Пыль цементная	0,02; 0,02; 0,02	0,5			МВИ 4215006565914092009
Сажа	0,06; 0,07; 0,06	0,15			МВИ 4215006565914092009
CO (окись углерода)	0,8; 0,9; 0,9	5,0			СТ РК 2.302-2014
RSH (метантиолы)	0,001; 0,001; 0,001	0,006			МВИ 4215026565914092014
Углеводороды предельные C ₁₂ -C ₁₉	0,4; 0,4; 0,4	1,0			МВИ 4215007565914092009
Пыль взвешенные вещества	0,03; 0,02; 0,02	0,5			МВИ 4215006565914092009
Пыль цементная	0,02; 0,02; 0,02	0,5			МВИ 4215006565914092009
Сажа	0,06; 0,06; 0,07	0,15			МВИ 4215006565914092009

Үлгілердің (дің) НҚ-ға сәйкестігіне зерттеулер жүргізілді (Исследования проб (ы) проводились на соответствие НД)

Методика выполнения измерений определена массовой концентрации вредных веществ в атмосферном воздухе, в воздухе рабочей зоны, в промышленных выбросах газоанализатором СТ РК 2.302 – 2014 Приказ ПКТРИММИИР РК № 240-од от 20.11.2014г.

«Об утверждении Гигиенических нормативов к атмосферному воздуху в городских и сельских населенных пунктах» Приказ МНЭ РК № 168 от 28.02.2015г. Приложение № 2

Зерттеу жүргізген (Исследование проводил) специалист лабораторий Сабиева Р.Ж.
Лауазымы, тегі, аты, әкесінің аты, қолы (должность, фамилия, имя, отчество, подпись)

Зертхана меңгерушісінің қолы, тегі, аты, әкесінің аты (фамилия, имя, отчество, подпись заведующего лабораторией) Дүйсенбаева Н.Д.

Мөр орны
Место печати

ҚР ДСМ КҚТСБК «Ұлттық сараптама орталығы»
ШЖҚ РМК Маңғыстау облысы бойынша филиал басшысы (орынбасары)
Директор (заместитель) филиала РГП на ПХВ «Национальный центр экспертизы»
КҚКБТУ МЗ РК по Мангистауской области

Т.А.Ә.қолы (Ф.И.О подпись) Рсымбетова Р.С.

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ
ЭНЕРГЕТИКА МИНИСТРЛІГІ
«ҚАЗГИДРОМЕТ» ШАРУАШЫЛЫҚ
ЖҮРГІЗУ ҚҰҚЫҒЫНДАҒЫ
РЕСПУБЛИКАЛЫҚ МЕМЛЕКЕТТІК
КӘСІПОРНЫҢ
МАНҒЫСТАУ ОБЛЫСЫ БОЙЫНША
ФИЛИАЛЫ



ФИЛИАЛ РЕСПУБЛИКАНСКОГО
ГОСУДАРСТВЕННОГО ПРЕДПРИЯТИЯ
НА ПРАВЕ ХОЗЯЙСТВЕННОГО
ВЕДЕНИЯ «КАЗГИДРОМЕТ»
МИНИСТЕРСТВА ЭНЕРГЕТИКИ
РЕСПУБЛИКИ КАЗАХСТАН
ПО МАНГИСТАУСКОЙ ОБЛАСТИ

130001, Қазақстан Республикасы
Манғыстау облысы, Ақтау қаласы
Казпочта №1, а/я №8
Тел: 8 /7292/ 505343
e-mail: meteo_nur@mail.ru

№ 20-01-13/586
50.01.19

130001, Республика Казахстан,
Мангистауская область, город Актау
Казпочта №1, а/я №8
тел: 8 /7292/ 505343
e-mail: meteo_nur@mail.ru

Директору ТОО «Ақ жол құрылыс»
Елешову Б.Т.

Филиал РГП «Казгидромет» по Мангистауской области согласно Вашего запроса №326 от 26.04.2019 года сообщает, что 13.03.2019 года по данным АМС Жетібай скорость ветра составила 5,4 – 10,7 м/с юговосточного направления.

/ Директор



Тулеугалиева А.Б.

Исп.: Таскибаева У.Б.
Тел: 50-53-43

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ
ЭНЕРГЕТИКА МИНИСТРЛІГІ
«ҚАЗГІДРОМЕТ» ШАРУАШЫЛЫҚ
ЖҮРГІЗУ ҚҰҚЫҒЫНДАҒЫ
РЕСПУБЛИКАЛЫҚ МЕМЛЕКЕТТІК
КӘСПОРНЫНЫҢ
МАҢҒЫСТАУ ОБЛЫСЫ БОЙЫШША
ФИЛИАЛЫ



ФИЛИАЛ РЕСПУБЛИКАНСКОГО
ГОСУДАРСТВЕННОГО ПРЕДПРИЯТИЯ
НА ПРАВЕ ХОЗЯЙСТВЕННОГО
ВЕЛЕНИЯ «КАЗГИДРОМЕТ»
МИНИСТЕРСТВА ЭНЕРГЕТИКИ
РЕСПУБЛИКИ КАЗАХСТАН
ПО МАНГИСТАУСКОЙ ОБЛАСТИ

130001, Republic of Kazakhstan,
Mangystau region, Aqtau city
Kazpost No.1, phone: 8 /7292/ 505343
e-mail: meteo_nur@mail.ru
№ 30-01-13/386
Dated 30/07/2019

To Director "Ak zhol kurylys" LLP
Mr. Eleshov B.T.

The brunch "Kazhydromet" RSE of Mangistau region according to Your application No.326 dated 26/04/2019, informs that according to AMS Zhetybay the wind speed was 5,4-10,7 m/sec of the south-east direction.

Director



Tuleugaliyev A.B.

Contractor: Taskibayeva
Tel: 50-53-43

Appendix 4: Air test Report Lot 1

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT

of research sample of atmospheric air populated area

No. 97-132

(from) « 15 » 02 2019

- Place of the selection of an air sample «Ak zhol kuylys» LLP _____
 - Type of sample (single, daily average) single _____
 - Reference Documentation, according to which the sample was taken Order No. 237 dated 03/20/2015 Sanitary regulations "Sanitary-epidemiological requirements for the establishment of the sanitary protection zone _____ production facilities " _____
 - Date of research 15.02.2019 _____
 - Measuring instruments used in sampling Flexible gas-analyser Gank-4: No. 1539:2308 Meteorological meter _____ MES-200 A № 1799 _____
 - Scope _____
 - Number of _____
 - Date of testing _____
 - Data of state research № 1799 roc, поверен до: 07.12.19r. _____
 - Зам. №1539:2308 state believed to: 19.12.2019 _____
 - Characteristics of the area: (relief) flat _____
 - Woodland- _____ Height- _____ Distance from the source of pollution- C33 300 м. _____
 - Nearest facility locality Zhetybai village _____
 - Height and power of emission _____
 - Type of fire _____
 - The scheme of the area, with an indication of the source of pollution and air sampling points - _ SZZ border 300 m. The northern side of the asphalt plant 3 km: PK No.30; Reconstruction road Zhetybai-Zhanozen section 23.1 km. PK No231 Position, full name of the person performed the sample selection specialist Sabieva R.Zh. (signature) _____
- Position occupied as representative of the district, full name- Environmental engineer of Ak Zhol Kurvlys LLP S. Aitenov (signature) _____

T2



T1



The name of the analyte, ingredient	Units of measurement, concentration test result				Regulatory documentation in accordance with which the research was conducted
	Maximum one-time		Average daily		
	Discovered mg / m3	maximum concentrati on limit	Discovered mg / m3	maximum concentrati on limit	
14	15	16	17	18	19
CO (carbon monoxide)	0,7; 0,8; 0,7	5,0			St RK 2.302-2014
RSH (methanethiol)	0,002; 0,002; 0,002	0,006			PM 4215026565914092014
C 12-C 19 (saturated hydrocarbon)	0,2; 0,1; 0,2	1,0			PM 4215007565914092009
Dust suspended matter	0,03; 0,03; 0,03	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,02	0,5			PM 4215006565914092009
Soot	0,13; 0,13; 0,13	0,15			PM 4215006565914092009
CO (carbon monoxide)	0,7; 0,7; 0,7	5,0			ST RK 2.302-2014
RSH (Methantiols)	0,001; 0,002; 0,002	0,006			PM 4215026565914092014
Hydrocarbons limit With 12-C 19	0,2; 0,3; 0,2	1,0			PM 4215007565914092009
Dust suspended matter	0,03; 0,03; 0,03	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,02	0,5			PM 4215006565914092009
Soot	0,025; 0,025; 0,025	0,15			PM 4215006565914092009
Dust suspended matter					

Sample studies were performed for compliance with reference documentation. The method of measurement is determined by the mass concentration of harmful substances in the atmospheric air, in the air of the working area, in industrial emissions by the gas analyzer ST RK 2.302 - 2014 Order of the PKTRIMMI and RK № 240 from 20.11.2014r.

"On approval of hygienic standards for atmospheric air in urban and rural areas" Order of the MNE RK 168 dated 02.28.2015 Applications # 2

Research conducted specialist Sabiev R.Zh.

Surname, name, patronymic, signature of the head of the laboratory Duisenbayev
N.D.

Director (Deputy) of the branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region


signature

Rsymbetova R.S.

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT

of research sample of atmospheric air populated area

No. 133-168

(from) « 14 » 03 2019

1. Place of the selection of an air sample «Ak zhol kuylys» LLP
 2. Type of sample (single, daily average) single
 3. Reference Documentation, according to which the sample was taken Order No. 237 dated 03/20/2015 Sanitary regulations "Sanitary-epidemiological requirements for the establishment of the sanitary protection zone production facilities "
 4. Date of research 13.03.2019
 5. Measuring instruments used in sampling Flexible gas-analyser Gank-4: No. 1539:2308 Meteorological meter MES-200 A № 1799
 6. Scope
 7. Number of
 8. Date of testing
 9. Data of state research № 1799 гос. поверен до: 07.12.19г.
 - Зав. №1539:2308 state believed to: 19.12.2019
 10. Characteristics of the area: (relief) flat
 11. Woodland- Height- Distance from the source of pollution- C33 300 м.
 12. Nearest facility locality Zhetybai village
 13. Height and power of emission
 14. Type of fire
 15. The scheme of the area, with an indication of the source of pollution and air sampling points - SZZ border 300 m. The northern side of the asphalt plant 3 km: PK No.30; Reconstruction road Zhetybai-Zhanaozen section 3.1 km. PK No231
- Position, full name of the person performed the sample selection specialist Sabieva R.Zh. (signature)
- Position occupied as representative of the district, full name- Environmental engineer of Ak Zhol Kuylys LLP S. Aitenov (signature)

T2



T1



The name of the analyte, ingredient	Units of measurement, concentration test result				Regulatory documentation in accordance with which the research was conducted
	Maximum one-time		Average daily		
	Discovered mg / m3	maximum concentrati on limit	Discovered mg / m3	maximum concentrati on limit	
14	15	16	17	18	19
CO (carbon monoxide)	0.8; 0.8; 0.8	5.0			St RK 2.302-2014
RSH (methanethiol)	0.002; 0.001; 0.001	0.006			PM 4215026565914092014
C 12-C 19 (saturated hydrocarbon)	0.2; 0.2; 0.2	1.0			PM 4215007565914092009
Dust suspended matter	1.3; 1.5; 1.8	0.5			PM 4215006565914092009
Cement dust	1.2; 1.2; 1.2	0.5			PM 4215006565914092009
Soot	0.11; 0.11; 0.11	0.15			PM 4215006565914092009
CO (carbon monoxide)	0.8; 0.8; 0.8	5.0			ST RK 2.302-2014
RSH (Methantiols)	0.001; 0.001; 0.001	0.006			PM 4215026565914092014
Hydrocarbons limit With 12-C 19	0.2; 0.2; 0.2	1.0			PM 4215007565914092009
Dust suspended matter	1.3; 1.2; 1.3	0.5			PM 4215006565914092009
Cement dust	1.2; 1.2; 1.2	0.5			PM 4215006565914092009
Soot	0.05; 0.05; 0.05	0.15			PM 4215006565914092009
Dust suspended matter					

Sample studies were performed for compliance with reference documentation. The method of measurement is determined by the mass concentration of harmful substances in the atmospheric air, in the air of the working area, in industrial emissions by the gas analyzer ST RK 2.302 - 2014 Order of the PKTRiMMI and RK № 240 from 20.11.2014r.

“On approval of hygienic standards for atmospheric air in urban and rural areas” Order of the MNE RK 168 dated 02.28.2015 Applications # 2

Research conducted specialist Sabiev R.Zh.

Surname, name, patronymic, signature of the head of the laboratory Duisenbayev N.D.

Director (Deputy) of the branch of RSE on PVC “National Examination Center” of the KKKBTU M3 RK in Mangistau Region


signature

Rsymbetova R.S.

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT

of research sample of atmospheric air populated areas

№277-312
(from) « 18 » 04 2019

1. Place of the selection of an air sample «Ak zhol kuylys» LLP
2. Type of sample (single, daily average) single
3. Reference Documentation, according to which the sample was taken Order No. 237 dated 03/20/2015 Sanitary regulations "Sanitary-epidemiological requirements for the establishment of the sanitary protection zone production facilities "
4. Date of research 18.04.2019 r.
5. Measuring instruments used in sampling Flexible gas-analyser Gank-4: No. 1539:2308 Meteorological meter MES-200 A № 1799
6. Scope
7. Number of
8. Date of testing
9. Data of state research № 1799 гос. поверен до: 07.12.19г.
Зав. №1539:2308 state believed to: 19.12.2019
10. Characteristics of the area: (relief) flat
11. Woodland- Hight- Distance from the source of pollution- C33 300 m.
12. Nearest facility locality Zhetybai village
13. Height and power of emission
14. Type of fire
15. The scheme of the area, with an indication of the source of pollution and air sampling points - SZZ border 300 m. The northern side of the asphalt plant 3 km: PK No.30; Reconstruction road Zhetybai-Zhanaozen section 23.1 km. PK No231
Position, full name of the person performed the sample selection specialist Sabieva R.Zh. (signature)
Position occupied as representative of the district, full name- Environmental engineer of Ak Zhol Kuylys LLP S. Aitenov
(signature)

T2



T1



[illegible]

The numbers of absorbers and filters are copied from the log of the results of the study of atmospheric air.

The name of the analyte, ingredient	Units of measurement, concentration test result				Regulatory documentation in accordance with which the research was conducted
	Maximum one-time		Average daily		
	Discovered mg / m³	maximum concentrati on limit	Discovered mg / m³	maximum concentration limit	
14	15	16	17	18	19
CO (carbon monoxide)	0,9; 0,9; 0,9	5,0			St RK 2.302-2014
RSH (methanethiol)	0,001; 0,001; 0,002	0,006			PM 4215026565914092014
C 12-C 19 (saturated hydrocarbon)	0,4; 0,4; 0,4	1,0			PM 4215007565914092009
Dust suspended matter	0,03; 0,02; 0,03	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,02	0,5			PM 4215006565914092009
Soot	0,06; 0,07; 0,06	0,15			PM 4215006565914092009
CO (carbon monoxide)	0,8; 0,9; 0,9	5,0			ST RK 2.302-2014
RSH (Methantiols)	0,001; 0,001; 0,001	0,006			PM 4215026565914092014
Hydrocarbons limit With 12-C 19	0,4; 0,4; 0,4	1,0			PM 4215007565914092009
Dust suspended matter	0,03; 0,02; 0,02	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,02	0,5			PM 4215006565914092009
Soot	0,06; 0,06; 0,07	0,15			PM 4215006565914092009
Dust suspended matter					

Sample studies were performed for compliance with reference documentation. The method of measurement is determined by the mass concentration of harmful substances in the atmospheric air, in the air of the working area, in industrial emissions by the gas analyzer ST RK 2.302 - 2014 Order of the PKTRIMMI and RK № 240 from 20.11.2014r.

"On approval of hygienic standards for atmospheric air in urban and rural areas" Order of the MNE RK 168 dated 02.28.2015 Applications # 2

Research conducted specialist Sabiev R.Zh.

Surname, name, patronymic, signature of the head of the laboratory Duisenbayev
N.D.

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region


signature

Rsymbetova R.S.

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT

of research sample of atmospheric air populated areas

№409-450

(from) « 22 » 05 2019

1. Place of the selection of an air sample «Ak zhol kurylys» LLP
 2. Type of sample (single, daily average) single
 3. Reference Documentation, according to which the sample was taken Order No. 237 dated 03/20/2015 Sanitary regulations "Sanitary-epidemiological requirements for the establishment of the sanitary protection zone production facilities "
 4. Date of research 21.05.2019 r.
 5. Measuring instruments used in sampling Flexible gas-analyser Gank-4: No. 1539:2308 Meteorological meter MES-200 A № 1799
 6. Scope _____
 7. Number of _____
 8. Date of testing _____
 9. Data of state research № 1799 гос. поверен до: 07.12.19г.
 10. Characteristics of the area: (relief) flat
 11. Woodland- _____ Hight- _____ Distance from the source of pollution- C33 1000 m
 12. Nearest facility locality Zhetybai village
 13. Height and power of emission _____
 14. Type of fire _____
 15. The scheme of the area, with an indication of the source of pollution and air sampling points - SZZ border 1000 m. The northern side of the asphalt plant 3 km: PK No.30: Reconstruction road Zhetybai-Zhanaozen section 32 km. PK No 302
- Position, full name of the person performed the sample selection specialist Sabieva R.Zh. (signature)
- Position occupied as representative of the district, full name- Environmental engineer of Ak Zhol Kurylys LLP S.K.Aitenov (signature)

T3

T1

T2

The name of the analyte, ingredient	Units of measurement, concentration test result				Regulatory documentation in accordance with which the research was conducted
	Maximum one-time		Average daily		
	Discovered mg / m3	maximum concentrati on limit	Discovered mg / m3	maximum concentration limit	
14	15	16	17	18	19
Dust suspended matter	0,32;0,034;0,032	0,5			PM 4215006565914092009
Cement dust		0,5			PM 4215006565914092009
CO (carbon monoxide)	1,0;0,9;0,9	5,0			St RK 2.302-2014
RSH (methanethiol)	0,002; 0,002; 0,001	0,006			PM 4215026565914092014
C 12-C 19 (saturated)	n/o; n/o; n/o	1,0			PM 4215007565914092009
Dust suspended matter	0,033; 0,032; 0,030	0,5			PM 4215006565914092009
Cement dust	0,028; 0,028; 0,027	0,5			PM 4215006565914092009
Soot	0,06; 0,05; 0,04	0,15			PM 4215006565914092009
CO (carbon monoxide)	0,9; 1,1; 1,1	5,0			PM4215002565914092009
RSH (Methantiols)	0,003; 0,004; 0,003	0,006			PM 4215026565914092014
C 12-C 19 (saturated)	n/o; n/o; n/o	1,0			PM 4215007565914092009
Dust suspended matter	0,043; 0,068; 0,079	0,5			PM 4215006565914092009
Cement dust	0,029; 0,032; 0,035	0,5			PM 4215006565914092009
Soot	0,06; 0,06; 0,06	0,15			PM 4215006565914092009

Sample studies were performed for compliance with reference documentation. The method of measurement is determined by the mass concentration of harmful substances in the atmospheric air, in the air of the working area, in industrial emissions by the gas analyzer ST RK 2.302 - 2014 Order of the PKTRiMMI and RK № 240 from 20.11.2014r.

"On approval of hygienic standards for atmospheric air in urban and rural areas" Order of the MNE RK 168 dated 02.28.2015 Applications # 2

Research conducted specialist Sabiev R. Zh.

Surname, name, patronymic, signature of the head of the laboratory Duisenbayev N.D.

Director (Deputy) of the branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region


signature

Rymbetova R.S.

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT

of research sample of atmospheric air populated areas

№571-612
(from) « 18 » 06 2019

1. Place of the selection of an air sample «Ak zhol kurylys» LLP
2. Type of sample (single, daily average) single
3. Reference Documentation, according to which the sample was taken Order No. 237 dated 03/20/2015 Sanitary regulations "Sanitary-epidemiological requirements for the establishment of the sanitary protection zone production facilities"
4. Date of research 18.06.2019
5. Measuring instruments used in sampling Flexible gas-analyser Gank-4: No. 1539:2308 Meteorological meter MES-200 A № 1799
6. Scope _____
7. Number of _____
8. Date of testing _____
9. Data of state research № 1799 state believed to: 07.12.19
№1539:2308 state believed to: 19.12.2019
10. Characteristics of the area: (relief) flat
11. Woodland- _____ Hight- _____ Distance from the source of pollution- SPZ 300 m
12. Nearest facility _____
13. Height and power of emission _____
14. Type of fire _____
15. The scheme of the area, with an indication of the source of pollution and air sampling points – Reconstruction area road "Zhetybay-Zhanaozen (0-35 km) 15,3 km, PK 153, SPZ border 1000 m
The northern side of the asphalt plant 3 km: PK No. 30: territory of camp
Position, full name of the person performed the sample selection F RSE "NCE" KOOZ RK MH of Mangystau region laboratory specialist Saydim A.K. (signature)
Position occupied as representative of the district, full name- Environmental engineer of Ak Zhol Kurylys LLP S. Aitenov (signature)

T2



T1



The name of the analyte, ingredient	Units of measurement, concentration test result				Regulatory documentation in accordance with which the research was conducted
	Maximum one-time		Average daily		
	Discovered mg / m3	maximum concentrati on limit	Discovered mg / m3	maximum concentration limit	
14	15	16	17	18	19
CO (carbon monoxide)	1,8; 0,9; 1,8	5,0			STRK 2.302-2014
RSH (methanethiol)	0,001; 0,001; 0,001	0,006			PM 4215026565914092009
C 12-C 19 (saturated hydrocarbon)	0,46; 0,44; 0,43	1			PM 4215007565914092009
Dust suspended matter	0,03; 0,03; 0,03	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,02	0,5			PM 4215006565914092009
Soot	n/o	0,15			PM 4215006565914092009
CO (carbon monoxide)	2,0; 1,9; 1,9	5,0			ST RK 2.302-2014
RSH (Methantiols)	0,001; 0,001; 0,001	0,006			PM 4215026565914092014
Hydrocarbons limit With 12-C 19	0,01; 0,008; 0,005	1			PM 4215007565914092009
Dust suspended matter	0,02; 0,03; 0,03	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,02	0,5			PM 4215006565914092009
Soot	n/o	0,15			PM 4215006565914092009
Dust suspended matter	0,03; 0,03; 0,03	0,5			PM 4215006565914092009
Cement dust	0,02; 0,02; 0,03	0,5			PM 4215006565914092009

Sample studies were performed for compliance with reference documentation. The method of measurement is determined by the mass concentration of harmful substances in the atmospheric air, in the air of the working area, in industrial emissions by the gas analyzer ST RK 2.302 - 2014 Order of the PKTRiMMI and RK № 240 from 20.11.2014r.

"On approval of hygienic standards for atmospheric air in urban and rural areas" Order of the MNE RK 168 dated 02.28.2015 Applications # 2

Research conducted specialist Saydim A.K.

Surname, name, patronymic, signature of the head of the laboratory Duisenbayeva N.D.

Director (Deputy) of the branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region


signature

Rsymbetova R.S.

Ф 04 РД 37/01-16



KZ.Н.05.0916

Zhetybai – Zhanaozen road construction

**Laboratory of Environmental Protection
«Aktobe Chromium Compounds Plant»**

Aktobe, Industrial Zone, section 15 «B»

8(7132)939-513, 939-376

Accreditation certificate № KZ.Н.05.0916

dated «27» July 2015



page 1 of 2

TEST REPORT № 22

dated May «20» 2019 y.

Customer Branch of «CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI» JSC in Aktau

Address Aktau, micro district 29-A, building 135 “ABK” business center

Sample item and designation air: 35-73 km Zhetybai-Zhanaozen, on the border of residential area Zhanaozen, camp Zhetybai (Zhetybai 730 km)

Quantity 9 samples

Reason for testing Contract №10-02/2019 dated 08.04.2019, letter outg. №AKT-CGZ-EXT-2019-184 dated 06.05.2019 of branch « CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI», sampling certificate dated May 15nd, 2019 y.

Sampling date May 15nd, 2019 y.

Date of testing May 17th, 2019 y.

Type of testing air pollution control

ND for testing subject Hygienic standards for atmospheric air in urban and rural settlements, approved by order of the Minister of national economy of the RK № 168 dated 28.02.2015

Measuring instruments used for testing, calibration details aspirator ПУ-3Э/12 man.No.807, calibration certificate No.BA-07-014-01948 dated 21.02.2019y.; gas sensor ГАНК-4, man.No.609, label No.17006280277 dated 08.08.2018 y.; digital laboratory scales MettlerToledoXS205DU man.No.B141330205, calibration certificate No.BB.02-145985 dated 08.11.2018 y.

Testing conditions Weighing room: temperature 21°C, humidity 47 %.

№	Indicator, measuring unit	ND for testing method	ND standard	Actual values
01	02	03	04	05
ЖЖ-1 PK-350 (12-30 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,46
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	2,01
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
ЖЖ-2 PK-450 (13-05 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,17
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	2,10
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
ЖЖ-3 PK-550 (13-35 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,44
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,94
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
ЖЖ-4 PK-636+83 (15-00 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,45
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,93
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
ЖЖ-5 PK 60+80 v.ZhanaOzen entrance (14-10 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,45
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	2,12
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
Camp Zhetybai (730 km) PK 120				
AK-23 (N43°32.644' E051°58.296') (09-20 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,29
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,72
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
AK-24 (N43°32.555' E051°58.660') (10-05 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,26
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,84
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
AK-25 (N43°32.646' E051°58.764') (10-55 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,22
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,78
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
AK-26 (N43°32.757' E051°58.351') (11-40 h)				

1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,15
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,92
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03

Executors:

Dust and Gas Collector Operator _____
/date, signature, name/

Chemistry lab technician _____
/date, signature, name/

Laboratory Chief _____
/date, signature, name/

*The test results apply for the samples subjected to the examination only.
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KZ.H.05.0916

Laboratory of Environmental Protection
«Aktobe Chromium Compounds Plant»
 Aktobe, Industrial Zone, section 15 «B»
 8(7132)939-513, 939-376
 Accreditation certificate № KZ.H.05.0916
 dated «27» July 2015



page 1 of 2

TEST REPORT № 32

dated June «25» 2019 y.

Customer Branch of «CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI» JSC in Aktau

Address Aktau, micro district 29-A, building 135 “ABK” business center

Sample item and designation air: 35-73 km Zhetybai-Zhanaozen, on the border of residential area Zhanaozen, camp Zhetybai (Zhetybai 730 km)

Quantity 9 samples

Reason for testing Contract №10-02/2019 dated 08.04.2019, letter outg. №AKT-CGZ-EXT-2019-255 dated 10.06.2019 of branch « CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI», sampling certificate dated June 21nd, 2019 y.

Sampling date June 21nd, 2019 y.

Date of testing June 24th, June 25th, June 26th 2019 y.

Type of testing air pollution control

ND for testing subject Hygienic standards for atmospheric air in urban and rural settlements, approved by order of the Minister of national economy of the RK № 168 dated 28.02.2015

Measuring instruments used for testing, calibration details aspirator ПУ-3Э/12 man.No.807, calibration certificate No.BA-07-014-01948 dated 21.02.2019y.; gas sensor ГАНК-4, man.No.609, label No.17006280277 dated 08.08.2018 y.; digital laboratory scales MettlerToledoXS205DU man.No.B141330205, calibration certificate No.BB.02-145985 dated 08.11.2018 y.

Testing conditions Weighing room: temperature 22°C, humidity 55 %.

№	Indicator, measuring unit	ND for testing method	ND standard	Actual values
01	02	03	04	05
ЖЖ-1 PK-350 (13-55 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,37
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	2.07
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0.02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0.03

ЖЖ-2 PK-450 (14-30 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,37
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,87
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
ЖЖ-3 PK-550 (15-10 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,38
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,5
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
ЖЖ-4 PK-636+83 (16-50 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,33
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,5
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
ЖЖ-5 PK 60+80 v.ZhanaOzen entrance (15-50 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,36
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,66
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
Camp Zhetybai (730 km) PK 120				
AK-23 (N43°32.644' E051°58.296') (11-20 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,32
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	2,12
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
AK-24 (N43°32.555' E051°58.660') (11-10 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,37
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	2,62
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
AK-25 (N43°32.646' E051°58.764') (12-00 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,48
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,82
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03
AK-26 (N43°32.757' E051°58.351') (12-50 h)				
1	Inorganic dust, mg/m ³	ST RK 1957-2010	not more 0,5	0,48
2	Carbon monoxide, mg/m ³	ST RK 2.302-2014	not more 5,0	1,66
3	Nitrogen dioxide, mg/m ³	ST RK 2.302-2014	not more 0,2	<0,02
4	Sulfurous anhydride, mg/m ³	ST RK 2.302-2014	not more 0,5	<0,03

Executors:

Dust and Gas Collector Operator _____
/date, signature, name/

Chemistry lab technician _____
/date, signature, name/

Laboratory Chief _____
/date, signature, name/

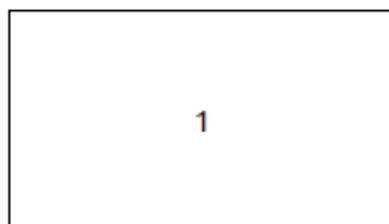
*The test results apply for the samples subjected to the examination only.
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Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT
of the noise measurement
No.1 from «15» February 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP.
2. The aim of measurement: Under Contract No.60 from 30.01.2019
3. Measurements are executed in the presence of site representatives: "Ak zhol kurylys" LLP ELC engineer Aitenov S.K.
4. Measuring units: Noise and vibration measuring device № 238916.
5. Information about state inspection: CB No.16-1800358 from 04/12/2018-04/12/2019
6. Regulatory documentation in accordance with which the measurement has been made: Order by RoK Ministry of National Economy #169 dated Feb.28, 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.
7. Main sources of vibration and character of noise: Transport operating on the road
8. Quantity of operating men
9. Layout of premise (territory, work place, hand-held machine) with indication of noise source inclusive of fixation place and microphone (gauge) orientation by arrows. Numerical order of measuring points.

Residential house #48



Registration number	Point number on the sketch	Place of measurement (indicate brand type, passport data of equipment)	Additional information (measurement conditions.)	Noise character									
				By spectrum By time characteristics		By spectrum By time characteristics							
				(Broadband)	(Tonal)	(Constant)	(Oscillating)	(Intermittent)	(Impulse)				
1	2	3	4	5	6	7	8	9	10				
37													
	1	On the territory of residential house № 44	7.00-23.00	+				+					
	2	On the territory of residential house № 81	7.00-23.00	+				+					
Sound pressure levels in dB octave bands with geometric mean frequencies in Hz													
11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	4	8	16	31,5	63	125	250	500	1000	2000	4000	8000
				PDU	90	75	66	59	54	50	47	45	44
					65	59	48	42	37	36	29	28	17
					62	62	58	50	41	36	33	35	37

Maximum sound level LA, dBA		Maximum allowable sound level LA, dBA	
	25		26
1	42		70
2	46		70

Order by RoK Ministry of National Economy #169 dated Feb.28, 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF Tadzhimagambetova K.N.

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF Kenzheeva A.K

Director (Deputy) of the branch of RSE on PVC "National Examination Center"

of the KKKBTU M3 RK in Mangistau Region



Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT
of the vibration measurement
№11 from «15» February 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP.
2. The aim of measurement: Under Contract No.60 from 30.01.2019
3. Measurements are executed in the presence of site representatives: "Ak zhol kurylys" LLP ELC engineer Aitenov S.K.
4. Measuring units: Noise and vibration measuring device № 238916.
5. Information about state inspection: CB No.16-1800358 from 04/12/2018-04/12/2019
6. Regulatory documentation in accordance with which the measurement has been made: GOST 31191.1-2004
Measurement of the general vibration and effect to human organism
7. Main sources of vibration and character of noise: Transport operating on the road
8. Quantity of operating men
9. Layout of premise (territory, work place, hand-held machine) with indication of noise source inclusive of fixation place and microphone (gauge) orientation by arrows. Numerical order of measuring points.

Residential house #48



Measurement results

	The equipment for which the vibration exposure was evaluated	Type of vibration		Accelerometer Orientation (Axis)
		Common	Local	
1	2	4	5	6
11				
1	On the territory of residential house № 48	+		XYZ
				XYZ
				XYZ

№ n n	Vibration acceleration levels, dB, in one-third octave bands with geometric mean frequencies, Hz											Corrected level vibration acceleration for the axis, dB	Corrected vibration acceleration level for cycle, operation, dB	Equivalent corrected level of vibration acceleration, dB	Allowable equivalent corrected level of vibration acceleration, dB
	1	2	4	8	16	31,5	63	125	250	500	1000				
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
93														93	118
														90	118
														95	118

Regulatory documentation in accordance with which the measurement has been made: GOST 31191.1-2004 Measurement of the general vibration and effect to human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF *Tadzhimagambetova K.N.*

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF *Kenzheeva A.K.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region



Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT
of the noise measurement
No. 24 from «13» March 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP. In the territory of residential houses located in Mangistau region, Karakiya district, Munaishy village, Akboke-2 microdistrict, houses #95.
2. The aim of measurement: Under Contract
3. Measurements are executed in the presence of site representatives: "Ak zhol kurylys" LLP ELC engineer Aitenov S.K.
4. Measuring units: Noise and vibration measuring device № 238916.
5. Information about state inspection: CB No.16-1800358 from 04/12/2018-04/12/2019
6. Regulatory documentation in accordance with which the measurement has been made: Order by RoK Ministry of National Economy #169 dated Feb.28, 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.
7. Main sources of vibration and character of noise: Transport operating on the road
8. Quantity of operating men
9. Layout of premise (territory, work place, hand-held machine) with indication of noise source inclusive of fixation place and microphone (gauge) orientation by arrows. Numerical order of measuring points.

Residential house #95



Registration number	Point number on the sketch	Place of measurement (indicate brand, type, passport data of equipment)	Additional information (measurement conditions.)	Noise character									
				By spectrum By time characteristics		By spectrum By time characteristics							
				(Broadband)	(Tonal)	(Constant)	(Oscillating)	(Intermittent)	(Impulse)				
1	2	3	4	5	6	7	8	9	10				
24													
	1	On the territory of residential house № 44	7.00-23.00	+				+					
	2	On the territory of residential house № 81	7.00-23.00	+				+					
Sound pressure levels in dB octave bands with geometric mean frequencies in Hz													
11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	4	8	16	31,5	63	125	250	500	1000	2000	4000	8000

Maximum sound level LA, dBA				Maximum allowable sound level LA, dBA			
			25				26
1			48,9				70
2			46.3				70

Order by RoK Ministry of National Economy #169 dated Feb.28, 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF Tadzhimagambetova K.N.

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF Kenzheeva A.K.

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region

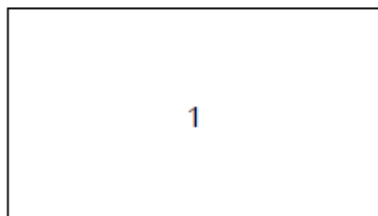
Rsymbetova R.S

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT
of the vibration measurement
№24 from «13» March 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP. In the territory of residential houses located in Mangistau region, Karakiya district, Munaishy village, Akboke-2 microdistrict, houses #95.
2. The aim of measurement: Under Contract
3. Measurements are executed in the presence of site representatives: "Ak zhol kurylys" LLP ELC engineer Aitenov S.K.
4. Measuring units: Noise and vibration measuring device № 238916.
5. Information about state inspection: CB No.16-1800358 from 04/12/2018-04/12/2019
6. Regulatory documentation in accordance with which the measurement has been made: GOST 31191.1-2004
Measurement of the general vibration and effect to human organism
7. Main sources of vibration and character of noise: Transport operating on the road
8. Quantity of operating men
9. Layout of premise (territory, work place, hand-held machine) with indication of noise source inclusive of fixation place and microphone (gauge) orientation by arrows. Numerical order of measuring points.

Residential house #95



Measurement results

	The equipment for which the vibration exposure was evaluated	Type of vibration		Accelerometer Orientation (Axis)
		Common	Local	
1	2	4	5	6
24				
1	On the territory of residential house № 95	+		XYZ
				XYZ
				XYZ
2	On the territory of residential area "Ak zhol kurylys" LLP	+		
	Point 1			XYZ
				XYZ
				XYZ
3	Point 2	+		XYZ
				XYZ
				XYZ

№ n n	Vibration acceleration levels, dB, in one-third octave bands with geometric mean frequencies, Hz											Corrected level vibration accelerations for the axis, dB	Corrected vibration acceleration level for cycle, operation, dB	Equivalent corrected level of vibration acceleration, dB	Allowable equivalent corrected level of vibration acceleration, dB
	1	2	4	8	16	31,5	63	125	250	500	1000				
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1														83,7	118
														70,3	118
														81,3	118
2														75,3	118
														74,0	118
														68,3	118
3														82,6	118
														85,3	118
														81,6	118

Regulatory documentation in accordance with which the measurement has been made: GOST 31191.1-2004 Measurement of the

general vibration and effect to human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF *Tadzhimagambetova K.N.*

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF *Kenzheeva A.K.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"

of the KKKBTU M3 RK in Mangistau Region



Rsymbetova R.S

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / v Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT
of the noise measurement
№37 from «18» апреля 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP. In the territory of residential houses located in Mangistau region, Karakiya district, Munaishy village, Akboke-2 microdistrict, houses #44 and #81.
2. The aim of measurement: Under Contract
3. Measurements are executed in the presence of site representatives: "Ak zhol kurylys" LLP ELC engineer Aitenov S.K.
4. Measuring units: Noise and vibration measuring device № 238916.
5. Information about state inspection: CB No.16-1800358 from 04/12/2018-04/12/2019
6. Regulatory documentation in accordance with which the measurement has been made: Order by RoK Ministry of National Economy #169 dated Feb.28, 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.
7. Main sources of vibration and character of noise: Transport operating on the road
8. Quantity of operating men
9. Layout of premise (territory, work place, hand-held machine) with indication of noise source inclusive of fixation place and microphone (gauge) orientation by arrows. Numerical order of measuring points.

Residential house #44



Measurement results

Measurement results				Noise character									
Registration number	Point number on the sketch	Place of measurement (indicate brand type, passport data of equipment)	Additional information (measurement conditions.)	By spectrum By time characteristics		By spectrum By time characteristics							
				(Broadband)	(Tonal)	(Constant)	(Oscillating)	(Intermittent)	(Impulse)				
1	2	3	4	5	6	7	8	9	10				
37													
	1	On the territory of residential house № 44	7.00-23.00	+				+					
	2	On the territory of residential house № 81	7.00-23.00	+				+					
Sound pressure levels in dB octave bands with geometric mean frequencies in Hz													
11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	4	8	16	31,5	63	125	250	500	1000	2000	4000	8000

Maximum sound level LA, dBA				Maximum allowable sound level LA, dBA			
			25				26
1			62,3				70
2			60,7				70

Order by RoK Ministry of National Economy #169 dated Feb.28. 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF *Tadzhimagambetova K.N.*

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF *Kenzheeva A.K.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"

of the KKKBTU M3 RK in Mangistau Region

Rsymbetova R.S

№ n n	Vibration acceleration levels, dB, in one-third octave bands with geometric mean frequencies, Hz											Corrected level vibration accelerati ons for the axis, dB	Corrected vibration acceleration level for cycle, operation, dB	Equivalent corrected level of vibration acceleration, dB	Allowable equivalent corrected level of vibration acceleration , dB
	1	2	4	8	16	31,5	63	125	250	500	1000				
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1														94,3	118
														92,7	118
														84,3	118
2														93,6	118
														92,4	118
														100,4	118

Regulatory documentation in accordance with which the measurement has been made: GOST 31191.1-2004 Measurement of the general vibration and effect to human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF *Tadzhimagambetova K.N.*

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF *Kenzheeva A.K.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"

of the KKKBTU M3 RK in Mangistau Region



Rsymbetova R.S

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / v Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT
of the noise measurement
№53 from «20» may 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP. In the territory of residential houses located in Mangistau region, Karakiya district, Zhetibay village.
2. The aim of measurement: Under Contract
3. Measurements are executed in the presence of site representatives: "Ak zhol kurylys" LLP ELC engineer Aitenov S.K.
4. Measuring units: Noise and vibration measuring device № 238916.
5. Information about state inspection: CB No.16-1800358 from 04/12/2018-04/12/2019
6. Regulatory documentation in accordance with which the measurement has been made: Order by RoK Ministry of National Economy #169 dated Feb.28. 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism
7. Main sources of vibration and character of noise: Transport operating on the road
8. Quantity of operating men
9. Layout of premise (territory, work place, hand-held machine) with indication of noise source inclusive of fixation place and microphone (gauge) orientation by arrows. Numerical order of measuring points.

On the work area of the PK No. 248, km 24,8

Measurement results

Measurement results				Noise character									
Registration number	Point number on the sketch	Place of measurement (indicate brand type, passport data of equipment)	Additional information (measurement conditions.)	By spectrum characteristics		By time characteristics							
				(Broadband)	(Tonal)	(Constant)	(Oscillating)	(Intermittent)	(Impulse)				
1	2	3	4	5	6	7	8	9	10				
53	1	On the work area of the PK № 248, km 24,8	7.00-23.00	+				+					
	2	On the work area of the PK № 303, km 30,3	7.00-23.00	+				+					
Sound pressure levels in dB octave bands with geometric mean frequencies in Hz													
11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	4	8	16	31,5	63	125	250	500	1000	2000	4000	8000

Maximum sound level LA, dBA				Maximum allowable sound level LA, dBA			
		25				26	
1		70				80	
2		71				80	

Order by RoK Ministry of National Economy #169 dated Feb 28, 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF *Tadzhimagambetova K.N.*

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF *Kenzheeva A.K.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"

of the KKKBTU M3 RK in Mangistau Region



Rymbetova R.S

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / v Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT
of the vibration measurement
№53 from «20» may 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP. In the territory of residential houses located in Mangistau region, Karakiya district, Zhetibay village.
2. The aim of measurement: Under Contract
3. Measurements are executed in the presence of site representatives: "Ak zhol kurylys" LLP ELC engineer Aitenov S.K.
4. Measuring units: Noise and vibration measuring device № 238916.
5. Information about state inspection: CB No.16-1800358 from 04/12/2018-04/12/2019
6. Regulatory documentation in accordance with which the measurement has been made: GOST 31191.1-2004 Measurement of the general vibration and effect to human organism
7. Main sources of vibration and character of noise: Transport operating on the road
8. Quantity of operating men
9. Layout of premise (territory, work place, hand-held machine) with indication of noise source inclusive of fixation place and microphone (gauge) orientation by arrows. Numerical order of measuring points.

On the work area of the PK No.248, km 24,8



Measurement results

	The equipment for which the vibration exposure was evaluated	Type of vibration		Accelerometer Orientation (Axis)
		Common	Local	
1	2	4	5	6
53				
1	On the work area of the PK No.248, km 24,8	+		XYZ
2	On the work area of the PK No.303, km 30,3	+		XYZ

No n n	Vibration acceleration levels, dB, in one-third octave bands with geometric mean frequencies, Hz											Corrected level vibration acceleration levels for the axis, dB	Corrected vibration acceleration level for cycle, operation, dB	Equivalent corrected level of vibration acceleration, dB	Allowable equivalent corrected level of vibration acceleration, dB
	1	2	4	8	16	31,5	63	125	250	500	1000				
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1														92,93,89	118
2														91,95,98	118

Regulatory documentation in accordance with which the measurement has been made: GOST 31191.1-2004 Measurement of the general vibration and effect to human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF *Tadzhimagambetova K.N.*

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF *Kenzheeva A.K.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region



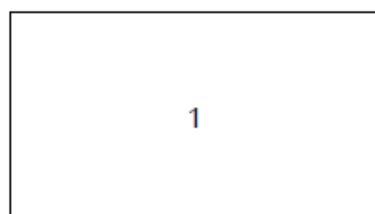
Rymbetova R.S

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / v Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT
of the noise measurement
№68 from «18» June 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP. In the territory of residential houses located in Mangistau region, Karakiya district, in the territory of living camp LLP "Ak zhol kurylys" and right-of-way Zhetybay-Zhanaozen PK-153
2. The aim of measurement: Under Contract
3. Measurements are executed in the presence of site representatives: "Ak zhol kurylys" LLP ELC engineer Aitenov S.K.
4. Measuring units: Noise and vibration measuring device № 238916.
5. Information about state inspection: SV No.16-1800358 from 04/12/2018-04/12/2019
6. Regulatory documentation in accordance with which the measurement has been made: Order by RoK Ministry of National Economy #169 dated Feb.28, 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.
7. Main sources of vibration and character of noise: Transport operating on the road
8. Quantity of operating men
9. Layout of premise (territory, work place, hand-held machine) with indication of noise source inclusive of fixation place and microphone (gauge) orientation by arrows. Numerical order of measuring points.

Residential house



Measurement results

Registration number	Point number on the sketch	Place of measurement (indicate brand type, passport data of equipment)	Additional information (measurement conditions.)	Noise character									
				By spectrum By time characteristics		By spectrum By time characteristics							
				(Broadband)	(Tonal)	(Constant)	(Oscillating)	(Intermittent)	(Impulse)				
1	2	3	4	5	6	7	8	9	10				
37													
	1	On the territory of residential house № 44	7.00-23.00	+				+					
	2	On the territory of residential house № 81	7.00-23.00	+				+					
Sound pressure levels in dB octave bands with geometric mean frequencies in Hz													
11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	4	8	16	31,5	63	125	250	500	1000	2000	4000	8000

Maximum sound level LA, dBA				Maximum allowable sound level LA, dBA			
			25				26
1			67,6				70
2			65,4				70

Order by RoK Ministry of National Economy #169 dated Feb.28, 2018 regarding establishing of Hygiene regulations against physical factors influencing human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF *Tadzhimagambetova K.N.*

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF *Kenzheeva A.K.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"

of the KKKBTU M3 RK in Mangistau Region

Rsymbetova R.S

№ n n	Vibration acceleration levels, dB, in one-third octave bands with geometric mean frequencies, Hz											Corrected level vibration accelerati ons for the axis, dB	Corrected vibration acceleration level for cycle, operation, dB	Equivalent corrected level of vibration acceleration, dB	Allowable equivalent corrected level of vibration acceleration , dB
	1	2	4	8	16	31,5	63	125	250	500	1000				
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1														89,7	118
														83,4	118
														84,4	118
2														94,2	118
														82,0	118
														80,4	118

Regulatory documentation in accordance with which the measurement has been made: GOST 31191.1-2004 Measurement of the general vibration and effect to human organism.

Full name of the research specialist

Laboratory assistant of the laboratory of EMF and FF *Tadzhimagambetova K.N.*

Full name of the laboratory manager

Laboratory doctor of the laboratory of EMF and FF *Kenzheeva A.K.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"

of the KKKBTU M3 RK in Mangistau Region



Rsymbetova R.S

Ф 04 РД 37/01-16



KZ.И.05.0916

**Laboratory of Environmental Protection
«Aktobe Chromium Compounds Plant»**

Aktobe, Industrial Zone, section 15 «B»

8(7132)939-513, 939-376

Accreditation certificate № KZ.И.05.0916

dated «27» July 2015



page 1 of 3

TEST REPORT № 21

dated May «20» 2019 y.

Customer Branch of «CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI» JSC in Aktau

Address Aktau, micro-district 29-A, building 135 “ABK” business center

Sample item and designation noise and vibration along the Noise and vibration at the border of the residential area Zhanaozen, Zhetybay (730 km)

Quantity -

Reason for testing Contract №10-02/2019 dated 08.04.2019, letter outg. №AKT-CGZ-EXT-2019-184 dated 06.05.2019 of branch « CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI»

Sampling date -

Date of testing May 15nd, 2019 y.

Type of testing noise and vibration control

ND for testing subject Hygienic standards for atmospheric air in urban and rural settlements, approved by order of the Minister of national economy of the RK № 169 dated 28.02.2015

Measuring instruments used for testing, calibration details Noise and vibration analyzer «Assistant» fact. №162613, calibration certificate №BA12-05-1124 dated 01.03.2019

№	Indicator, measuring unit	ND for testing method	ND standard	Actual values
01	02	03	04	05
ЖЖ-5 PK 60+80 village ZhanaOzen Entrance (14-35 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	49
	Noise, dBa (maximum)	GOST 12.1.050-86	-	75
	Noise, dBa (minimum)	GOST 12.1.050-86	-	35
01	02	03	04	05
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	81
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	87
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	69
Camp village Zhetybai (730 km) PK 120				
AK-23 (N43°32.644' E051°58.296') (09-45 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	51
	Noise, dBa (maximum)	GOST 12.1.050-86	-	74
	Noise, dBa (minimum)	GOST 12.1.050-86	-	38
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	82
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	88
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	71
AK-24 (N43°32.555' E051°58.660') (10-30 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	50
	Noise, dBa (maximum)	GOST 12.1.050-86	-	73
	Noise, dBa (minimum)	GOST 12.1.050-86	-	36
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	82
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	88
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	71
AK-25 (N43°32.646' E051°58.764') (11-20 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	48
	Noise, dBa (maximum)	GOST 12.1.050-86	-	71
	Noise, dBa (minimum)	GOST 12.1.050-86	-	37
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	82
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	88
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	70
AK-26 (N43°32.757' E051°58.351') (12-05 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	52
	Noise, dBa (maximum)	GOST 12.1.050-86	-	76
	Noise, dBa (minimum)	GOST 12.1.050-86	-	39

2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	82
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	88
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	70

Executors:

Dust and Gas Collector Operator _____
/date, signature, name/

Laboratory Chief _____
/date, signature, name/

*The test results apply for the samples subjected to the examination only.
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Laboratory of Environmental Protection
«Aktobe Chromium Compounds Plant»
Aktobe, Industrial Zone, section 15 «B»
8(7132)939-513, 939-376
Accreditation certificate № KZ.H.05.0916
dated «27» July 2015



page 1 of 3

TEST REPORT № 31

dated June «24» 2019 y.

Customer Branch of «CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI» JSC in Aktau

Address Aktau, micro-district 29-A, building 135 “ABK” business center

Sample item and designation noise and vibration along the Noise and vibration at the border of the residential area Zhanaozen, Zhetybay (730 km)

Quantity -

Reason for testing Contract №10-02/2019 dated 08.04.2019, letter outg. №AKT-CGZ-EXT-2019-255 dated 10.06.2019 of branch « CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI»

Sampling date -

Date of testing June 21st, 2019 y.

Type of testing noise and vibration control

ND for testing subject Hygienic standards for atmospheric air in urban and rural settlements, approved by order of the Minister of national economy of the RK № 169 dated 28.02.2015

Measuring instruments used for testing, calibration details Noise and vibration analyzer «Assistant» fact. №162613, calibration certificate №BA12-05-1124 dated 01.03.2019

Test conditions -

№	Indicator, measuring unit	ND for testing method	ND standard	Actual values
01	02	03	04	05
ЖЖ-5 PK 60+80 village ZhanaOzen Entrance (16-15 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	50
	Noise, dBa (maximum)	GOST 12.1.050-86	-	75
	Noise, dBa (minimum)	GOST 12.1.050-86	-	34
01	02	03	04	05
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	82
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	89
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	66
Camp village Zhetybai (730 km) PK 120				
AK-23 (N43°32.644' E051°58.296') 10-45 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	48
	Noise, dBa (maximum)	GOST 12.1.050-86	-	70
	Noise, dBa (minimum)	GOST 12.1.050-86	-	36
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	81
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	89
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	75
AK-24 (N43°32.555' E051°58.660') (11-35 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	46
	Noise, dBa (maximum)	GOST 12.1.050-86	-	74
	Noise, dBa (minimum)	GOST 12.1.050-86	-	34
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	84
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	87
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	72
AK-25 (N43°32.646' E051°58.764') (12-25 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	43
	Noise, dBa (maximum)	GOST 12.1.050-86	-	68
	Noise, dBa (minimum)	GOST 12.1.050-86	-	38
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	80
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	85
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	74
AK-26 (N43°32.757' E051°58.351') (13-15 h)				
1	Noise, dBa (equivalent)	GOST 12.1.050-86	not more 80	48
	Noise, dBa (maximum)	GOST 12.1.050-86	-	73
	Noise, dBa (minimum)	GOST 12.1.050-86	-	43
2	Vibration, dB (equivalent)	GOST ISO 8041-2006	-	76
	Vibration, dB (maximum)	GOST ISO 8041-2006	-	81
	Vibration, dB (minimum)	GOST ISO 8041-2006	-	69

Executors:

Dust and Gas Collector Operator _____

/date, signature, name/

Laboratory Chief _____

/date, signature, name/

The test results apply for the samples subjected to the examination only.

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Appendix 6: Test report of soil chemical analysis Lot 1

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT

Of soil sample research

No.28

(from) «19» February 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP
2. Place of sampling: Zhetybai-Zhanaozen highway, construction site PK №220, 22 km-soil.
3. The purpose of the sample research: the content of petroleum products, lead, cadmium, zinc
4. Date and time of selection: 15.02.19.
5. Date and time of delivery: 16.02.19. Time: 15. 00
6. Date and time research: 16.02.19- 18.02.19.
7. Regulatory documentation for the selection method: GOST 17.4.3.01-83
8. Transportation conditions: automobile transportation
9. Storage conditions:

Name of Indicators	Unit of measure	Standard by regulatory documentation	Results of research	Regulatory documentation on test method
			1	
Oil products	Mg/g of soil		0,38	CFRD 16.1:2.21-98
Zinc	Mg/g of soil		n/o	MIR 08-47/152
Lead	Mg/g of soil		0,012	MIR 08-47/152
Cadmium	Mg/g of soil		n/o	MIR 08-47/152

Research made according to Regulatory documentation

Full name of the research specialist
Laboratory assistant *Telimova M.D.*

Full name of the laboratory manager
Laboratory doctor *Duisembayeva N.D.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region



Rsymbetova R.S.

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May 30, 2015 No. 415

REPORT

Of soil sample research

No.50

(from) «15» March 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP
2. Place of sampling: Zhetybai-Zhanaozen highway, construction site PK №231.
3. The purpose of the sample research: the content of petroleum products, lead, cadmium, zinc
4. Date and time of selection: 13.03.19. Time: 14.00
5. Date and time of delivery: 13.03.19. Time: 15. 50
6. Date and time research: 13.03.19- 15.03.19.
7. Regulatory documentation for the selection method: GOST 17.4.3.01-83
8. Transportation conditions: automobile transportation
9. Storage conditions:

Name of Indicators	Unit of measure	Standard by regulatory documentation	Results of research	Regulatory documentation on test method
			1	
Oil products	Mg/g of soil		0.40	CFRD 16.1:2.21-98
Zinc	Mg/g of soil		n/o	MIR 08-47/152
Lead	Mg/g of soil		0,02	MIR 08-47/152
Cadmium	Mg/g of soil		n/o	MIR 08-47/152

research made according to Regulatory documentation

Full name of the research specialist
Laboratory assistant *Telimova M.D.*

Full name of the laboratory manager
Laboratory doctor *Duisembayeva N.D.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region



Rsymbetova R.S

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May

REPORT

Of soil sample research

№89

«23» April 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP
2. Place of sampling: Zhetybai-Zhanaozen highway, construction site PK №231.
3. The purpose of the sample research: the content of petroleum products, lead, cadmium, zinc
4. Date and time of selection: 13.03.19. Time: 14.00
5. Date and time of delivery: 13.03.19. Time: 15. 50
6. Date and time research: 13.03.19- 15.03.19.
7. Regulatory documentation for the selection method: GOST 17.4.3.01-83
8. Transportation conditions: automobile transportation
9. Storage conditions:

Name of Indicators	Unit of measure	Standard by regulatory documentation	Results of research	Regulatory documentation on test method
			1	
Oil products	Mg/g of soil		0.12	CFRD 16.1:2.21-98
Zinc	Mg/g of soil		n/o	MIR 08-47/152
Lead	Mg/g of soil		0.01	MIR 08-47/152
Cadmium	Mg/g of soil		n/o	MIR 08-47/152

Research made according to Regulatory documentation

Full name of the research specialist
Laboratory assistant *Telimova M.D.*

Full name of the laboratory manager
Laboratory doctor *Duisembayeva N.D.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region

Rsymbetova R.S

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May

REPORT

Of soil sample research

№166

(from) «27» May 2019

PO-19-00642

1. Full name of business entity, address: "Ak zhol kurylys" LLP
2. Place of sampling: T1 work area of the PK No. 302, km 32- soil.
3. The purpose of the sample research: the content of petroleum products, lead, cadmium, zinc
4. Date and time of selection: 21.05.19.
5. Date and time of delivery: 21.05.19
6. Date and time research: 21.05.19- 27.05.19.
7. Regulatory documentation for the selection method: GOST 17.4.3.01-83
8. Transportation conditions: automobile transportation
9. Storage conditions:

Name of Indicators	Unit of measure	Standard by regulatory documentation	Results of research	Regulatory documentation on test method
			1	
Oil products	Mg/g of soil		0,16	CFRD 16.1:2.21-98
Zinc	Mg/g of soil		n/o	MIR 08-47/152
Lead	Mg/g of soil		0,008	MIR 08-47/152
Cadmium	Mg/g of soil		n/o	MIR 08-47/152

Research made according to Regulatory documentation

Full name of the research specialist
Laboratory assistant *Telimova M.D.*

Full name of the laboratory manager
Laboratory doctor *Duisembayeva N.D.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region

Rsymbetova R.S

Ministry of Health of the Republic of Kazakhstan		The organization code for General Classifier of Enterprises and Organizations (GCEO)
The branch of RSE on PVC "National Examination Center" of the KKKBTU M3 RK in Mangistau Region		Medical documentation Form No. 165 / y Approved by order of the Minister of National Economy of the Republic of Kazakhstan of May

REPORT

Of soil sample research

№220

«24» June 2019

1. Full name of business entity, address: "Ak zhol kurylys" LLP
2. Place of sampling: Zhetybai-Zhanaozen highway, construction site PK №153 (15,3 km)
3. The purpose of the sample research: the content of petroleum products, lead, cadmium, zinc
4. Date and time of selection: 18.06 19
5. Date and time of delivery: 18.06 19
6. Date and time research: 18.06.19 - 24.0.19
7. Regulatory documentation for the selection method: GOST 17.4.3.01-83
8. Transportation conditions: automobile transportation
9. Storage conditions:

Name of Indicators	Unit of measure	Standard by regulatory documentation	Results of research	Regulatory documentation on test method
			1	
Oil products	Mg/g of soil		16,4	CFRD 16.1:2.21-98
Zinc	Mg/g of soil		n/o	MIR 08-47/152
Lead	Mg/g of soil		n/o	MIR 08-47/152
Cadmium	Mg/g of soil		n/o	MIR 08-47/152

Research made according to Regulatory documentation

Full name of the research specialist

Laboratory specialist *Telimova M.D.*

Laboratory assistant *Turebayeva A.O.*

Full name of the laboratory manager

Laboratory doctor *Duisenbayeva N.D.*

Director (Deputy) of the branch of RSE on PVC "National Examination Center"
of the KKKBTU M3 RK in Mangistau Region

Rsymbetova R.S

Ф 04 РД 37/01-16



KZ.H.05.0916

**Laboratory of Environmental Protection
«Aktobe Chromium Compounds Plant»**

Aktobe, Industrial Zone, section 15 «B»

8(7132)939-513, 939-376

Accreditation certificate № KZ.H.05.0916

dated «27» July 2015



page 1 of 3

TEST REPORT № 24

dated May 23, 2019 y.

Customer Branch of «CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI» JSC in Aktau

Address Aktau, micro-district 29-A, buildig 135 “ABK” business center

Sample item and designation soil covering along “35-73 km Zhetybai-Zhanaozen, on the border of the residential area Zhanaozen, camp Zhetybai (657 km, the border SPZ)

Quantity 9 samples

Reason for testing Contract №10-02/2019 dated 08.04.2019, letter outg. №AKT-CGZ-EXT-2019-184 dated 06.05.2019 of branch « CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI», sampling certificate dated May 15nd, 2019 y.

Sampling date May 15nd, 2019 y.

Date of testing May 20th, 2019 y., May 21th, 2019 y., May 22th, 2019y.

Type of testing soil chemical analysis

ND for testing subject Hygienic standards for safety of the environment (soil), approved by order of the Minister of national economy of the RK dated 25.06.2015, № 452

Measuring instruments used for testing, calibration details laboratory electronic scale XS205DU fact №B141330205 calibration certificate №BB-02-145985 dated 08.11.2018; combined gauge SevenEasy pH fact. №1231405267 calibration certificate №BB-09-110087 dated 15.06.2018, atomic absorption spectrometer MGA-915M, fact. №394, calibration certificate №BP-09-/10047547 dated 15.03.2019,11-

79143 dated 02.02.2018; fluid analyzer Fluorat-02-3M fact. №8480 calibration certificate №0114023 dated 06.07.2018

Test conditions 20.05.19 y.: weighing – temperature 20°C, humidity 54%; soil analysis laboratory – temperature 22°C, humidity 48%; 21.05.19 y.: soil analysis laboratory – temperature 21°C, humidity 55%; 22.05.19 y.: soil analysis laboratory – temperature 22°C, humidity 48%;

№	Indicator, measuring unit	ND for testing method	ND standard	Actual values
01	02	03	04	05
ЖЖ-1 PK-350 (12-55 h)				
1	pH	GOST 26423-85 c.4.3	-	8,32
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	<0,005
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,07
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	2,41
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	11,51
ЖЖ-2 PK-450 (13-30 h)				
1	pH	GOST 26423-85 c.4.3	-	8,75
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	<0,005
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,18
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	3,39
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	17,81
ЖЖ-3 PK-550 (14-00 h)				
1	pH	GOST 26423-85 c.4.3	-	8,08
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	<0,005
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,066
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	4,37
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	18,70
ЖЖ-4 PK-636+83 (15-25 h)				
1	pH	GOST 26423-85 c.4.3	-	8,02
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,044
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,23
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	4,21
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	19,0
ЖЖ-5 PK 60+80 (village ZhanaOzen entrance (14-50 h)				
1	pH	GOST 26423-85 c.4.3	-	7,90
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,010
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,15
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	10,80
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	19,33

Camp village Zhetybai (730 km) PK 120				
AK-23 (N43°32.644' E051°58.296') (10-00 h)				
1	pH	GOST 26423-85 c.4.3	-	8,62
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,006
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,15
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	3,05
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	13,96
AK-24 (N43°32.555' E051°58.660') (10-45 h)				
1	pH	GOST 26423-85 c.4.3	-	8,8
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,007
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,24
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	2,75
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	14,11
AK-25 (N43°32.646' E051°58.764') (11-35 h)				
1	pH	GOST 26423-85 c.4.3	-	8,03
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,010
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,22
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	3,05
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	15,65
AK-26 (N43°32.757' E051°58.351') (12-20 h)				
1	pH	GOST 26423-85 c.4.3	-	8,50
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,006
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,21
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	2,66
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	16,72

Executors:

Dust and Gas Collector Operator _____
/date, signature, name/

Chemistry Lab Technician _____
/date, signature, name/

Laboratory Chief _____
/date, signature, name/

*The test results apply for the samples subjected to the examination only.
The Test Report reprint is prohibited*



KZ.H.05.0916

**Laboratory of Environmental Protection
«Aktobe Chromium Compounds Plant»**

Aktobe, Industrial Zone, section 15 «B»

8(7132)939-513, 939-376

Accreditation certificate № KZ.H.05.0916

dated «27» July 2015



TEST REPORT № 33

dated June 27, 2019 y.

Customer Branch of «CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI» JSC in Aktau

Address Aktau, micro-district 29-A, buildig 135 “ABK” business center

Sample item and designation soil covering along “35-73 km Zhetybai-Zhanaozen, on the border of the residential area Zhanaozen, camp Zhetybai (657 km, the border SPZ)

Quantity 9 samples

Reason for testing Contract №10-02/2019 dated 08.04.2019, letter outg. №AKT-CGZ-EXT-2019-255 dated 10.06.2019 of branch « CENGIZ INSAAT SANAYI VE TICARET ANONIM SIRKETI», sampling certificate dated June 21nd, 2019 y.

Sampling date June 21nd, 2019 y.

Date of testing June 24th, 2019 y., June 25th, 2019 y., June 26th, 2019y.

Type of testing soil chemical analysis

ND for testing subject Hygienic standards for safety of the environment (soil), approved by order of the Minister of national economy of the RK dated 25.06.2015, № 452

Measuring instruments used for testing, calibration details laboratory electronic scale XS205DU fact. №B141330205 calibration certificate №BB-02-145985 dated 08.11.2018; combined gauge SevenEasy pH fact. №1231405267 calibration certificate №BB-09-110087 dated 15.06.2018, atomic absorption spectrometer MGA-915M, fact. №394, calibration certificate №BP-09-/10047547 dated 15.03.2019, 11-79143 dated 02.02.2018; fluid analyzer Fluorat-02-3M fact. №8480 calibration certificate №0114023 dated 06.07.2018

Test conditions 24.06.19 y.: weighing – temperature 22°C, humidity 55%; soil analysis laboratory – temperature 24°C, humidity 59%; 25.06.19 y.: soil analysis laboratory – temperature 24°C, humidity 51%; 26.06.19 y.: soil analysis laboratory – temperature 23°C, humidity 58%;

№	Indicator, measuring unit	ND for testing method	ND standard	Actual values
01	02	03	04	05
ЖЖ-1 PK-350 (14-20 h)				
1	pH	GOST 26423-85 c.4.3	-	8,78
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	<0,007
01	02	03	04	05
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,068
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	2,85
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	10,18
ЖЖ-2 PK-450 (14-55 h)				
1	pH	GOST 26423-85 c.4.3	-	8,44
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	<0,006
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,17
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	4,2
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	18,01
ЖЖ-3 PK-550 (15-35 h)				
1	pH	GOST 26423-85 c.4.3	-	8,38
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	<0,005
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,08
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	3,56
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	16,76
ЖЖ-4 PK-636+83 (17-15 h)				
1	pH	GOST 26423-85 c.4.3	-	8,12
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,007
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,21
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	4,5
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	14,98
ЖЖ-5 PK 60+80 (village ZhanaOzen entrance (16-35 h)				
1	pH	GOST 26423-85 c.4.3	-	8,34
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,008
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,16
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	10,01
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	18,33
Camp village Zhetybai (730 km) PK 120				
AK-23 (N43°32.644' E051°58.296') (11-05 h)				
1	pH	GOST 26423-85 c.4.3	-	8,17
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,006
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,16
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	3,57
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	12,66
AK-24 (N43°32.555' E051°58.660') (11-55 h)				

1	pH	GOST 26423-85 c.4.3	-	8,78
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,006
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,24
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	4,13
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	17,13

AK-25 (N43°32.646' E051°58.764') (12-45 h)

1	pH	GOST 26423-85 c.4.3	-	8,77
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,010
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,28
01	02	03	04	05
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	5,21
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	12,25

AK-26 (N43°32.757' E051°58.351') (13-35 h)

1	pH	GOST 26423-85 c.4.3	-	8,69
2	Petroleum products, mg/g	KZ.07.00.01668-2013	-	0,006
3	Cadmium, mg/kg	KZ.07.00.03044-2014	-	0,19
4	Plumbum, mg/kg	KZ.07.00.03044-2014	not more 32,0	5,25
5	Zinc, mg/kg	KZ.07.00.03044-2014	-	18,32

Executors:

Dust and Gas Collector Operator _____
/date, signature, name/

Chemistry Lab Technician _____
/date, signature, name/

Laboratory Chief _____
/date, signature, name/

*The test results apply for the samples subjected to the examination only.
The Test Report reprint is prohibited*

CAREC Corridor 2
(Mangistau Oblast Section)
Investment Program, Project 2,
Construction Supervision
Consultancy Service



Base camp Zhetibay
Aktau, 130000, Mangistau oblast,
Republic of Kazakhstan
Tel.: +77014364660
E-mail: csc_aktau@mail.ru

Aktau 13/06/2019

Ref. No.: 05-ADB/CSC-2019/L2/06/2019/0741

To: Cengiz Insaat
Mr. S. Karaman
Project Manager Contract 002-ADB/CW-2017

Copy: PMC "Renardet S.A."
Mr. Luciano Sanna
Team Leader

**Construction Supervision Consultancy Service under L2967-KAZ:
CAREC Corridor 2 Investment Program – Project 2 (Mangistau Oblast Section)**

Subject: Incident

Dear Sir,

As it became known that on June 11, 2019 at about 06:30 a.m. an accident was happened in the industrial facility near the construction base camp, burned container.
According to the Technical Specification, the Contractor is obliged to inform in writing within 24 hours from the moment of the occurrence of the incident.
Hereby the Engineer asks you to immediately provide all the information about the incident.

Best regards,

Massimiliano Virili
Construction Supervision Consultancy Service
Team Leader/Chief Resident Engineer
«SNS-2017» LTD
+7 7029284360

ЦАРЕС Коридор 2,
(Участок в Мангистауской
области)
Инвестиционная программа,
Проект 2
Услуги консультанта по
надзору за строительством



Городок в пос. Жетыбай
Актау, 130000, Мангистауская
область,
Республика Казахстан
Телефон: +77014364660
E-mail: csc_aktau@mail.ru

Актау 13/06/2019

Исх. №: 05-ADB/CSC-2019/L2/06/2019/0741

Кому: Дженгиз Иншаат
г-н Караман С.
Руководитель Проекта Контракт 002-ADB/CW-2017

Копия: КУП "Renardet S.A."
Г-н Лучано Санна
Руководитель Проекта

Консультант по надзору за строительством по займу L2967-KAZ:
ЦАРЕС Коридор 2 Инвестиционная программа – Проект 2
(Участок в Мангистауской области)

Тема: Чрезвычайное происшествие

Уважаемый г-н,

Как стало известно, что 11.06.2019г. около 06:30 часов местного времени произошёл несчастный случай на промышленной базе возле вахтового городка, сгорел контейнер. Согласно Тех.спецификации, Подрядчик обязан сообщить в письменном виде в течении 24 часов с момента возникновения несчастного случая. Прошу незамедлительно предоставить всю информацию о происшествии.

С уважением,

Массимилиано Вирили
Консультант по надзору за строительством
Руководитель проекта/Главный Резидент Инженер
ТОО «SNS-2017»
+7 7029284360

«ДЖЕНГИЗ ИНШААТ САНАЙИ ВЕ
ТИДЖАРЕТ АНОНИМ ШИРКЕТИ»
Акционерлік қоғамы

«ДЖЕНГИЗ ИНШААТ САНАЙИ ВЕ
ТИДЖАРЕТ АНОНИМ ШИРКЕТИ»
Акционерлік Қоғамының
Ақтау к. филиалы
130000 Қазақстан Республикасы,
Маңғыстау облысы, Ақтау қаласы,
29 «А» микрорайон, 135 үй «АБК» бизнес
орталығы, 35 кабинет
т/ф 8(7292) 75-02-12; 75-02-05
e-mail: cengiz_aktau@mail.ru



ДЖЕНГИЗ ИНШААТ
г.АКТАУ

«ДЖЕНГИЗ ИНШААТ САНАЙИ ВЕ
ТИДЖАРЕТ АНОНИМ ШИРКЕТИ»
Акционерное общество

Филиал Акционерного Общества «ДЖЕНГИЗ
ИНШААТ САНАЙИ ВЕ ТИДЖАРЕТ
АНОНИМ ШИРКЕТИ»
в городе Ақтау
130000 Республика Казахстан,
Мангыстауская область, город Ақтау,
29 «А» микрорайон, дом 135 «Бизнес-Центр
«АБК», кабинет 35
тел. 8(7292) 75-02-12; т/ф (7292) 75-02-05
e-mail: cengiz_aktau@mail.ru

Out.NoZZO-CGZ-GI-2019-0115
dd June 17, 2019

To: Construction Supervision Consultant (CSC)
"Renardet SA" / "SNS-2017" LLP

Project: "Reconstruction of road section
"Zhetybay-Zhanaozen" section km 35 - km 73
(38km) Lot 2

Subject: Report of Incident

Ref :

Dear Sir,

Please be informed that on June 11, 2019 at about 07:30 a.m. there was a fire at the site of the repair zone in the container intended for rest and changing of workers. When a fire was detected, workers called the fire service and tried to extinguish the fire by their own efforts. As a result of the fire there were no injuries or material damage.

Attached: an act of fire and technical commission, fire service protocol, an order appointing responsible persons at the sites for fire safety, a register of inspection of fire extinguishers.

Best regards,
Project Manager
Karaman Serdar

Исх.№ ZZO-CGZ-GI-2019-0115
от «17» Июня 2019 г.

Кому: Консультанту по надзору за строительством
(КНС) "Renardet SA" / TOO "SNS-2017"

Проект: Реконструкция участка автодороги
«Жетыбай- Жанаозен» на участке км 35 – км73
(38км) Лот 2

Тема: Отчет по чрезвычайному происшествию

Ссылка:

Уважаемый господин,

Настоящим доводим до Вашего сведения, что 11.06.2019 г. около 07:30 часов произошел пожар на участке ремонтной зоны в контейнере предназначенного для отдыха и раздевалки рабочих. При обнаружении пожара работники, вызвали пожарную службу и попытались ликвидировать пожар собственными силами. В следствии пожара пострадавших и материального ущерба нет.

Прилагаются: акт пожарно-технической комиссии, протокол противопожарной службы, приказ о назначении ответственных лиц на участках за противопожарную безопасность, журнал учета осмотра огнетушителей.

С уважением,
Руководитель Проекта
Караман Сердар

БСН 140741024075 ИИК KZ8577450KZ220327005 (тенге) «AsiaCredit Bank (АзияКредит Банк)» АҚ Ақтау қ. филиалы БСК LARIKZKA
ИИК KZ19914082203KZ015C2 (тенге) Филиал ДБ АО «Сбербанк» в Ақтау қ. БИК SABRKZKA

БИН 140741024075 ИИК KZ8577450KZ220327005 (тенге) АО «AsiaCredit Bank (АзияКредит Банк)» филиал в г.Ақтау БИК LARIKZKA
ИИК KZ19914082203KZ015C2 (тенге) Филиал ДБ АО «Сбербанк» в г.Ақтау БИК SABRKZKA

Пр. N 1196
14.06.2019 г.

**Supervision of Civil Works under L2967-KAZ: CAREC
Corridor 2 Investment Program Project 2 (Mangystau Oblast Section)**

**LOT 1 KM 00+00 TO 35+00
PRE-AUDIT MEETING N. 1**

Venue: Consultant Office, Akzhol
Date: June 19, 2019
Time: 11:00 am

ATTENDANCE:

S/No	Full name	Organization	Position
1	Massimiliano Virili	SNS 2017	Team Leader/Chief Resident Engineer
2	Muratbekov D.	SNS 2017	Safety Engineer
3	Tadzhibayev D.	Ak zhol kurylys	OHSE Engineer
4	Sultanov N.	Ak zhol kurylys	Traffic safety Engineer
5	Amiradinova R.	SNS 2017	Translator

DISTRIBUTION:

- Those in attendance.

Ref. N.	Agenda	Items discussed	Action / deadline
0.1	Date of meeting	1 st Pre-Audit Meeting, held at the Engineer's Office – Akzhol Camp 19/06/2019	
0.2	Health and safety	<p>The Engineer asked the Safety Engineer of CSC to report on the situation regarding HSE of the Contractor.</p> <p>Safety Engineer: Agenda: as it was noted by the ADB mission's visit there was a condition to carry out audit. Audit of road safety is actively used in Europe for more than 10 years, in countries like England, Germany, Switzerland, Norway, France. This is a major provision of road safety at all stages of the life cycle of the road. The purpose of the activities is safety of road traffic. Based on the results of the work, it is necessary to work step by step: reducing the road traffic accidents is achieved through a change in the scheme of traffic organization. It is necessary to improve the standards, allowing to build safe roads, using advanced technical and engineering developments.</p> <p>Audit of road safety is implemented to identify safety problems in the reconstruction of the road: those who are responsible for the construction of road (road facilities) were able to take appropriate measures at the earliest stages and to eliminate the identified problems for road and traffic safety during construction and thereby increase safety on the road.</p> <p>During the audit of road and traffic safety such topics were discussed as:</p> <p>1. Providing of information exchange (drawings and reports) of project to Engineer. 2. Writing of monthly report and submission to Engineer. 3. Discussion of main safety issues and clarify the outstanding issues of road and traffic safety. 4. The control of work and implementation of recommendations. Writing the response report (letter) that affects each of the recommendations of Engineer.</p> <p>This task of audit of road safety at the proposed stage (reconstruction of roads of republican importance Zhetybai-Zhanaozen-Kenderli) is to identify, discuss, and minimize the potential problems of traffic safety.</p>	

		<p>There are such problems as: 1. Provision of traffic control regulations by appropriate and proper installation of signs, protection of work place (barriers) for all road users and all road conditions; 2. The correct introduction of traffic control regulations in action at the scene of road works; 3. The warning zone designation of road users adequate preventing signs about the approaching production of road works; 4. Designation of transition zones (ramps, bypass roads) with appropriate signs and with guide constructions to indicate to the approaching road users their trajectory;</p> <p>5. Visibility of banksman/regulators, giving clear instructions to drivers/cyclers coming to the place of work; 6. Control of limit speed signs clarity; 7. The establishment of a sufficient number of repeating speed signs on the entire length of the road section; 8. Relativity of speed limiting signs for safe traffic through the place of work; 9. The involvement of the local police to monitor compliance with speed limits indicated on signs, on road sections; 10. Compliance of all signs with requirements of National Standart of RK STRK1412-2017; 11. The location of the access point to the site ensuring appropriate sight lines for entering/exiting vehicles used for road works; 12. Constantly wearing of retro-reflective vests by all employees and supervisors for safety; 13. Visibility to all road users at night for the safety of road works; 14. The provision of adequate and safe lighting. 15. Adequate provision of water trucks in the work sites and implementation of timely watering of the roads to reduce dust.</p> <p>Engineer asked: about logbook.</p> <p>Contractor reported: All logbooks: the logbook of workplace, fire safety, equipment safety, road safety will be checked at any time.</p> <p>Safety Engineer: Does Contractor have responsibilities by order? Are daily instructions approved? Do workers pass medical examination every day in the morning? How are licenses of fire safety checked?</p> <p>Contractor reported: about responsibilities. Daily instructions are approved every day. Workers pass medical examination every morning before the beginning of work. During the control of fire safety license, protocol is compiled and filed into folder.</p> <p>Safety Engineer: during the audit with Contractor, Engineer issued the following recommendations for traffic safety: all personnel working on the site must wear clothing with reflective stripes; to conduct explanatory work with the staff on matters of safety; to pay attention to ensuring road safety, in the field of road works; to develop an action plan for educational seminars; to provide lighting (including sufficient reserve capacity in case of accidents) wherever work is implemented in the evening to ensure safe working conditions; it is necessary to provide an adequate number of toilets and other sanitary facilities at the road section where the work is implemented and ensure regular cleaning and maintenance of hygienic sanitary condition.</p> <p>Contractor reported: that all personnel are dressed in special clothing. They will send explanatory works to Engineer this week. Earth works are not implemented at night time.</p> <p>Engineer asked if there is a signal for safety when reversing of equipment on the site.</p> <p>Contractor reported: that they will check the audio signals on the old equipments and the new equipments have automatic signals.</p> <p>Engineer asked if there signal lights on bypass road.</p> <p>Contractor reported that they have red signal lights.</p> <p>Engineer suggested to buy yellow signal lights on side roads instead of red ones because yellow signals are more visible at night.</p> <p>Engineer asked Contractor to bring all documents referring to road and traffic safety for the next audit.</p>	
0.3	Date / Time / Venue of next Audit	26/06/2019	

**Supervision of Civil Works under L2967-KAZ: CAREC
Corridor 2 Investment Program Project 2 (Mangystau Oblast Section)**

**LOT 2 KM 00+00 TO 35+73
PRE-AUDIT MEETING N. 1**

Venue: Consultant Office, Cengiz
Date: June 20, 2019
Time: 11:00 am

ATTENDANCE:

S/N o	Full name	Organization	Position
1	Massimiliano Virili	SNS 2017	Team Leader/Chief Resident Engineer
2	Muratbekov D.	SNS 2017	Safety Engineer
3	Amangaliyev N.	Cengiz	Safety Engineer
4	Zhaneliyev R.	Cengiz	Traffic safety Engineer
5	Zhumatayeva A.	SNS 2017	Translator

DISTRIBUTION:

- Those in attendance.

Ref. N.	Agenda	Items discussed	Action / deadline
0.1	Date of meeting	1 st Pre-audit Meeting, held at the Engineer's Office – Cengiz Camp 20/06/2019	
0.2	Health and safety	<p>The Engineer asked the Safety Engineer of CSC to report on the situation regarding HSE of the Contractor.</p> <p>Safety Engineer read Agenda: as it was noted by the ADB mission's visit there was a condition to carry out audit. The purpose of the activities is safety of road traffic. Audit of road safety is implemented to identify safety problems in the reconstruction of the road: those who are responsible for the construction of road (road facilities) were able to take appropriate measures at the earliest stages and to eliminate the identified problems for road and traffic safety during construction and thereby increase safety on the road. During the audit of road and traffic safety such topics were discussed as: 1.Providing of information exchange (drawings and reports) of project to Engineer. 2.Writing of monthly report and submission to Engineer. 3.Discussion of main safety issues and clarify the outstanding issues of road and traffic safety. 4.The control of work and implementation of recommendations. 5.Writing the response report (letter) that affects each of the recommendations of Engineer. This task of audit of road safety at the proposed stage (reconstruction of roads of republican importance Zhetybai-Zhanaozen-Kenderli) is to identify, discuss, and minimize the potential problems of traffic safety.</p> <p>There are such problems as: 1.Provision of traffic control regulations by appropriate and proper installation of signs, protection of work place (barriers) for all road users and all road conditions; 2.The correct introduction of traffic control regulations in action at the scene of road works; 3.The warning zone designation of road users adequate preventing signs about the approaching production of road works; 4.Designation of transition zones (ramps, bypass roads) with appropriate signs and with guide constructions to indicate to the approaching road</p>	

		<p>users their trajectory; 5.Visibility of banksman/regulators, giving clear instructions to drivers/cyclers coming to the place of work; 6. Control of limit speed signs clarity; 7.The establishment of a sufficient number of repeating speed signs on the entire length of the road section; 8.Relativity of speed limiting signs for safe traffic through the place of work; 9.The involvement of the local police to monitor compliance with speed limits indicated on signs, on road sections; 10.Compliance of all signs with requirements of National Standart of RK STRK1412-2017; 11.The location of the access point to the site ensuring appropriate sight lines for entering/exiting vehicles used for road works; 12.Constantly wearing of retro-reflective vests by all employees and supervisors for safety; 13.Visibility to all road users at night for the safety of road works; 14.The provision of adequate and safe lighting. 15.Adequate provision of water trucks in the work sites and implementation of timely watering of the roads to reduce dust.</p> <p>Contractor: 1 regulator is in Tenge. 1,5 km of milling were done during 1 day, but since today the works are suspended. There were 2 regulators and 1 squad car.</p> <p>Engineer: milling machine has been broken, Contractor has enough time to collect all necessary documents of road signs, scheme, approved by police.</p> <p>Safety Engineer: Does Contractor have responsables by order? Do drivers have license for work? Do you have enough fire extinguished cylinder?</p> <p>Contractor reported: about responsables for work. Often the drivers don't have license for work, they leave them in place of residence. And there is not any fire extinguished cylinder in petrol tanker.</p> <p>Safety Engineer: during the audit with Contractor, Engineer issued the following recommendations for traffic safety: all personnel working on the site must wear clothing with reflective stripes, this comment has been repeatedly directed to Contractor as most of workers don't follow the requirements; to conduct explanatory work with the staff on matters of safety; to pay attention to ensuring road safety, in the field of road works; to develop an action plan for educational seminars; to provide lighting (including sufficient reserve capacity in case of accidents) wherever work is implemented in the evening to ensure safe working conditions; it is necessary to provide an adequate number of toilets and other sanitary facilities at the road section where the work is implemented and ensure regular cleaning and maintenance of hygienic sanitary condition.</p> <p>Engineer asked Contractor to bring all documents referring to road and traffic safety for the next audit.</p>	
0.3	Date / Time / Venue of next Audit	27/06/2019	

**Supervision of Civil Works under L2967-KAZ: CAREC
Corridor 2 Investment Program Project 2 (Mangystau Oblast Section)**

**LOT 1 KM 00+00 TO 35+00
AUDIT MEETING N. 1**

Venue: Consultant Office, Akzhol
Date: June 26, 2019
Time: 11:00 am

ATTENDANCE:

S/No	Full name	Organization	Position
1	Massimiliano Virili	SNS 2017	Team Leader/Chief Resident Engineer
2	Muratbekov D.	SNS 2017	Safety Engineer
3	Tadzhibayev D.	Ak zhol kurylys	OHSE Engineer
4	Sultanov N.	Ak zhol kurylys	Traffic safety Engineer
5	Amiradinova R.	SNS 2017	Translator

DISTRIBUTION:

- Those in attendance.

Ref. N.	Agenda	Items discussed	Action / deadline
1.1	Date of meeting	Audit Meeting, held at the Engineer's Office – Akzhol Camp 26/06/2019	
1.2	Health and safety	<p>The Engineer asked the Safety Engineer of CSC to report on the situation regarding HSE of the Contractor.</p> <p>The Contractor had to submit all documentation and logbooks:</p> <ol style="list-style-type: none"> 1. induction training; 2. fire safety; 3. the logbook at the workplace; 4. medical; 5. road safety. <p>Safety Engineer: how often are fire safety, road safety logbooks checked?</p> <p>Contractor: fire safety, road safety logbooks checked once in 6 months.</p> <p>Safety Engineer: Contractor does not have fire safety logbooks and logbooks at the workplace. Logbooks at the workplace should be checked every day.</p> <p>Contractor reported: that they have logbooks at the workplace and check them everyday.</p> <p>Safety Engineer: by the results of checking, there are following remarks:</p> <ol style="list-style-type: none"> 1. All logbooks should be complied with the norms; 2. To identify the start date of the logbooks; 	

		<p>3. Need to provide a fire safety logbook for the next audit;</p> <p>4. To provide a complete list of signatures and the details of the kitchen workers;</p> <p>5. To carry out explanatory works regarding the matters of safety with the workers; to pay attention to ensuring road safety, in the field of road works.</p> <p>Engineer gave the following instructions:</p> <p>1) to buy yellow lighting signals on bypass roads;</p> <p>2) it is necessary to provide the required number of toilets and sanitary facilities at the road section of the cafe "Nysan";</p> <p>3) to bring documentations regarding road safety into compliance, provide all the logbooks for the next audit.</p> <p>4) need to check the logbooks at the workplace after the audit.</p>	
1.3	Date / Time / Venue of next Audit	18/07/2019	

**Supervision of Civil Works under L2967-KAZ: CAREC
Corridor 2 Investment Program Project 2 (Mangystau Oblast Section)**

**LOT 1 KM 00+00 TO 35+00
AUDIT MEETING N. 1**

Venue: Consultant Office, Akzhol
Date: June 26, 2019
Time: 11:00 am

ATTENDANCE:

S/No	Full name	Organization	Position
1	Massimiliano Virili	SNS 2017	Team Leader/Chief Resident Engineer
2	Muratbekov D.	SNS 2017	Safety Engineer
3	Tadzhibayev D.	Ak zhol kurylys	OHSE Engineer
4	Sultanov N.	Ak zhol kurylys	Traffic safety Engineer
5	Amiradinova R.	SNS 2017	Translator

DISTRIBUTION:

- Those in attendance.

Ref. N.	Agenda	Items discussed	Action / deadline
1.1	Date of meeting	Audit Meeting, held at the Engineer's Office – Akzhol Camp 26/06/2019	
1.2	Health and safety	<p>The Engineer asked the Safety Engineer of CSC to report on the situation regarding HSE of the Contractor.</p> <p>The Contractor had to submit all documentation and logbooks:</p> <ol style="list-style-type: none"> 1. induction training; 2. fire safety; 3. the logbook at the workplace; 4. medical; 5. road safety. <p>Safety Engineer: how often are fire safety, road safety logbooks checked?</p> <p>Contractor: fire safety, road safety logbooks checked once in 6 months.</p> <p>Safety Engineer: Contractor does not have fire safety logbooks and logbooks at the workplace. Logbooks at the workplace should be checked every day.</p> <p>Contractor reported: that they have logbooks at the workplace and check them everyday.</p> <p>Safety Engineer: by the results of checking, there are following remarks:</p> <ol style="list-style-type: none"> 1. All logbooks should be complied with the norms; 2. To identify the start date of the logbooks; 	

		<p>3. Need to provide a fire safety logbook for the next audit; 4. To provide a complete list of signatures and the details of the kitchen workers; 5. To carry out explanatory works regarding the matters of safety with the workers; to pay attention to ensuring road safety, in the field of road works.</p> <p>Engineer gave the following instructions: 1) to buy yellow lighting signals on bypass roads; 2) it is necessary to provide the required number of toilets and sanitary facilities at the road section of the cafe "Nysan"; 3) to bring documentations regarding road safety into compliance, provide all the logbooks for the next audit. 4) need to check the logbooks at the workplace after the audit.</p>	
1.3	Date / Time / Venue of next Audit	10/07/2019	

**Supervision of Civil Works under L2967-KAZ: CAREC
Corridor 2 Investment Program Project 2 (Mangystau Oblast Section)**

**LOT 2 KM 35-73
AUDIT MEETING N. 1**

Venue: Consultant Office, Cengiz
Date: June 27, 2019
Time: 10:00 am

ATTENDANCE:

S/No	Full name	Organization	Position
1	Massimiliano Virili	SNS 2017	Team Leader/Chief Resident Engineer
2	Muratbekov D.	SNS 2017	Safety Engineer
3	Amangaliyev N.	Cengiz	OHSE Engineer
5	Amiradinova R.	SNS 2017	Translator

DISTRIBUTION:

- Those in attendance.

Ref. N.	Agenda	Items discussed	Action / deadline
1.1	Date of meeting	Audit Meeting, held at the Engineer's Office – Cengiz Camp 27/06/2019	
1.2	Health and safety	<p>The Engineer asked the Safety Engineer of CSC to report on the situation regarding HSE of the Contractor.</p> <p>The contractor had to submit all documentation and logbooks: 1. induction training; 2. fire safety; 3. the logbook at the workplace; 4. medical; 5. road safety.</p> <p>Safety Engineer: Contractor does not have fire safety logbooks and workers' licenses.</p> <p>Engineer: Do all workers wear special clothing?</p> <p>Contractor: There are some workers who don't wear helmets.</p> <p>Engineer: need to take necessary measures to eliminate the violations.</p> <p>Safety Engineer: by the results of checking, there are following remarks: 1. To identify the start date of the logbooks; 2. All logbooks should be complied with the norms (to number and put the stamps); 3. To provide a complete list of workers, other list of personnel who have license documentations;</p>	

		<p>4. Need to provide a fire safety logbook and basic fire safety licenses for the next audit;</p> <p>Engineer gave the following instructions:</p> <p>1) to bring documentations regarding road safety into compliance, provide all the logbooks for the next audit.</p> <p>2) to carry out explanatory works regarding the matters of safety with the workers; to control personnel who work with heavy load if they have necessary licenses; to pay attention to ensuring road safety, in the field of road works;</p> <p>3) to provide fire safety logbooks and workers' licenses.</p>	
1.3	Date / Time / Venue of next Audit	19/07/2019	