Environmental Monitoring Report

Project Number: 39176-044
Bi-Annual Report
January 2017

AZE: Road Network Development Program – Project 4

Prepared by “Azeravtoyol” OJSC of the Republic of Azerbaijan for the Asian Development Bank.

January 2017

Republic of Azerbaijan:

AZE: Road Network Development Program–Tranche 4

Four Bridges Improvement Project Ganja Region, Agstafa District Roads: R 24 and Y-05-08

Report 1: July – December, 2016

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I. INTRODUCTION

A. Introduction to Project

1. The Four Bridge Improvement Project in Ganja region, Agstafa District is intended to optimize social and economic development in the Project Area through improved transport facilities. All four (4) bridges are situated in the Ganja Region and carry regional (R) or local (Y) roads over rivers or railways. The lengths and types of the existing bridges vary and the but all show signs of severe distress and lack of maintenance.

2. An Environmental Impact Assessment (EIA) was carried out for the project in 20013. The EIA report was approved by Azeravtoyol and ADB, and has served as a basis for the development of the specification and contract documents, and for the preparation and pricing of the Contractor Environmental Management Plan (EMP).

3. The Engineer appointed by Azeravtoyol is IRD Engineering LLC. The construction contractor for the works is KBT.

4. This report is the first bi-annual environmental monitoring report (EMR) covering the period 1st July to 31st December, 2016.

B. Objectives of Quarterly Environmental Reporting

5. The purpose of the bi-annual EMRs is to provide a summary of the key issues relating to environmental management over the past six months. The EMR includes an update on overall project progress, the status of Site Environmental Management Plan (SEMP) 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).

6. The EMRs are prepared by IRD Engineering and are intended to inform ADB and any other interested parties of the status of environmental management of the project.

C. Methodology

7. The bi-annual EMRs are prepared by reviewing and extracting key information from a number of sources, as follows:

- Contractors' Quarterly Health, Safety and Environment (HSE) Reports;
- Contractors' Grievance Registers;
- Engineer's Environmental Health and Safety Managers field reports;
- Any relevant instrumented monitoring results; and
- Site visits made by the Engineers International Environmental Specialist.

D. Construction Activities and Project Progress

8. The Progress of the Project during the last six months is shown by **Table 1** below:

Table 1: Progress of the Contractor

Item	Progress (%)
Bridge #1 Progress	75.11
Bridge #2 Progress	65.18
Bridge #3 Progress	71.24
Bridge #4 Progress	71.91
Physical Progress	68.12
Financial Progress	64.46

E. Project organization and environmental management team

9. The Contractors HSE team comprises:

a) Mr. Nasimi Yusifov. HSE Manager – responsible for the overall management of HSE issues for KBT.

b) Mr. Rahid Abbasov Corporate HSE officer - He is responsible for Quarterly monitoring and reporting of Project activities.

10. The Engineers EHS team comprises:

a) Turac Israfilov, Environmental and Health and Safety Manager (EHSM) – Responsible for the weekly checks of the Contractors activities and reporting to the Team Leader.

b) Nick Skinner International Environmental Specialist (IES) – Responsible for periodic site visits and preparation of the bi-annual environmental reports on behalf of the Engineer.

F. Relationships with Contractors, owner, lender, etc.

11. The relationships between contractors, Engineer, Owner, and Lender are considered normal working relationships.

12. At the working level, communication with regards to environmental issues remains good.

II. ENVIRONMENTAL MONITORING

A. Status

13. **General** - According to the SEMP and KBTs contract, KBT is responsible for instrumental monitoring of air quality, water quality and noise.

B. Results

14. **Air Quality** – Air Quality monitoring was undertaken in October and December, 2016 by representatives of the Environmental Monitoring Department of the Ministry for Environment and Natural Resources (MENR). The air monitoring results are summarized below in **Table 2 & 3** and in full as **Appendix A**.

15. The results of the monitoring indicate that air quality in the project area is within the set national standards for all of the monitoring locations.

16. **Noise Monitoring** - Noise monitoring was undertaken in October and December, 2016. The monitoring results are summarized below in **Table 4 & 5** and in full as **Appendix B.**

17. The results of the monitoring indicate that noise levels were within the set national limits for both daytime and night-time periods.

18. **Water Quality Monitoring** - Water quality monitoring was undertaken in October and December, 2016 at Bridge 2, Bridge 4 and At the surface water behind KBT Construction Camp. The water quality monitoring results are presented below in **Table 6 & 7** and in full as **Appendix C**.

19. The results of the water quality monitoring indicate that most of the parameters tested were within the limits of the national standards. Suspended solids were higher downstream of the bridge works than upstream. This is obviously a result of the construction works within the river bed and on the river banks. However, the levels of sedimentation are not a cause for concern. Levels of dissolved oxygen (DO) were difficult to interpret in September, as they went from 3.3mg/l upstream to 4.0mg/l 10 meters downstream and down to 0.9mg/l 200 meters downstream of the bridge. Levels of DO below 1mg/l can have significant impacts of aquatic life. Decembers results showed a similar pattern. Low DO primarily results from excessive algae growth caused by phosphorus and nitrogen, e.g. fertilisers. This suggests that external factors downstream maybe contributing to the lower levels of DO.

C. Action

20. **Air Quality** – None required other than continuation of the air quality monitoring program, schedule for March, 2017.

21. **Noise** - None required other than continuation of the air quality monitoring program, schedule for March, 2017.

22. **Water Quality** – During the next reporting period the issue of low DO levels will be investigated further by the Engineer.

Table 2: Air Quality Results - October, 2016

#	Parameter	Unit	Value						National Standard
			Bridge 2, North Embankment	Bridge 2 south Embankment	Bridge 4 side of road	Bridge 4 side of road	Bridge 1 access road	Bridge 1 close to bridge	
1	Dust	mg/m^3	0.080	0.083	0.099	0.123	0.032	0.039	0.5
2	Nitrogen Dioxide (NO_2)	mg/m^3	0.05	0.02	0.04	0.05	0.03	0.07	0.085
3	Sulfur Dioxide (SO_2)	mg/m^3	0.017	0.023	0.012	0.035	0.024	0.011	0.5
4	Hydrogen sulfide	mg/m^3	0.002	0.001	0.002	0.001	0.001	0.003	0.008
5	Carbon Monoxide (CO)	mg/m^3	2	1	2	2	1	2	5

Table 3: Air Quality Results - December, 2016

#	Parameter	Unit	Value						National Standard
			Bridge 2, North Embankment	Bridge 2 south Embankment	Bridge 4 side of road	Bridge 4 side of road	Bridge 1 access road	Bridge 1 close to bridge	
1	Dust	mg/m^3	0.091	0.088	0.086	0.210	0.045	0.099	0.5
2	Nitrogen Dioxide (NO_2)	mg/m^3	0.03	0.01	0.03	0.04	0.05	0.02	0.085
3	Sulfur Dioxide (SO_2)	mg/m^3	0.010	0.020	0.7	0.014	0.09	0.010	0.5
4	Hydrogen sulfide	mg/m^3	0.001	0.001	0.002	0.001	0.004	0.002	0.008
5	Carbon Monoxide (CO)	mg/m^3	3	2	1	3	1	2	5

Table 4: Noise Monitoring Results - October, 2106

#	Parameter	Value						National Standard
		Bridge 2, North Embankment	Bridge 2 south Embankment	Bridge 4 side of road	Bridge 4 side of road	Bridge 1 access road	Bridge 1 close to bridge	
1	Daytime Laeq 1h (dBA)	49.3	39.3	50.3	41.4	34.5	38.3	60
2	Nightime Laeq 1h (dBA)	34.3	30.0	43.0	35.4	32.1	30.4	45

Table 5: Noise Monitoring Results - December, 2106

#	Parameter	Value						National Standard
		Bridge 2, North Embankment	Bridge 2 south Embankment	Bridge 4 side of road	Bridge 4 side of road	Bridge 1 access road	Bridge 1 close to bridge	
1	Daytime Laeq 1h (dBA)	56.1	59.3	49.2	45.6	39.9	38.9	60
2	Nightime Laeq 1h (dBA)	43.3	35.2	40.3	39.0	35.3	32.3	45

Table 6: Water Quality Results – October, 2016

#	Parameter	Unit	Value							National Standard
			Agstafa River, Bridge 4, 10 meters downstream	Agstafa River, Bridge 4, 200 meters downstream	Agstafa River, Bridge 4, 200 meters upstream	Pond behind KBT construction camp	Kur River, Bridge 2, 200 meters downstream	Kur River, Bridge 2, 10 meters downstream	Kur River, Bridge 2, 200 meters upstream	
1	Electrical conductivity	$x10^3$ Sm/s m	0.902	0.886	0.918	2.180	0.647	0.701	0.781	-
2	Dissolved Oxygen	Mg/l	6.1	5.6	7.1	**3.6**	**0.9**	4.0	**3.3**	≥ 4.0
3	pH	-	7.8	7.7	7.7	7.5	7.7	7.7	7.6	6.5 – 8.5
4	Suspended Solids	Mg/l	7	6	1	17	19	13	8	In the background > 0.25
5	Chemical Oxygen Demand (COD)	Mg/l	0	0	0	0	0	0	0	-

6	Biological Oxygen Demand (BOD)	Mg/l	0.9	0.1	1.6	1.0	0.3	0.1	0.1	3
7	Temperature	Degrees Celcius	16.4	19.0	17.1	16.2	15.4	18.9	17.3	-
8	Oil and oil products	Mg/l	0	0	0	0	0	0	0	-

Table 7: Water Quality Results – December, 2016

#	Parameter	Unit	Value							National Standard
			Agstafa River, Bridge 4, 10 meters downstream	Agstafa River, Bridge 4, 200 meters downstream	Agstafa River, Bridge 4, 200 meters upstream	Pond behind KBT construction camp	Kur River, Bridge 2, 200 meters downstream	Kur River, Bridge 2, 10 meters downstream	Kur River, Bridge 2, 200 meters upstream	
1	Electrical conductivity	$x10^3$ Sm/s m	0.897	0.872	0.901	2.170	0.631	0.670	0.674	-
2	Dissolved Oxygen	Mg/l	6.2	5.6	7.1	**3.6**	**0.9**	4.0	**3.3**	≥ 4.0
3	pH	-	7.6	7.8	7.7	7.6	7.7	7.7	7.6	6.5 – 8.5
4	Suspended Solids	Mg/l	6	7	1	15	17	14	7	In the background > 0.25
5	Chemical Oxygen Demand (COD)	Mg/l	0	0	0	0	0	0	0	-

6	Biological Oxygen Demand (BOD)	Mg/l	0.8	0.1	1.5	1.0	0.4	0.2	0.1	3
7	Temperature	Degrees Celcius	10.4	15.0	14.1	13.2	13.4	15.9	14.3	-
8	Oil and oil products	Mg/l	0	0	0	0	0	0	0	-

III. ENVIRONMENTAL MANAGEMENT

A. Status

23. The Project comprises four sub-projects, two of which cross perennial rivers (Bridges 2 & 4), with the remaining two crossing a railway line (Bridge 1) and a dry river bed (Bridge 3). Environmental impacts associated with bridges 1 and 3 are fairly limited and independently would not normally require any form of environmental impact assessment. Impacts to air quality and noise levels are easily mitigated and few other impacts have been identified in these areas. However, occupational health and safety is an issue, especially at Bridge 1 where working at height has the potential to result in significant accidents if correct PPE is not applied.

24. Bridges 2 and 4 cross the Kur River and Agstafa River respectively. As such, the potential for environmental and health and safety incidents in these areas is greater than at Bridges 1 & 3.

25. A site visit was made by the Engineers IES in December, 2016. The IES was accompanied on his visit by the Engineers EHSM. The purpose of the visit was to ensure that the Contractor had completed the items outlined in in his quarterly report (September, 2016) and to survey the camp and construction sites to see if any new issues have arisen. The findings of the visit are summarised in two tables; **Table 11** outlining the Contractors progress during the period September – December, and **Table 12** outlining any newly identified non-compliance issues.

B. Documents

26. Part of KBTs environmental obligations is the production of Quarterly Environmental, Health and Safety Reports based on the findings of regular site inspections. The KBT HSE Manager, Nasimi Yusifov, is responsible for this and all other environmental management issues relating to the contract. The first Quarterly Environmental, Health and Safety Report was prepared in September, 2016 and submitted to the Engineer for comment and approval.

27. KBT also has the responsibility to complete the bi-weekly EHS checklists that form part of his SSEMP obligations. Checklists are now being prepared on a bi-weekly basis and they are documented in the HSE Managers office and provided to the Engineer.

28. The SSEMP has been approved by the Engineer. However a couple of supplemental plans are still outstanding or require approval from the Engineer. **Table 9** provides a list of the plans and documents which form the SSEMP. The SSEMP and its supplemental plans are kept on site by the Contractors HSE Manager.

Table 9: SSEMP Status

Document Ref #	**Item**	**Status**
02/2014/AZE SSEMP	Site Specific Environmental Management Plan	**Approved by Engineer**
02/2014/AZE WMP	Waste Management Plan	**Approved by Engineer**

02/2014/AZE WQMP	Water Quality Management Plan	**Approved by Engineer**
02/2014/AZE AQMP	Air Quality Management Plan (Including dust suppression plan)	**Approved by Engineer**
KBT-02/2016/AZE_TMP	Traffic management plan	**Approved by Engineer**
02/2014/AZE NMP	Noise Management Plan	**Approved by Engineer**
02/2014/AZE ERP	Emergency Response Plan	Not submitted
KBT-02/2016/AZE_PQP	Health and Safety Plan	**Approved by Engineer**
02/2014/AZE CSP	Camp Site Plan	Not submitted

29. KBT is responsible for obtaining and maintaining a number of environmental, health and safety permits. **Table 10** provides an overview of the current status of these permits. The table clearly shows that KBT still have not obtained any permits for their construction camp. It should be noted however, that there is little scope for significant pollution events occurring at the camp due to the fact that the camp is used primarily as an area for accommodation and offices. It is also noted that permits are still required for the concrete batching plant. This plant is owned and operated by KBT, but not only for the sole purpose of the Project.

Table 10: Status of Permits and Licenses

Location	Permit / Permission	Date Obtained	Update / Action
Construction Camp	Land Acquisition Contract	-	**Required**
	Land use Approval	-	**Required**
	Eco. Expertise Approval	-	**Required**
	Ecological Passport	-	**Required**

	Contract for Waste disposal	-	**Required**
	Contract-Sewage disposal	-	**Required**
Concrete Batching Plant	Eco. Expertise Approval	18.04.2013	None. Required only once.
	Ecological Passport	-	**Required**
	Limits of Emissions to the Atmosphere	-	**Required**
Stone Crushing Plant	Eco. Expertise Approval	18.04.2013	None. Required only once.
	Ecological Passport	18.10.2013	None. Required only once.
Borrow Pit	Land Acquisition	23.12.2013	None. Required only once.
	Eco. Expertise Approval	18.04.2013	None. Required only once.
	Ecological Passport	18.10.2013	None. Required only once.
	Limits of Emissions to the Atmosphere	18.10.2013	**Required**

C. Inspections and Audits

30. The Engineers EHSM conducts site visits over a period of two days on a bi-weekly basis.

31. As noted above, the Engineer's IES also made a site visit to all construction areas and the Contractors camp during the reporting period (December, 2016).

32. The Executing Agency has made a number of *ad hoc* visits to site as required.

D. Non-Compliance and Corrective Actions

33. **Table 11** provides a summary of issues identified by KBT HSE team during the last quarterly report and an update on these issues and **Table 12** provides a summary of issues identified by the IES during his site visit (December, 2016).

Table 11: Quarterly Report Observed HSE Issues & Progress

Item	Comment	Action	Responsibility	Schedule	Progress - December 2016
1.	 Lack of PPE working at height. No suitable ladder.	1. Staff should be informed that harnesses must be worn when working at height. 2. Suitable ladders need to be provided.	1. KBT HSE Team 2. KBT Site Manager	1. At the time of incident. 2. Throughout construction period.	Ladders and scaffolding at some locations is still not adequate.

2.	 Concrete sludge washed out into Agstafa river.	1. Concrete mixers should not be washed out in rivers. 2. Training to be provided to staff.	1. Mixer operators 2. KBT HSE Team	1. Throughout construction. 2. Periodically throughout construction.	There was no evidence of mixers being washed out in the Agstafa river. However, according to the Engineers EHSM concrete mixers had been washed out into the Kur river.
3.	 Concrete sludge washed out on open land.	1. Concrete mixers should not be washed out on bare soils. 2. Training to be provided to staff.	1. Mixer operators 2. KBT HSE Team	1. Throughout construction. 2. Periodically throughout construction.	Concrete mixers are still being washed out on bare soils at most of the construction sites (see **Table 12** below).

4.	 Lack of safety barriers and warning signs on approach to Bridge 2.	1. Construct suitable safety barriers and provide warning signs.	1. KBT HSE Team	1. Throughout construction period.	Safety barriers are still not adequate in several locations (see **Table 12** below).
5.	 Poor storage of oils at construction camp.	1. Provide bunding for hazardous liquid storage.	1. KBT site manager.	1. During the next reporting period.	This area has now been bunded, although the height of the bund should be increased.

6.	 Waste behind the construction camp.	1. Clean up waste materials.	1. KBT site manager.	1. As soon as possible.	Lots of waste materials are still present (see **Table 12** below).

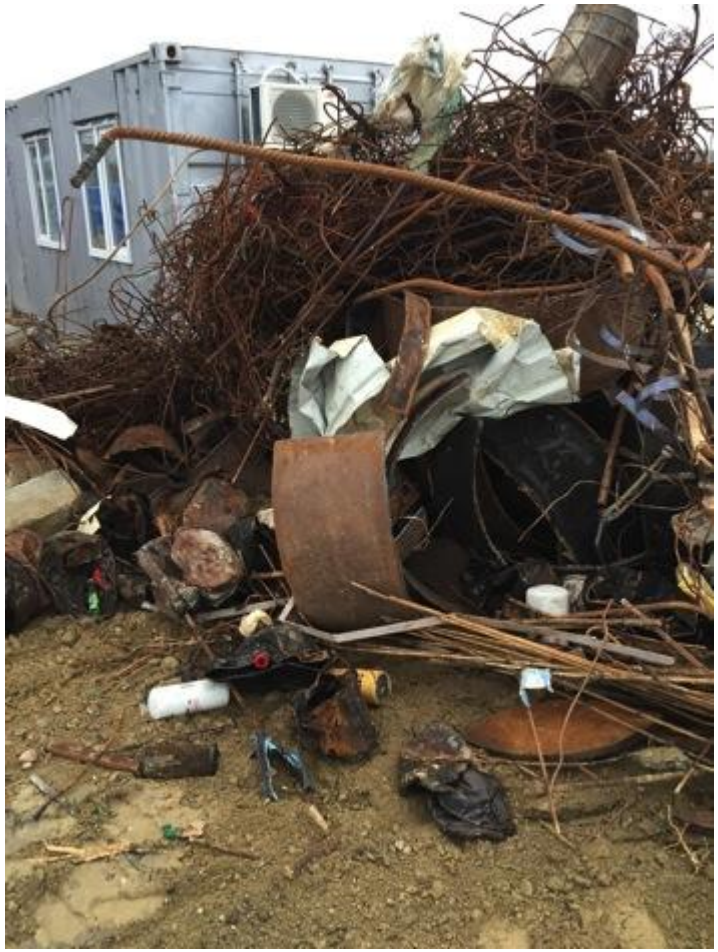
Table 12: Non-compliance activities, December, 2016.

Item	Comment	Action	Responsibility	Schedule
1.	 Inadequate PPE and dangerous scaffolding and ladders.	1. Ensure that adequate PPE is used by staff at all times, including the use of harnesses. 2. Provide suitable quality and safe scaffolding and ladders for access to heights.	1. KBT site manager to ensure scaffolding, ladders and PPE is provided. 2. KBT HSE Manager to provide regular PPE toolbox sessions to staff.	1. 15th January, 2017

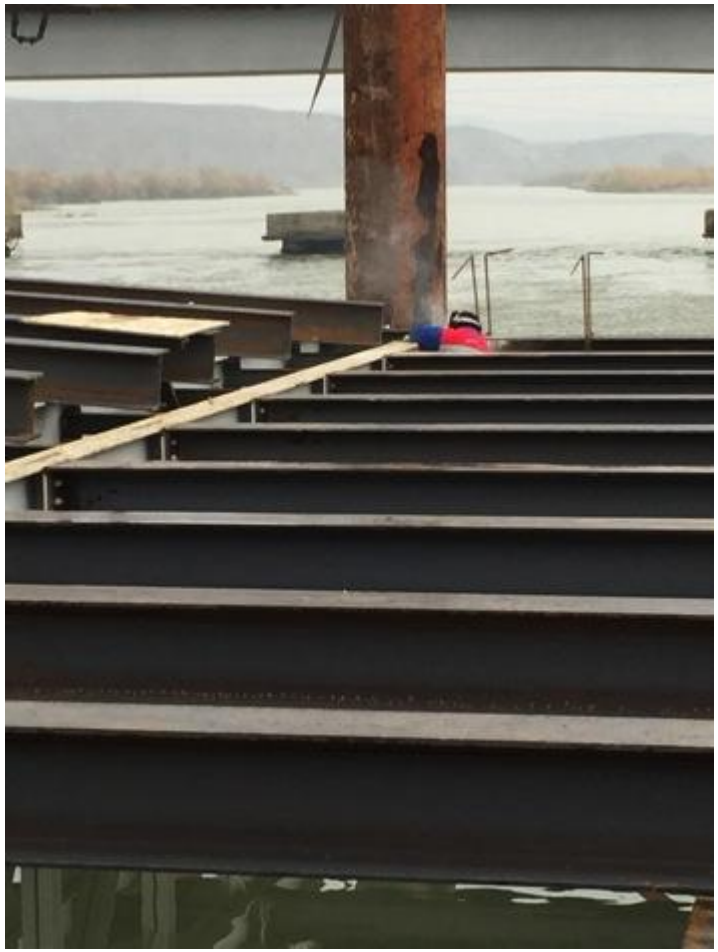
2.	 Groundwater pumped from pier foundations is high in silt content and being discharged directly to the Agstafa river.	1. Install a silt trap to reduce silt levels entering into the Agstafa river.	1. KBT Site Manager.	1. 7th January, 2017

3.	 Plasticisers and oil tanks are still not bunded.	1. Ensure all hazardous liquids are stored within impermeable bunds capable of containing 120% of the volume of the largest container in the bund.	1. KBT Site Manager.	1. 15th January, 2017

4.	 Waste materials scattered behind construction camp.	1. Remove waste materials from this area. 2. Erect signs prohibiting waste from being dumped in this area.	1. KBT Site Manager.	1. 15th January, 2017

5.	 Hazardous waste is dumped on open ground and mixed with non-hazardous waste at the construction camp.	1. Provide suitable containers for hazardous waste at all work-sites. 2. Provide toolbox training for staff in waste management. 3. Separate all hazardous and non-hazardous wastes.	1. KBT Site Manager to provide waste containers. 2. KBT HSE Manager to provide toolbox training.	1. Waste containers - 15th January, 2017. 2. Training – once every two weeks from 15th January, 2017.
		1. All fire extinguishers and fire fighting equipment should be inspected on a regular basis.	1. KBT EHS Manager to inspect extinguishers.	1. 15th January, 2017

	 Fire extinguisher with low pressure in the construction camp.	2. Low pressure extinguishers should be replaced.	2. KBT Site Manger to replace extinguishers.	

	 Welder working above the Kur River without suitable PPE.	1. All workers working in the vicinity of the Kur River should be wearing life vests.	1. KBT HSE Manager	1. 15th January, 2017

E. Training

34. During the present reporting period there have been no training programs provided to staff in matters relating to health and safety and environment. KBT has been notified by the Engineer that basic environmental and health and safety training must be undertaken on a regular basis.

35. During the next reporting period KBT will aim to provide training to staff, including:

- Use of PPE
- Fire Safety
- Waste Management

F. Grievances

36. According to the Contract it is the responsibility of the Engineer to record and manage grievances reported on-site. **Table 13** provides a list of the grievances received and the comments made by the Engineer to remedy the issues.

37. The main grievances relate to the poor condition of the access road at Bridge No1 and the lack of suitable crossing areas for pedestrians on the existing Kur River Bridge.

Table 13: Grievances

No:	Address	Date Received	How grievance was received	Plaintiff	Description of the issues/complaints
1	Gazakh city, A.Mustafayev street No:14	24.10.16	Written	Zeynalov Surkhay	The detour road near the Bridge No1 is a bad condition. Local people suffer from this condition.
2	Akstafa city, Osman Sarvarli street No:13	24.10.16	Written	Mammadov Subhan	The detour road near the Bridge No1 is a bad condition. İt creates a problems in our cars.
3	Tovuz district, Eyyublu village	24.10.16	Written	Umudov Vugar	Due to construction of new Bridge No1. Temporary road is a bad condition
4	Akstafa district, Dagh-Kasaman village	25.10.16	Written	Valiyeva Kamala	The detour road near the Bridge No1 is a bad condition.
5	Gazakh city, H.Aliyev avenue, home 65	25.10.16	Written	Nasibov Novruz	The detour road near the Bridge No1 is a bad condition.
6	Akstafa district, Mughanli village	25.10.16	Written	Mughanli village residents	The detour road near the Bridge No1 is a bad condition.

No:	Address	Date Received	How grievance was received	Plaintiff	Description of the issues/complaints
7	Aksatafa district, Ceyranchol village	22.11.16	Written	Guliyev Ekhan	The detour road near the Bridge No1 is a bad condition.
8	Gazakh district, Aghkoynak village	22.11.16	Written	Maharramov Samandiyar	The detour road near the Bridge No1 is a bad condition.
9	Gazakh city, A.Mustafayev street No:14	23.11.16	Written	Zeynalov Surkhay	The detour road near the Bridge No1 is a bad condition.
10	Gazakh district, Dagh-Kasaman, home 21	23.11.16	Written	Mammadov Subhan	The detour road near the Bridge No1 is a bad condition.
11	Gazakh district, home 9	23.11.16	Written	Huseynov Emil	The detour road near the Bridge No1 is a bad condition.
12	Akstafa district, Poylu village	22.11.16	Written	Suleymanov Gurban	The detour road near the Bridge No1 is a bad condition.
13	Akstafa district, Poylu village	11.10./2016	Written	Sayadov Fuad	Every day I walk to the work. Due to construction of Bridge, i can't cross the river easily. The company doesn't/t gives any information about the exact completion day of construction as well as sometimes creates various problems for us to cross the river.

No:	Address	Date Received	How grievance was received	Plaintiff	Description of the issues/complaints
14	Akstafa district, Poylu village	20.10.2016	Written	Zulfi Hasanov	I live in Poylu village and works as taxi driver. After the rain it is really difficult to drive in detour road near the Bridge No.1 and it creates various problems in my car. And repairing car is cost a lot.
15	Akstafa district, Poylu village	18.10.2016	Written	Allahyarov F.	Construction of new bridge over the river in the Poylu village, I can't cross the river easily.
16	Akstafa district, Poylu village	22.08.2016	Written	Gahramanova Z.	Sometimes there is 24 hours' work in construction of Bridge No: 2 at Poylu village and I can't sleep and rest at night.

G. Conclusions

38. Monitoring of air, noise and water quality was undertaken by the MENR. The results showed that all parameters were within the limits set by national standards with the exception of DO and Suspended Solids at Bridge No2. Suspended solids were higher downstream of the bridge works than upstream. However, the levels of sedimentation are not a cause for concern. Levels of DO were identified as low as 0.9mg/l 200 meters downstream of the bridge. Levels of DO below 1mg/l can have significant impacts of aquatic life. Low DO primarily results from excessive algae growth caused by phosphorus and nitrogen, e.g. fertilisers. This suggests that external factors downstream maybe contributing to the lower levels of DO rather than the bridge works, but this issue needs to be investigated further by the Engineer.

39. KBT have prepared their SSEMP for the project and it has been approved by the Engineer along with several of its supplemental plans. Two supplemental plans remain outstanding and they will be completed during the next reporting period.

40. Several permits and licenses remain outstanding. The lack of permits at the KBT camp is more of a regulatory issue than anything and KBT will ensure that these permits and licenses are in place during the next reporting period.

41. No training sessions have been provided to staff to date. KBT will start a series of training sessions relating to health, safety and the environment during the next reporting period.

42. The main grievances relate to the poor condition of the access road at Bridge No1 and the lack of suitable crossing areas for pedestrians on the existing Kur River Bridge. The Contractor has been reminded by the Engineer that he shall ensure that the access road is kept in an adequate condition for the remainder of the project works. The lack of pedestrian crossing options at the Kur River bridge is an on-going issue that dates from before the start of the Project. Completion of the new bridge will resolve this issue.

43. A number of minor environmental, health and safety issues were noted around the site by the HSE team. The Engineer has discussed these issues with the Contractor who will ensure that these issues are resolved during the next reporting period.

IV. ANNEXES

ANNEX A: AIR QUALITY MONITORING RESULTS

12.10.16 - cı il tarixində - "Körpü Bina tikinti" MMC-nin Gəncə-Qazax regionunda tikilən körpüdə aparılan hava nümunələri analizlərinin nəticələri

Sıra №	Təyin olunan çirkləndiricilər	Ölçü vahidi	Çirkləndiricilərin miqdarı						YVQH (Yol Verilən Qatılıq Həddi)
			№1 Körpü 2, Şimal torpaq yatağı. 41°14'34.50"N/45°26'21.26" E	№2 Körpü 2,Cənub torpaq yatağı 41°14'25.50"N/45°26'23.46" E	№3 Körpü 4, yolun kənarı 41°13'46.34"N/45°26'21.99" E	№4 Körpü 4, yolun kənarı 41°13'35.67"N/45°26'24.67" E	№5 Körpü 1, Giriş yolu 41°07'35.91"N/45°26'49.49" E	№6 Körpü 1, körpüyə yaxın 41°07'37.34"N/45°26'26.03" E	
1	Toz	mq/m³	0.080	0.083	0.099	0.123	0.032	0.039	0.5
2	Azot 4-oksid	mq/m³	0.05	0.02	0.04	0.05	0.03	0.07	0.085
3	Kükürd qazı	mq/m³	0.017	0.023	0.012	0.035	0.024	0.011	0.5
4	Hidrogen sulfid	mq/m³	0.002	0.001	0.002	0.001	0.001	0.003	0.008
5	Dəm qazı	mq/m³	2	1	2	2	1	2	5

Qeyd: Hava nümunələri üzərində aparılan analizlərin nəticələrinə görə bütün göstəricilər norma daxilindədir.

ƏMMMD-nın baş mühəxəssisi: Z. Həsənzadə

ANNEX B: NOISE MONITORING RESULTS

12.10.16 - cı il tarixində - "Körpü Bina tikinti" MMC-nin Gəncə-Qazax regionunda tikilən körpüdə aparılan səs analizlərin nəticələri

Sıra №	Təyin olunan çirkləndirici		Ölçü vahidi	Çirkləndiricilərin miqdarı						YVQH (Yol Verilən Qatılıq Həddi)
				№1 Körpü 2, Şimal torpaq yatağı. 41°14'34.50"N/4 5°26'21.26" E	№2 Körpü 2,Cənub torpaq yatağı 41°14'25.50"N/ 45°26'23.46" E	№3 Körpü 4, yolun kənarı 41°13'46.34"N/4 5°26'21.99" E	№4 Körpü 4, yolun kənarı 41°13'35.67"N/4 5°26'24.67" E	№5 Körpü 1, Giriş yolu 41°07'35.91"N/4 5°26'49.49" E	№6 Körpü 1, körpüyə yaxın 41°07'37.34"N/4 5°26'26.03" E	
1	Səs-küy	Gündüz	dBA	49.3	39.3	50.3	41.4	34.5	38.3	65-70
		axşam		34.3	30.0	43.0	35.4	32.1	30.4	

Qeyd: Aparılan səs-küy analizinin nəticələrinə görə bütün göstəricilər norma daxilindədir.

ƏMMMD-nin baş mühəxəssisi: Z.Həsənzadə

ANNEX C: WATER QUALITY MONITORING RESULTS

12.10.16 - cı il tarixində - "Körpü Bina tikinti" MMC Gəncə-Qazax regionunda tikilən körpüdən gətirilən su nümunələri üzərində aparılan fiziki-kimyəvi analizlərin nəticələri.

Nümunələrin növü və miqdarı: Su, 7 ədəd, hər biri 1 L
Nümunələrin laboratoriyada adı:
№7 Ağstafa çayı, Körpü 4, 10 metr axıntı istiqamətində (aşağı).
№8 Ağstafa çayı, Körpü 4, 200 metr axıntı istiqamətində (aşağı)
№9 Ağstafa çayı, Körpü 4, 200 metr axıntıya qarşı (yuxarı)
№10 KBT –nın tikinti sahəsinin (duşərgə) arxasında gölməçə
№11 Kür çayı, Körpü 2, 200 metr axıntı istiqamətində (aşağı)
№12 Kür çayı, Körpü 2,10 metr axıntı istiqamətində (aşağı)
№13 Kür çayı, Körpü 2,200 metr axıntı istiqamətində (yuxarı)
Nümunələrin laboratoriyaya daxil olma tarixi: 12.10.16
Analizlərin başlama tarixi: 12.10.16
Hesabatın verilmə tarixi: 18.10.16
Analiz metodları: Фомин Г.С.Вода.Энциклопед. справочник,Госстанд России, 2000 год.
Руководство по хим.анализу поверхностн. вод суши.Семенов А.Д. Гидромет,Л, 1977.
Standart Metods for the Examitnation of Water and Wastewater. American Publik Health Associatin, 1995 год.

Sıra №	Təyin olunan komponentlər	Ölçü vahidi	Komponentlərin miqdarı							YVQH (Yol Verilən Qatılıq Həddi)
			№7 Ağstafa çayı, Körpü 4, 10 metr axıntı istiqamətində (aşağı) 41°13'34.87"N/45°26'12.26" E	№8 Ağstafa çayı, Körpü 4, 200 metr axıntı istiqamətində (aşağı) 41°13'40.56" N/45°26'12.26"E	№9 Ağstafa çayı, Körpü 4, 200 metr axıntıya qarşı (yuxarı) 41°13'27.35" N/45°26'23.20"E	№10 KBT–nın tikinti sahəsinin (duşərgə) arxasında gölməçə 41°14'19.66" N/45°26'16.05"E	№11 Kür çayı, Körpü 2, 200 metr axıntı istiqamətində (aşağı) 41°14'39.35"N/ 45°26'48.38"E	№12 Kür çayı, Körpü 2,10 metr axıntı istiqamətində (aşağı) 41°14'30.69"N/45°26' 27.50"E	№13 Kür çayı, Körpü 2,200 metr axıntıya qarşı (yuxarı) 41°14'21.45" N/45°25'59.00"E	
1	Qoxu, (orqanolep. metodla--ISO 4121)	-	qoxusuz				kanalizasiya qoxulu	zəif kanalizasiya qoxulu	qoxusuz	-

2	Elektrik keçiriciliyi – (kondukto metrik -ISO 7888)	$x10^{-3}$ Sm/s m	0.902	0.886	0.918	2.180	0.647	0.701	0.781	-
3	Həll olunmuş oksigen (elektrokimyəvi metod – ISO 5814)	mq/l %	6.1 76.2	5.6 63.1	7.1 81.2	3.6 42.3	0.9 10.2	4.0 46.3	3.3 38.4	≥4.0
4	Hidrogen göstəricisi, pH (potensiometrik -ISO 10523	-	7.8	7.7	7.7	7.5	7.7	7.7	7.6	6.5-8.5
5	Asılı bərk hissəciklər ISO 11923	mq/l	7	6	1	17	19	13	8	fondan> 0.25
6	OKS ISO 6060	mqO/l	0	0	0	0	0	0	0	–
7	Oksigenin 5-günlük sərfi (OBS_5) ISO 5815	mqO/l	0.9	0.1	1.6	1.0	0.3	0.1	0.1	3.0
8	Temperatur	°C	16.4	19.0	17.1	16.2	15.4	18.9	17.3	–
9	Neft və yağ məhsulları (spektrometrik -PD 52.24 476-95)	mq/l	0	0	0	0	0	0	0	–

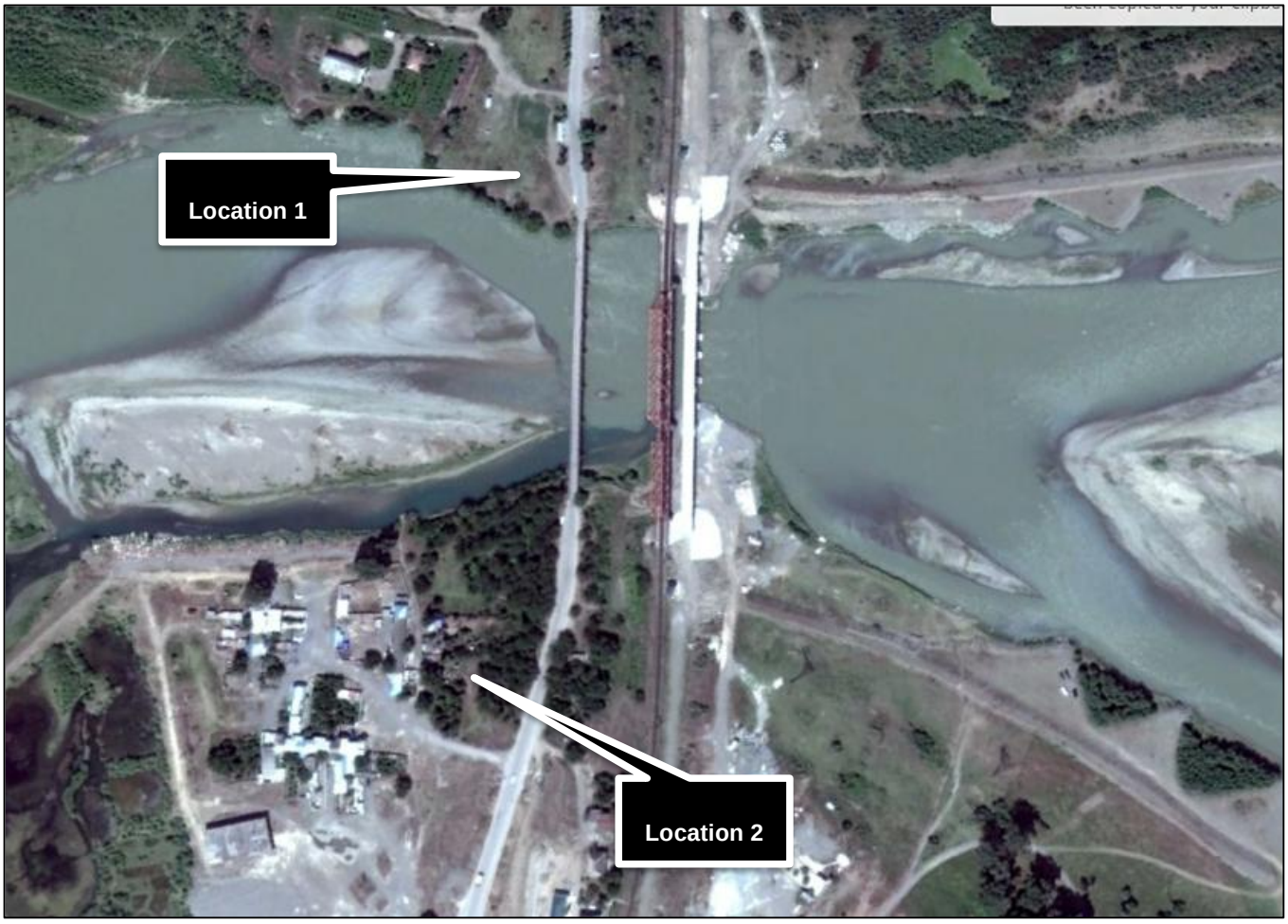
Analizlərin təhlili: Laboratoriyaya çatdırılmış su nümunələri üzərində aparılan müşahidələrə görə bütün nümunələr rəngsizdir. №11–li nümunədə həll olmuş oksigenin miqdarı kifayət qədər az, kanalizasiya qoxulu, №12–li nümunə isə zeif kanalizasiya qoxuludur. №10-li su nümunəsi digər nümunələrdən fərqli olaraq müəyyən duz tərkibinə malikdir. Nümunələrin digər fiziki-kimyəvi göstəriciləri norma daxilindədir.

Qeyd: Yerüstü sular üçün Yol Verilən Qatılıq Hədləri (YVQH) 04 yanvar 1994 - cü il № 01 - əmri ilə Azərb. Respub. Dövlət Ekologiya və Təbiətdən İstifadəyə Nəzarət Komitəsi tərəfindən təsdiq edilmiş "Yerüstü suların tullantı sularla çirklənməsindən mühafizə qaydaları" sənədindən götürülmüşdür.

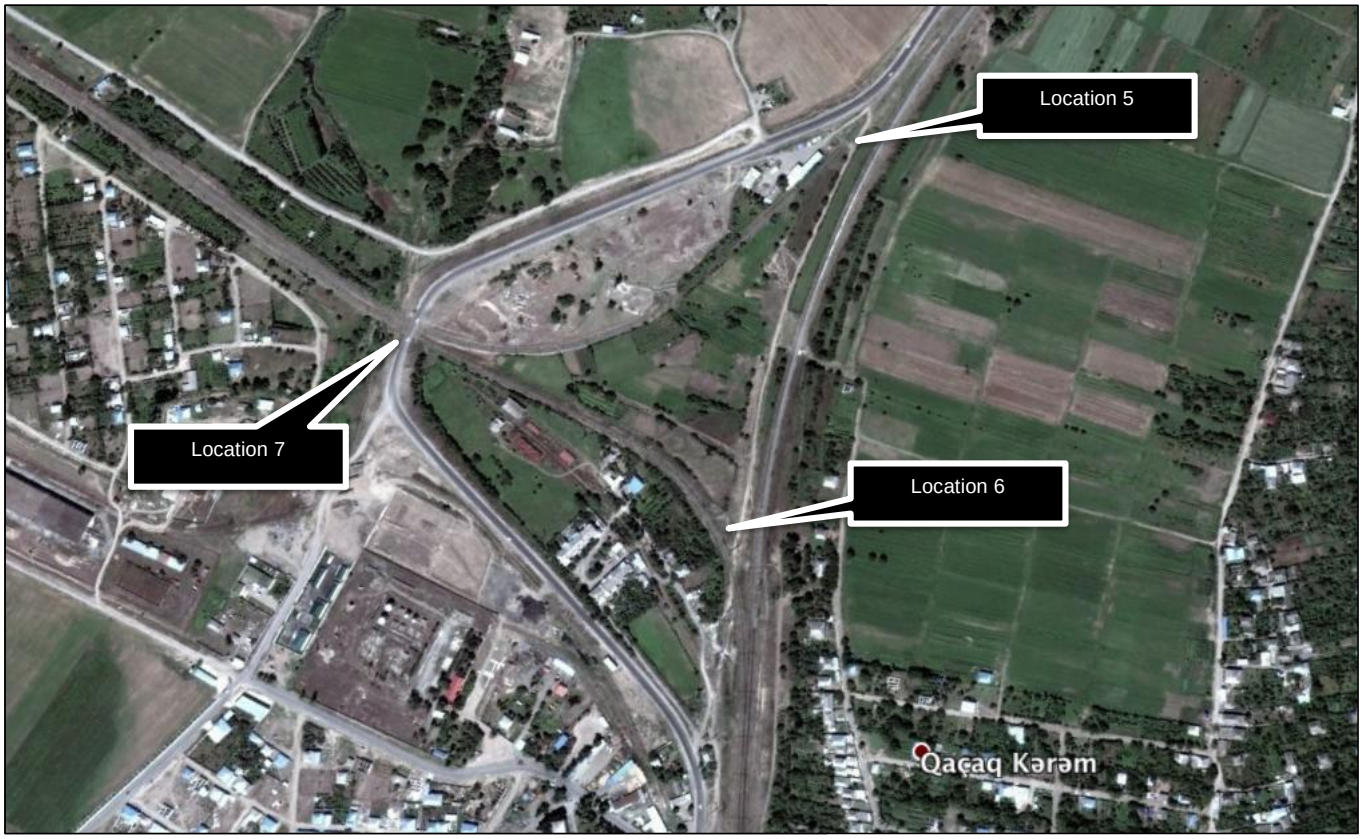
Təbii Suların Geokimyəvi Rejimi və Çirklənməsinin Monitorinqi Laboratoriyasının rəisi: Duşdurova A.

ANNEX D: MONITORING LOCATIONS

#	Location	GPS Coordinates	Monitoring Type
1	Bridge 2, North Embankment	41°14’34.50”N / 45°26’21.22”E	Air & Noise
2	Bridge 2 south Embankment	41°14’25.50”N / 45°26’23.46”E	Air & Noise
3	Bridge 4 side of road	41°13’46.34”N / 45°26’21.99”E	Air & Noise
4	Bridge 4 side of road	41°13’35.67”N / 45°26’24.67”E	Air & Noise
5	Bridge 1 access road	41°07’35.91”N / 45°26’49.49”E	Air & Noise
6	Bridge 1 close to bridge	41°07’37.34”N / 45°26’26.03”E	Air & Noise




Location 3
Location 4


Location 5
Location 7
Location 6
Qaçaq Kərəm

#	Location	GPS Coordinates	Monitoring Type
1	Agstafa River, Bridge 4, 10 meters downstream	41°13’34.87”N / 45°26’21.28”E	Water
2	Agstafa River, Bridge 4, 200 meters downstream	41°13’40.56”N / 45°26’12.26”E	Water
3	Agstafa River, Bridge 4, 200 meters upstream	41°13’27.35”N / 45°26’23.20”E	Water
4	Pond behind KBT construction camp	41 °14’19.66N / 45°26’16.05”E	Water
5	Kur River, Bridge 2, 200 meters downstream	41°14’39.35”N / 45°26’48.38”E	Water
6	Kur River, Bridge 2, 10 meters downstream	41°14’30.69”N / 45°26’27.50”E	Water
7	Kur River, Bridge 2, 200 meters ipstream	41°14’21.46”N / 45°25’59.00”E	Water