

Environmental Monitoring Report

Period Covered: July-December 2020
December 2020

PAKISTAN: KHYBER PAKHTUNKHWA PROVINCIAL ROADS IMPROVEMENT PROJECT

Prepared by Pakhtunkhwa Highway Authority for the Asian Development Bank.

NOTES

- (i) The fiscal year (FY) of the Government of the Islamic Republic of Pakistan and its agencies ends on 30 June.
- (ii) In this report, "\$" refers to US dollars.

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GOVERNMENT OF KHYBER PAKHTUNKHWA
Provincial Roads Improvement Project (PRIP) (ADB assisted)

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SUBJECT: Semi-Annual Environmental Monitoring Report (SAEMR July-Dec 2020).

The subject report, in PDF format, is forwarded for further necessary action please.


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Peshawar.

Copy to:

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ENVIRONMENTAL MONITORING REPORT

SEMESTRAL REPORT

July – December 2020

PAKISTAN: KHYBER PAKHTUNKHWA PROVINCIAL ROADS IMPROVEMENT PROJECT (KP PRIP)

Prepared by;

Project Implementation Unit (PIU), Pakhtunkhwa Highway Authority,
Government of Khyber Pakhtunkhwa for Asian Development Bank

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WEIGHTS AND MEASURES

°C	-	degree Celsius
km	-	kilometer
km ²	-	square kilometer
km/h	-	kilometer per hour
Kg	-	kilogram
L	-	liter
m	-	meter
ml	-	milli liter
m ³ /sec	-	cubic meter per second

ABBREVIATIONS / ACRONYMS

ADB	Asian Development Bank
CAP	Corrective Action Plan
C&W	Communication & Works Department
CEC	Creative Engineering Consultants
CSC	Construction Supervisory Consultants
DTL	Deputy Team Leader
DD	Deputy Director
ECNEC	Executive Committee of National Economic Council
EIA	Environmental Impact Assessment
EMP	Environment Management Plan
ESU	Environmental and Social Unit
GOKPK	Government of Khyber Pakhtunkhwa
IEE	Initial Environmental Examination
M&E	Monitoring and Evaluation
NEQS	National Environmental quality Standards
NOC	No Objection Certificate
PKHA	Pakhtunkhwa Highway Authority
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
PPTA	Project Preparatory Technical Assistance
PTCL	Pakistan Telecommunication Company Limited
SAEMR	Semi-Annual Environmental Monitoring Review
SSEMP	Site Specific Environment Management Plan

Glossary

“Ground Water”: The supply of fresh water found beneath the Earth's surface, usually in aquifers, which supply wells and springs.

“Municipal Solid Waste” (MSW) is a waste type that includes predominantly household waste (domestic waste) with sometimes the addition of commercial wastes collected by a municipality within a given area. The term residual waste relates to waste left from household sources containing materials that have not been separated out or sent for reprocessing.

“Personal Protective Equipment” (also PPE): Clothing and equipment worn by pesticide mixers, loaders and applicators and re-entry workers, hazmat emergency responders, which is worn to reduce their exposure to potentially hazardous chemicals and other pollutants.

“Particulates” (also PM_{10}): 1. Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air or emissions. 2. Very small solids suspended in water; they can vary in size, shape, density and electrical charge and can be gathered together by coagulation and flocculation.

“Risk Assessment”: Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

“Solid Waste Management” means any activity involving the handling, treatment and disposal of Solid Waste. Also means any supervised handling of waste materials from their source through recovery processes to final disposal.

“Sulfur Dioxide” (also SO_2): A pungent, colorless, gas formed primarily by the combustion of fossil fuels; becomes a pollutant when present in large amounts.

“Waste” means any movable articles or material for which their owner wishes to relinquish responsibility by Disposal or which must be removed from their holding place as waste to safeguard the common welfare and to protect the environment.

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1. INTRODUCTION

1.1. Preamble

1. The Government of Khyber Pakhtunkhwa has received loan from Asian Development Bank (ADB) to rehabilitate about 214km of severely deteriorated and economically viable roads. Pakhtunkhwa Highway Authority (PKHA) had assigned the task of Feasibility and Detailed Engineering Design to Joint Venture of M/S Creative Engineering Consultants, Peshawar and Hasan & Behram Consulting Engineers International, Peshawar. The Consultants finalized the Feasibility and Detailed Engineering Design and shortlisted nine roads with cumulative length of 214km. ADB entrusted M/s Engineering Consultants International (Private) Limited (ECIL) in association with David Lupton and AA Associates for Project Preparatory Technical Assistance (PPTA) consultants.
2. This report represents the fifth Semi-Annual Environmental Monitoring Review (SAEMR) for all nine roads that have been awarded in 2 packages as Package-1 (Lot 1 to 3) and Package-2 (Lot 1 to 6) with cumulative length of 214 km as listed in Table 1:

Table 1: Road Packages and their Length

Sr. No.	Description	Lot No.	Total length (in km)
1.	Shah Alam – Sardaryab Section (S-1)	Package -1, Lot - 01	11.950
2.	Umarzai – Harichand – Shergarh Section (S-9)	Package -1, Lot - 02	29.020
3.	Jandai-Sanga-e-Marmar Western Bypass Section (S-1-B)	Package -1, Lot - 03	16.400
4.	Khairabad–Kahi–Nizampur Road (S-6)	Package -2, Lot - 01	23.110
5.	Risalpur-Jehangira via Pir Sabaq-Misri Banda with link to Mardan R/road via Wali Interchange (Motorway) Provincial Highway (S-14)	Package -2, Lot - 02	36.680
6.	Jandai-Sanga-e-Marmar Eastern Bypass Section (S-1-B)	Package -2, Lot - 03	17.000
7.	Adina – Yar Hussain Road (S-1-C)	Package -2, Lot - 04	24.732
8.	Maqsood – Kohala-PirSohawa Road Section (S-1)	Package -2, Lot - 05	33.380
9.	Haripur – Hattar –Taxila Section (S-1)	Package -2, Lot - 06	21.970

1.2. Headline Information

3. On-site Trainings/Tool Box Talks have been extensively provided to the workers by the Supervision Consultant and contractor's environmental specialist on regular basis during reporting period and no major environmental and safety hazard occurred during this reporting period.
4. For all Category-C subprojects an Environmental Management Plan is being implemented.
5. For Package-2, Lot-05 Maqsood-Kohala-Pir Sohawa Road Section (S-1) and Package-2, Lot-06 Haripur-Hattar-Taxila Section (S-1) Site Specific Environmental Management Plans (SSEMP) are available and being implemented satisfactorily at construction sites.
6. The impediments, Package-2, Lot-06 presence of utilities like optical fiber line, Sui gas pipeline, WAPDA transmission line, water pipe line of Public Health Department are still available at some road sections causing delay in project civil works.
7. Khyber Pakhtunkhwa Environment Protection Agency (KPEPA) has issued the environmental approval for Package-2, Lot-05 regarding work in Forest reserved area (km19+00 to 21+500) vide EPA letter No. EPA/EIA/Roads/Haripur/20/117-119 dated October 01, 2020.
8. Package-2, Lot-05, No Objection Certificate (NOC) has been granted for trees cutting by the Forest department on 13th November 2020.
9. Special preventive and mitigation measures regarding COVID-19 (Corona Virus) are being implemented and compliance of these measures is mandatory for all project staff (including consultant, client, and contractor) in the best health interest of all staff and officials.
10. A new site for installation of additional concrete batching plant is selected through a joint visit of Environment Specialist of the Engineer and contractor project manager of Package -1, Lot - 03. The selected site meets the ADB sitting criteria.
11. Trainings on use of PPEs, housekeeping, traffic management, site safety and Waste management were provided to the workers and concerned contractor staff.
12. Eid-ul-Adha was celebrated on July 31, 2020.
13. The contractor on all the section carried out the tasks and actions described in EMP/SSEMP successfully. The main non-compliances relating to use of PPE, housekeeping, traffic management, waste material disposal, dust emissions, signage and COVID related measures etc. were identified for which onsite training was given and mitigation measures were properly implemented during this reporting period.

1.2.1. Key Dates

14. The key dates during the project approval and start process are listed below:

• PC-1 approved in PDWP	26 May, 2017
• ECNEC cleared the Project	06 Sep, 2017
• Loan negotiation approved by ADB	28 Nov, 2017
• Administrative approval Issued	04 Dec, 2017
• Advance Procurement Request sent to ADB	25 Dec, 2016
• ADB approved the Advance Procurement Request	15 Oct, 2017
• Loan Agreement signed	14 Mar, 2018
• Dates of bid opening	08 Jan – 26 Mar 2018
• Dates of contracts signing	19 Jun – 27 Jun 2018
• Date of commencement	02 Jul, 2018
• Date of Completion	30 Jun, 2020
• Revised Date of Completion	30 Jun, 2021
• Loan Effective	25 Sep, 2018
• Loan Closing	30 Jun, 2023

1.2.2. Site Specific Environmental Management Plan (SSEMP)

15. Of the nine roads under the project, the Haripur–Hattar Section (S-1), Lot–06 of Package 2, and Maqsood–Kohala-Pir Sohawa Road Section (S-1), Lot–05 of Package 2 are subprojects that fall under ADB's environmental category B, while the remaining seven subprojects are of environmental category C.

16. SSEMPs have already been prepared and are being implemented for the category B subprojects. For all other road projects Environmental Management Plans (EMPs) already prepared by PPTA consultants and approved by ADB are being implemented at sites.

1.2.3. Environmental Staff of the CSC

17. Environment Specialist of the Supervision staff has already been mobilized.

1.2.4. Environmental Staff of the Contractor

18. The contractors of Category B projects i.e. S-1 of Package-2 Lot–06 and S-1 of Package-2, Lot–05 have full-time Environment Specialists, while those of Category C subprojects have safety engineers and environmentalists on intermittent basis. Environmentalists and Safety Engineers for all projects have been hired by the contractors for EMP/SSEMP implementation.

1.2.5. Variation Orders

19. Variation orders for Package-1 Lot-1, Lot-2 and for Package-2, Lot-1, Lot-2, Lot-4, Lot-5 and Lot-6 have been prepared and approved by the competent authority during the reporting period.
20. No major environmental and health impact was associated with the variation order in the presence of EMP/SSEMP.

1.2.6. Main Issues:

21. **Slow Pace of Work:** The progress during the reporting period remained lagging behind in comparison with the anticipated work program given by the contractor at some road sections.
22. **Shifting of Utilities:** Shifting of utilities on different lots are causing delays in the project completion. Relocation of utilities on some of the subprojects, for which payments for the relocation cost have already been paid to the concerned authorities, are being done on a slow pace.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1. Project Description

23. The Government of Khyber Pakhtunkhwa has received loan from ADB to rehabilitate about 214km of severely deteriorated and economically viable roads. PKHA assigned the task of Feasibility and Detailed Engineering Design to JV- Creative Engineering Consultants, Peshawar and Hasan & Behram Consulting Engineers International, Peshawar. The Consultants finalized the Feasibility and Detailed Engineering Design and shortlisted nine roads with cumulative length of 214km. ADB hired ECIL in association with David Lupton and AA Associates as PPTA Consultants. Loan agreement of Loan No.3601/3602-PAK was signed on 14.03.2018.
24. The project is being administered by the Project Implementation Unit (PIU), Communication & Works Department (C&W) Government of Khyber Pakhtunkhwa (GOKPK), which is represented by the Project Director. PIU has hired the Engineers or the Construction Supervisory Consultants (CSC), for construction supervision of the civil works. A Joint Venture of Minconsult Sdn. Bhd (Malaysia) and Creative Engineering Consultants (Pakistan) has been recruited as CSC under ADB guidelines on June 20, 2018.
25. All nine roads (214km) have been awarded in two (2) packages as Package-1 (Lot 1 to 3) and Package-2 (Lot 1 to 6). The Project KP-PRIP envisages rehabilitation of 214km of roads including culverts and bridges. For details regarding summary of all road contracts, contractors' names, their respective costs and road lengths Table 2 may be referred to.

2.2. Project Contracts and Management

26. The designs of roads were reviewed and approved PPTA Consultants i.e. ECIL in association with David Lupton and AA Associates, hired by ADB.
27. Minconsult Sdn. Bhd (Malaysia) and M/S Creative Engineering Consultants (Pakistan) were named as Construction Supervisory Consultant (CSC).
28. The Consultancy Agreement between Construction Supervisory Consultant (CSC) and Project Implementation Unit (PIU) of Communication & Works Department, Government of Khyber Pakhtunkhwa was signed on 20 June 2018.

2.3. Project Organization and Environmental Management Team

29. Communication & Works (C&W) Department has established Environmental and Social Unit (ESU) headed by Deputy Director Environment & Resettlement. The ESU is responsible for environmental and social review based on the selection criteria, preparation, submission, implementation and environmental management & monitoring and evaluation of all projects.

30. ADB has provided Environmental Specialist in order to have technical support to ESU. Construction and Supervision Consultants (CSC) has been engaged by Implementation Agency in order to strengthen their procurement capacity, support and help to monitor, design and construction supervision services, and support the preparation, implementation, monitoring and compliance of environmental safeguard action plans including consultation, social and gender analysis. The CSC have established an office at Hayatabad, Phase-III Chowk Peshawar and sub-offices at Hattar, Maqsood Kohala and Nizampur construction sites are under the respective Resident Engineers. The Contractors at each site have hired Environmentalists and/or Safety Engineers who worked with the help of Contractor's support staff (Site Engineers, Inspectors, etc).

2.4. Relationship with the Contractors and the Engineer

31. The Team Leader (TL) from the Construction and Supervision Consultants with the assistance of Deputy Team Leader (DTL) of the project has the role of "the Engineer" under the construction contracts. Under the CSC, the Environment Specialist is on board for all the projects. During the reporting period the Engineer and his team, contractors and their field staff coordinated in the implementation of EMP/SSEMP through site visits and during monthly progress review meetings. A productive relationship with PIU has resulted in the implementation of Environmental Management Plan and monitoring at all subprojects. The Environment Specialist of CSC has checked the compliance through Environment Checklist and shared with the contractor and Deputy Director (Env. & Resett) of client. A number of meetings of Client, CSC and Contractors were held at site and at Client/Consultant office Hayatabad, Peshawar and field offices. During all meeting COVID 19 precautionary measures were observed. The execution of construction activities and related environmental issues with mitigation measures were discussed during the site visits and meetings. Most of the issues were resolved during these meetings while for the unresolved issues a strategy for resolution was developed with the guidance of CSC Environmental Specialist and regular coordination with the Deputy Director (Env. & Resett).

Table 2: Summary of Construction Contracts of All Roads

S#	Contract (Package #)	Road	Length (in Km)	Contractor Name	Commence ment Date	Completion Date
1.	Package -1, Lot - 01	Shah Alam – Sardaryab Section (S-1)	11.95	M/s Nasrallah Jan Inamullah Khan & Co Pvt. Ltd.	1/Jul/18	30/April/20
2.	Package -1, Lot - 02	Umarzai – Harichand – Sherghar Section (S-9)	29.02	Khattak Allied Construction Company	1/Jul/18	31/Dec/20
3.	Package -1, Lot - 03	Jandai-Sanga-e-Marmar Western By Pass Road Section (S-1-B)	16.40	M/s Karcon Pvt.Ltd.	1/Jul/18	27/Dec/20
4.	Package -2, Lot - 01	Khairabad–Kahi–Nizampur Road (S-6)	23.11	M/S Umar Jan & Co- M/s JHK Construction Co JV	1/Jul/18	31/Dec/20
5.	Package -2, Lot - 02	Risalpur – Jehangira via Pir Sabaq – Misri Banda with link to Mardan R/road via Wali Interchange (Motorway) Provincial Highway S-14	36.68	Khattak Allied Construction Company	1/Jul/18	31/Dec/20
6.	Package -2, Lot - 03	Jandai-Sanga-e-Marmar Eastern By Pass Road Section (S-1-B)	17.00	M/s Karcon Pvt.Ltd.	1/Jul/18	16/Nov/20
7.	Package -2, Lot - 04	Adina – Yar Hussain Road (S-1-C)	24.73	Khattak Allied Construction Company	1/Jul/18	31/Oct/20
8.	Package -2, Lot - 05	Maqsood – Kohala-Pir Sohawa Road Section (S-1)	33.38	Khattak Allied Construction Company	1/Jul/18	31/March/21
9.	Package -2, Lot - 06	Haripur – Hattar –Taxila Section (S-1)	21.97	M/s Ghulam Rasool& Company Pvt Ltd.	1/Jul/18	30/June/21
Total			214.80			

2.4.1. Details of Project's Key Environmental Personnel

32. Details of all staff related with Environmental safeguard during this reporting period are given in Table 3.

Table 3: Details of Project's Key Environmental Personnel

Sr. No	Name of Expert	Position	Contact Details
Project Implementation Unit (PIU)			
1	Engr. Muhammad Tariq Khan	Project Director (KP-PRIP)	091 9216123
2	Engr. Khalid Wazir	Deputy Director (Environment & Resettlement)	03339118472
The Engineers			
3	Engr. Hidayatullah Khan	Team Leader	03345444095
4	Engr. Said Afsar Khan	Deputy Team Leader	03459569594
5	Mr. Ahtasham Raza	Environment Expert	03028462412
6	Mr. Wazir Ali	Resettlement Expert	03475230414
The Contractor			
7	Mr. Touqeer Khan	Environment Specialist	03446001009
8	Mr. Adnan Saleem Khan	Environment Specialist	03348466726
9	Mr. Ghulam Sabir	Safety Officer	03014929654
10	Mr. Raees Khan	Safety Officer	03459369430
11	Mr. Amir Munir	Environmentalist	03334334576

2.5. Project Activities during Current Reporting Period (July-December 2020)

33. During the reported period around 46.27% of the total progress has been achieved for this project. Figure 1 and 2 shows the location map of the project and overall progress of project respectively, while Table 4 lists the technical staff as per contract and site observations during the reporting period.

2.5.1. Package -1, Lot – 01 Shah Alam – Sardaryab Section (S-1)

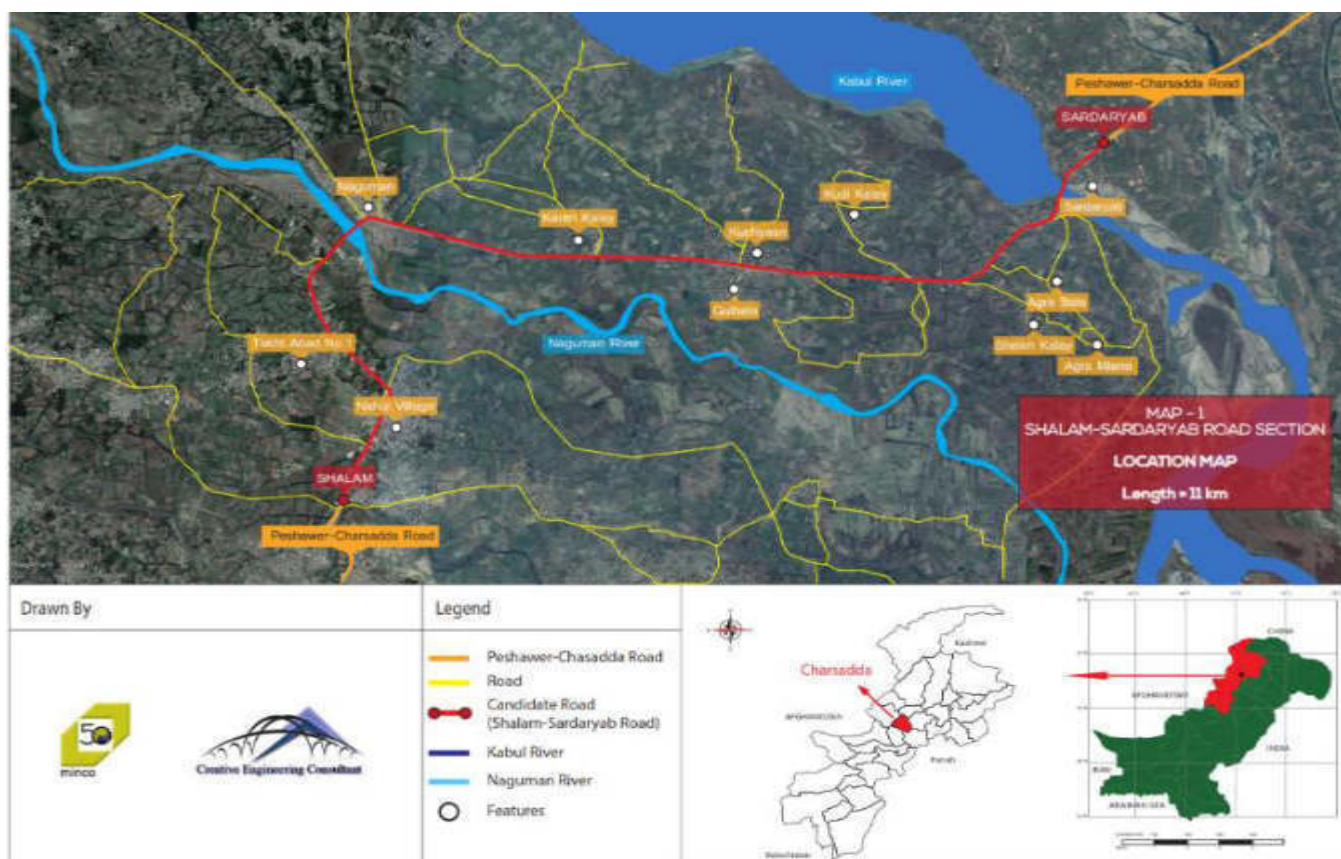


Figure 1: Location Map of Package -1, Lot – 01 Shah Alam – Sardaryab Section (S-1)



Figure 2: Overall Progress of Package -1, Lot – 01

2.5.2. Details of Contractor's Manpower

34. Details of the manpower at Package -1, Lot – 01 Shah Alam – Sardaryab Section (S-1) is given in table 4.

Table 4: Package -1, Lot – 01 Shah Alam – Sardaryab Section (S-1)

S. No.	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	01
2.	Deputy Project Manager	01	-
3.	Qualified Environmentalist	01	01
4.	Qualified Health & Safety Experts	01	-
5.	Material Engineer	01	01
6.	Structure Engineer	01	01
7.	Highway Engineer	01	01
8.	Qualified Surveyor	01	01
9.	Quantity Surveyor	01	01

2.5.3. Package -1, Lot - 02 Umarzai – Harichand – Sherghar Section (S-9)

35. During the reported period around 80.16% of the total progress has been achieved for this project. Figure 3 and 4 shows the location map of the project and overall progress respectively while Table 5 lists the technical staff as per contract and site observations during the reporting period.

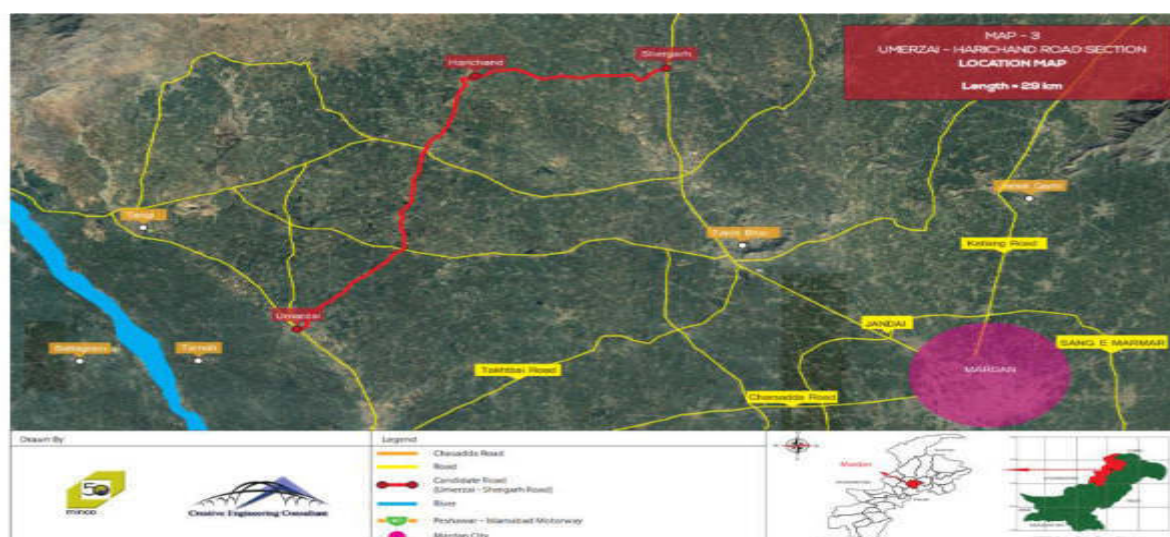


Figure 3: Location Map of Package -1, Lot - 02 Umarzai – Harichand – Sherghar Section (S-9)



Figure 4: Overall progress of Package -1, Lot - 02

2.5.4. Details of Contractor's Manpower

36. Details of the manpower at Package -1, Lot - 02 Umarzai – Harichand – Sherghar Section (S-9) is given in table 5.

Table 5: Package -1, Lot - 02 Umarzai – Harichand – Sherghar Section (S-9)

S.No	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	01
2.	Deputy Project Manager	01	01
3.	Qualified Environmentalist	01	01
4.	Qualified Health & Safety Experts	01	01
5.	Material Engineer	01	01
6.	Structure Engineer	01	-
7.	Highway Engineer	01	01
8.	Qualified Surveyor	01	01
9.	Quantity Surveyor	01	01

2.5.5. Lot - 03 Jandai-Sanga-e-Marmar Western Bypass Road Section (S-1-B)

37. During the reported period around 59.99% of the total progress has been achieved for this project. Figure 5 and 6 shows the location map of the project and overall progress respectively, while Table 6 lists the technical staff as per contract and site observations during the reporting period.

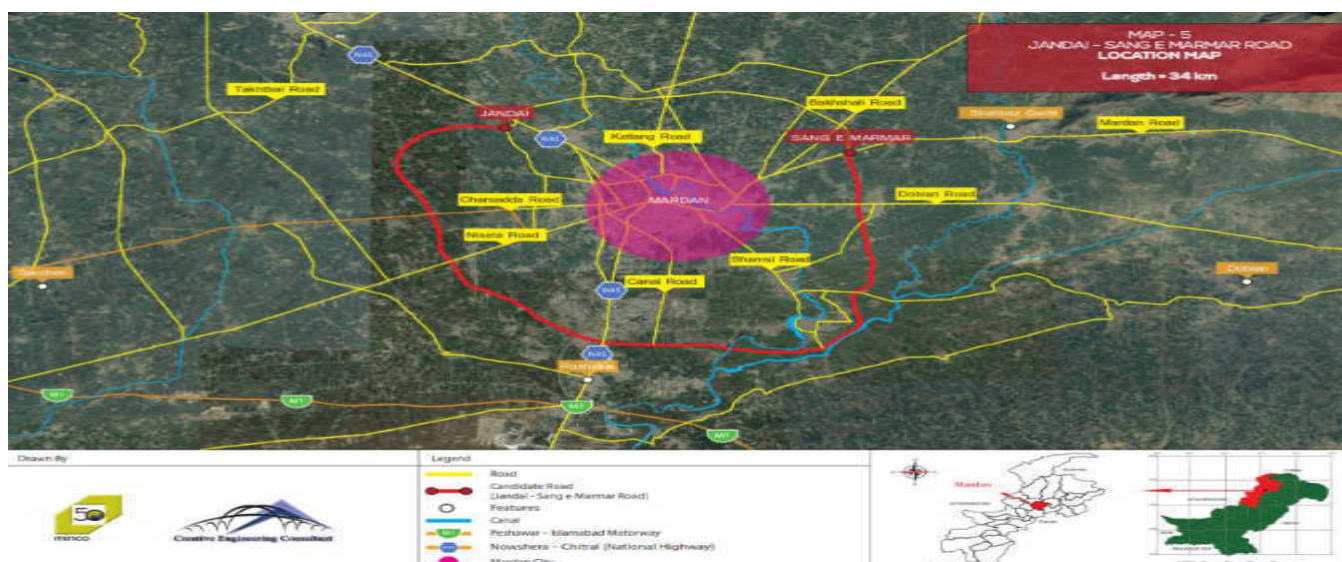


Figure 5: Location Map of Lot - 03 Jandai-Sanga-e-Marmar Western Bypass Road Section (S-1-B)



Figure 6: Overall Progress of Lot - 03 Jandai-Sanga-e-Marmar Western Bypass Road Section (S-1-B)

38. Details of the manpower at Package -1, Lot - 03 Jandai-Sanga-e-Marmar Western bypass road (S-1-B) is given in table 6.

Table 6: Package -1, Lot - 03 Jandai-Sanga-e-Marmar Western Bypass Road Section (S-1-B)

S. No	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	-
2.	Deputy Project Manager	01	01
3.	Qualified Environmentalist	01	-
4.	Qualified Health & Safety Experts	01	01
5.	Material Engineer	01	01
6.	Structure Engineer	01	-
7.	Highway Engineer	01	-
8.	Qualified Surveyor	01	01
9.	Quantity Surveyor	01	01

2.5.6. Package -2, Lot - 01 Khairabad–Kahi–Nizampur Road (S-6)

39. During the reported period around 93.10% of the total progress has been achieved for this project. Figure 7 and 8 shows the location map of the project and overall progress respectively, while Table 7 lists the technical staff as per contract and site observations during the reporting period.

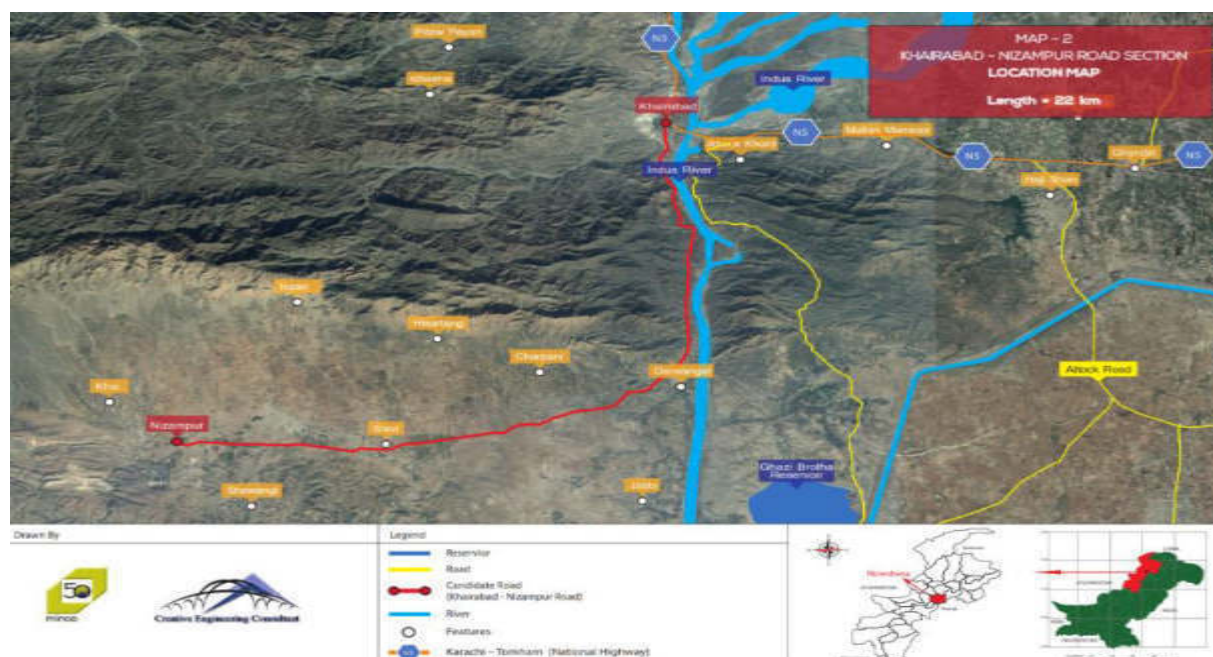


Figure 7: Location Map of Khairabad–Kahi–Nizampur Road (S-6)



Figure 8: Overall Progress of Package -2, Lot - 01 Khairabad–Kahi–Nizampur Road (S-6)

40. Details of the manpower at Package -2, Lot - 01 Khairabad–Kahi–Nizampur Road (S-6) is given in table 7.

Table 7: Package -2, Lot - 01 Khairabad–Kahi–Nizampur Road (S-6)

S. No	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	01
2.	Deputy Project Manager	01	01
3.	Qualified Environmentalist	01	-
4.	Qualified Health & Safety Experts	01	01
5.	Material Engineer	01	01
6.	Structure Engineer	01	01
7.	Highway Engineer	01	01
8.	Qualified Surveyor	01	03
9.	Quantity Surveyor	01	01

2.5.7. Package -2, Lot - 02 Risalpur – Jehangira via Pir Sabaq – Misri Banda with link to Mardan R/road via Wali Interchange (Motorway)

41. During the reported period around 85.21% of the total progress has been achieved for this project. Figure 9 and 10 shows the location map of the project and overall project progress respectively while Table 8 lists the technical staff as per contract and site observations during the reporting period.

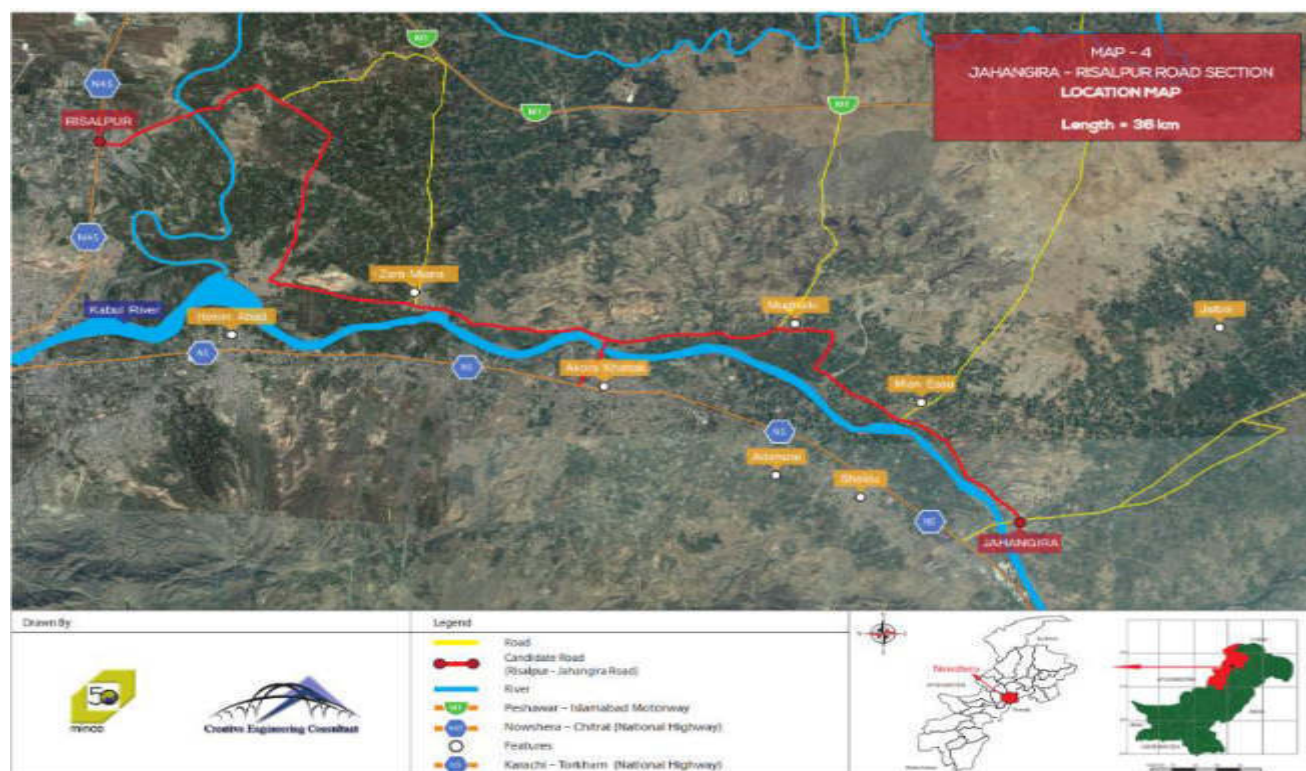


Figure 9: Location Map of Package -2, Lot - 02 Risalpur – Jehangira Road



Figure 10: Overall Progress of Package -2, Lot - 02 Risalpur – Jehangira Road

42. Details of the manpower at Package -2, Lot - - 02 Risalpur – Jehangira via Pirsabaq – Misri Banda withlink to Mardan R/road via Wali Interchange is given in table 8.

Table 8: Package -2, Lot - 02 Risalpur – Jehangira via PirSabaq – Misri Banda withlink to Mardan R/road via Wali Interchange

S. No	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	01
2.	Deputy Project Manager	01	01
3.	Qualified Environmentalist	01	01
4.	Qualified Health & Safety Experts	01	01
5.	Material Engineer	01	01
6.	Structure Engineer	01	-
7.	Highway Engineer	01	-
8.	Qualified Surveyor	01	03
9.	Quantity Surveyor	01	01

2.5.8. Package - 2, Lot - 03 Jandai-Sanga-e-Marmar Eastern Bypass Road Section (S-1-B)

43. During the reported period around 88.21% of the total progress has been achieved for this project. Figure 11 and 12 shows the location map and overall progress of the project while Table 9 lists the technical staff as per contract and site observations during the reporting period.

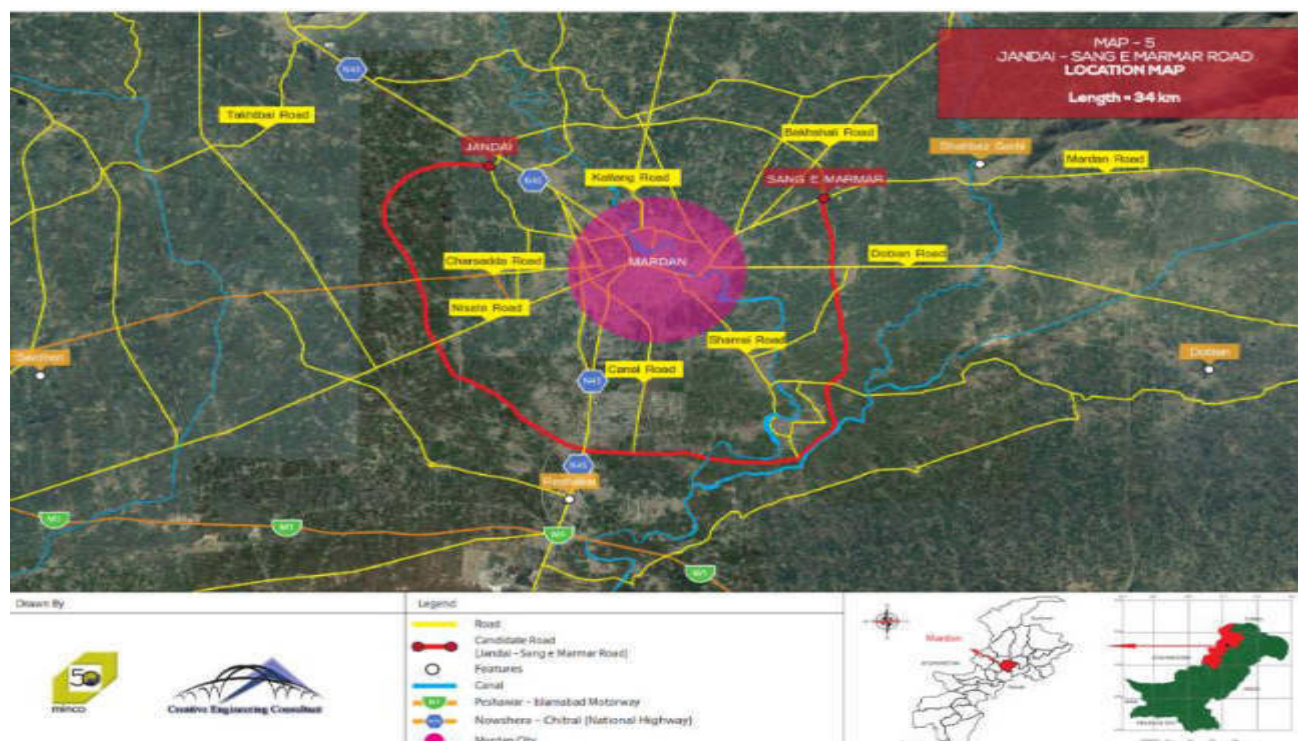


Figure 11: Location Map of Package - 2, Lot - 03 Jandai-Sanga-e-Marmar Eastern Bypass Road Section (S-1-B)

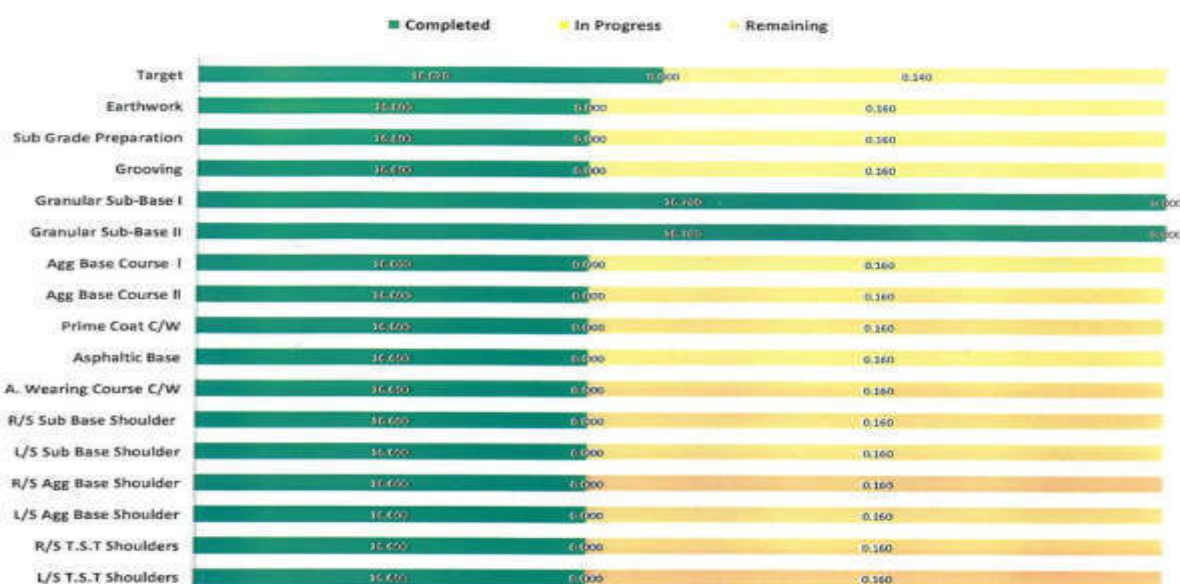


Figure 12: Overall Progress of Package - 2, Lot - 03 Jandai-Sanga-e-Marmar Eastern Bypass Road Section (S-1-B)

44. Details of manpower at Package-2, Lot-03 Jandai-Sanga-e-Marmar Eastern Bypass Road Section (S-1-B) is given in table 9.

Table 9: Package - 2, Lot - 03 Jandai-Sanga-e-Marmar Eastern Bypass Road Section (S-1-B)

S. No.	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	01
2.	Deputy Project Manager	01	01
3.	Qualified Environmentalist	01	01
4.	Qualified Health & Safety Experts	01	-
5.	Material Engineer	01	01
6.	Structure Engineer	01	-
7.	Highway Engineer	01	-
8.	Qualified Surveyor	01	01
9.	Quantity Surveyor	01	01

2.5.9. Package -2, Lot - 04 Adina-Yar Hussain Road (S-1-C)

45. During the reported period around 97.61% of the total progress has been achieved for this project. Figure 13 and 14 shows the location map and overall progress of the project while Table 10 lists the technical staff as per contract and site observations during the reporting period.

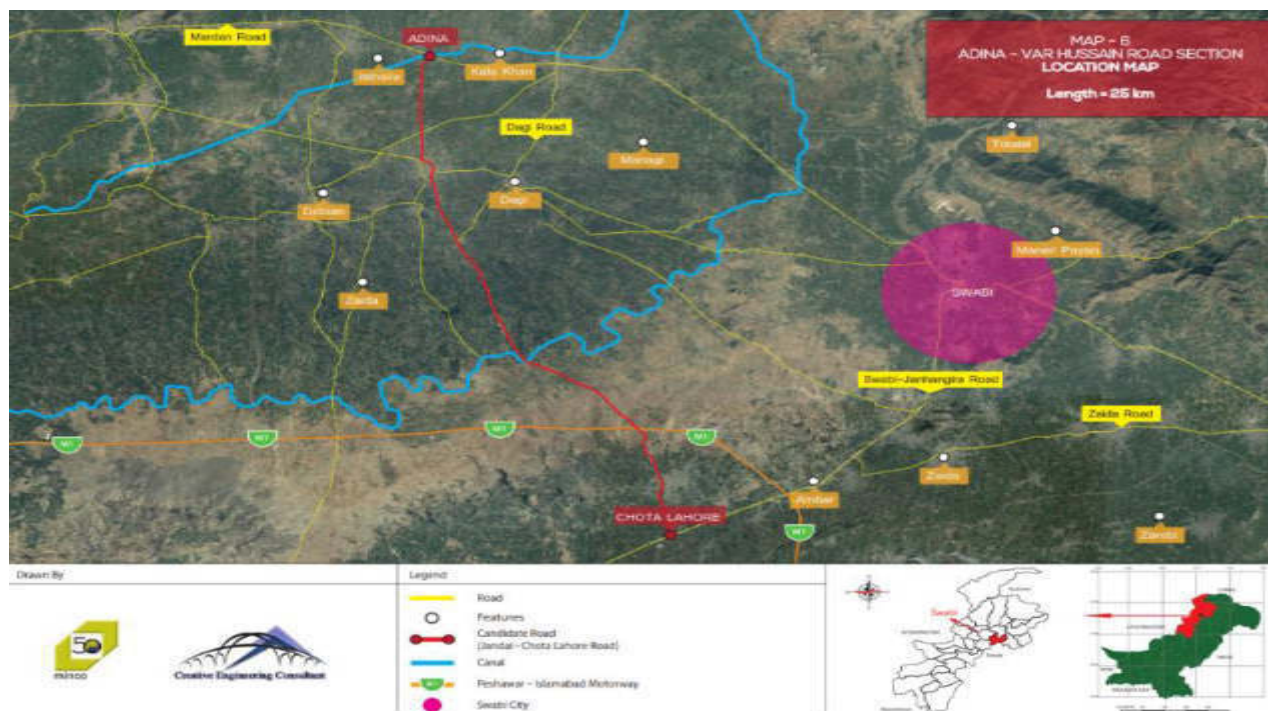


Figure 13: Location Map of Package -2, Lot - 04 Adina-Yar Hussain Road (S-1-C)



Figure 14: Overall Project Progress of Package -2, Lot - 04 (S-1-C)

46. Details about manpower, the technical staff as per contract and site observations during the reporting period in given in table 10.

Table 10: Package -2, Lot - 04 Adina-Yar Hussain Road (S-1-C)

S.No	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	01
2.	Deputy Project Manager	01	01
3.	Qualified Environmentalist	01	01
4.	Qualified Health & Safety Experts	01	01
5.	Material Engineer	01	01
6.	Structure Engineer	01	-
7.	Highway Engineer	01	-
8.	Qualified Surveyor	01	02
9.	Quantity Surveyor	01	01

2.5.10. Package -2, Lot - 05 Maqsood – Kohala-Pir Sohawa Road Section S-1)

47. During the reported period around 79.99% of the total progress has been achieved for this project. Figure 15 and 16 shows the location map and overall progress of the project while Table 11 lists the technical staff as per contract and site observations during the reporting period.

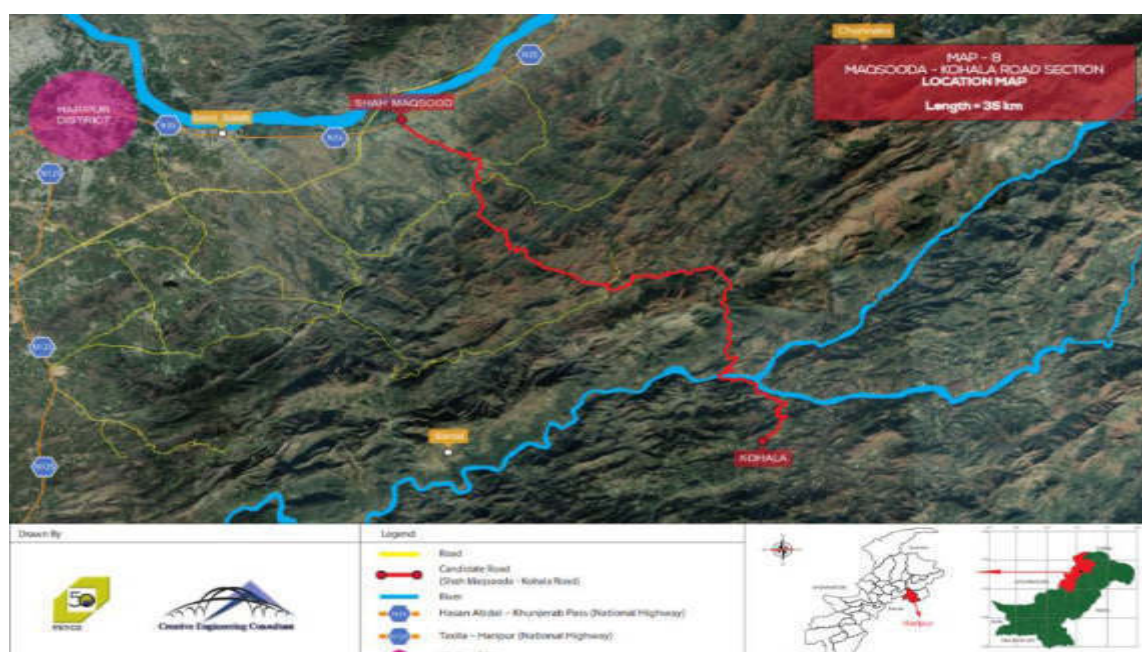


Figure 15: Location Map of Package -2, Lot - 05 Maqsood – Kohala-Pir Sohawa Road Section S-1)



Figure 16: Overall Progress of Package -2, Lot - 05 Maqsood – Kohala-PirSohawa Road Section S-1)

48. During the reported period around 59.94% of the total progress has been achieved for this project. Figure 17 and 18 shows the location map and overall progress of the project while Details about manpower, the technical staff as per contract and site observations during the reporting period in given in table 11.

Table 11: Package -2, Lot - 05 Maqsood – Kohala-PirSohawa Road Section S-1)

S.No	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	01
2.	Deputy Project Manager	01	01
3.	Qualified Environmentalist	01	01
4.	Qualified Health & Safety Experts	01	01
5.	Material Engineer	01	01
6.	Structure Engineer	01	01
7.	Highway Engineer	01	01
8.	Qualified Surveyor	01	02
9.	Quantity Surveyor	01	01

2.5.11. Package -2, Lot - 06 Haripur – Hattar –Taxila Section (S-1)

49. During the reported period around 59.94% of the total progress has been achieved for this project. Figure 17 and 18 shows the location map and overall progress of the project while Table 12 lists the technical staff as per contract and site observations during the reporting period.

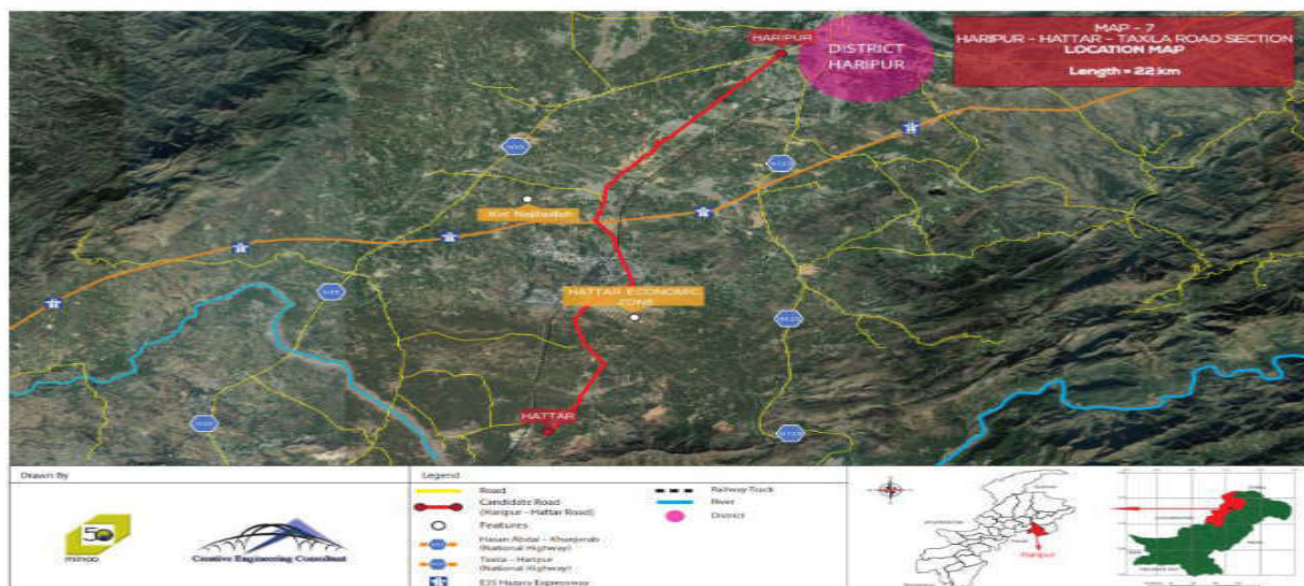


Figure 17: Location Map of Package -2, Lot - 06 Haripur – Hattar –Taxila Section (S-1)

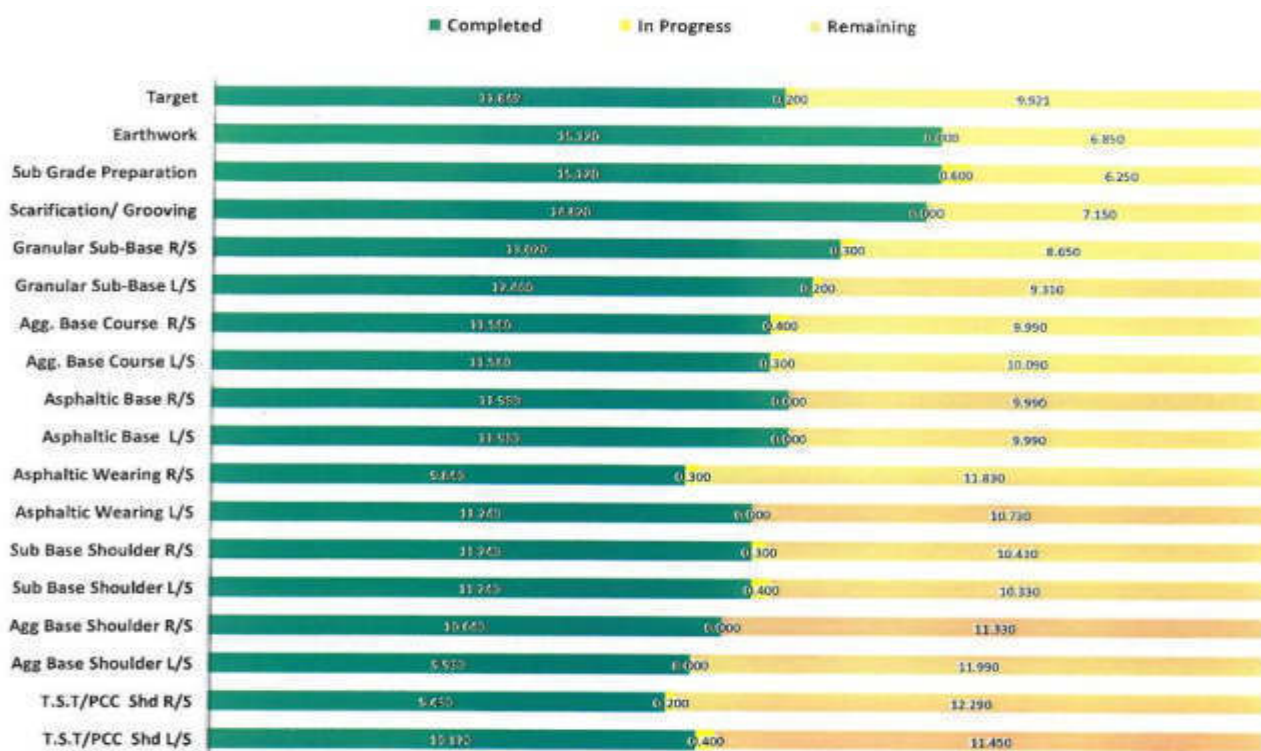


Figure 18: Overall Progress of Package -2, Lot - 06 Haripur – Hattar –Taxila (S-1)

Table 12: Package -2, Lot - 06 Haripur – Hattar –Taxila Section (S-1)

S. No.	Position	Numbers	
		As per Contract	As per Site
1.	Project Manager	01	01
2.	Deputy Project Manager	01	01
3.	Qualified Environmentalist	01	01
4.	Qualified Health & Safety Experts	01	01
5.	Material Engineer	01	01
6.	Structure Engineer	01	01
7.	Highway Engineer	01	01
8.	Qualified Surveyor	01	01
9.	Quantity Surveyor	01	01

2.6. Description of Any Changes to Project Design

50. **On Package -2, Lot - 05 Maqsood-Kohala-Pir Sohawa Road Section (S-1):** The complete use of Right of Way (19+00 to 21+500km) required, additional rock cutting vis-à-vis to forest area which needs exceptional approval from Forest Department and KP EPA. Since the additional cutting required on right side of road in the forest reserved area, therefore, special permission required from Forest Department and KP EPA. Both departments have granted approvals and work at Km19+00 to 21+500 is in progress.
51. **On S-14 for Pir Sabaq Misri Banda with link to Mardan road via Wali Interchange Provincial Highway:** The 500m section is agricultural area, with no environmentally sensitive areas. This link road will improve the accessibility and will cause a link between Wali Interchange on M1 Motorway and N5 Grand Trunk Road. No change in the original design while an additional connectivity will link the existing road.
52. **On S-1-B for removal of S-shape curve (on 300m section):** Mardan bypass road design was amended to remove the S-curve only for 300m section of road. No major environmental impacts were anticipated; the additional land required for the road is barren and not cultivated. No sensitive receptor is located near the project site.
53. **On S-1 for removal of road curve:** On 250m section road will be improved to maintain the speed and road structure. No sensitive receptor is located near the project site.

2.7. Description of Any Changes to Agreed Construction Methods

54. There is no major change in agreed construction methods.
55. In order to discuss overall status of PRIP, regular meetings with the contractor being held under the Chairmanship of the Team Leader and if required with the Project Director-PRIP.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1. General Description of Environmental Safeguard Activities

56. During the reporting tenure various environmental safeguard activities were conducted, which included the following:

- **On-site Trainings/Tool Box Talks:** Being extensively provided to the workers by the supervision and contractor's environmental specialist on regular basis during reporting period.
- **Regular Progress Review Meetings on monthly basis:** Regular progress review meetings with project contractor, CSC and PMU are in place. During the meeting status of compliance of all contractors were assessed. In case of any non-compliance the suggestions were given and verified during the physical site visits.
- **Exclusive Meetings with Contractor's Environmental Staff:** Environmental expert of the Engineer also conducts some exclusive meetings with the Contractor's Environmental Staff to ascertain the efficacy of the EMP/SSEMP at site to discuss the area of improvement.

3.2. COVID-19 PREVENTIVE MEASURES – SPECIAL INSTRUCTIONS

57. Due to outbreak of the COVID 19 (corona virus) pandemic situation prevailed all around the area. Special preventive instruction were drafted and circulated to all staff including the supervision staff for implementation.

58. The key features of the instruction are as following;

General Actions:

- Availability of temperature measuring device, disinfectant and hand sanitizers at all work places (office, camp site, construction site etc).
- Every person must have his/her own face mask (preferably N95 mask, if not available use surgical mask in duplicate) and safety gloves
- Always use hand sanitizers before and after use of any tool. Regularly use your sanitizers to disinfect hands
- Do not shake hands and embrace with each other, etc.
- Do not visit markets / public places if suffering from flu, cough or fever other than the active construction site/s.
- Maintain minimum distance of 3 feet (one meter) from other person or staff member
- Do not touch your face with hands
- Cooperate with the Administration / Management and each other.

For Offices:

- Availability of temperature measuring device, disinfectant and hand sanitizers at all work places. A hand washing area must be neat and clean and be available with antibacterial soap and sufficient water.
- Make sure workplaces are clean and hygienic at all times. Clean workspaces and shared items with disinfectants (door handles, copy machines/printers, break rooms, remotes, light switches) three times daily. Surfaces (e.g. desks and tables) and objects (e.g. telephones, keyboards) need to be wiped with disinfectant regularly.
- Place sanitizer at entryways and provide colleagues/employees with disinfecting wipes
- Put sanitizing hand rub dispensers in prominent places around the work place. Make sure these dispensers are regularly refilled
- Display posters promoting hand-washing, advice near washing sinks.
- Make sure that staff, contractors and customers have access to places where they can wash their hands with anti-bacterial soap and water.
- Promote good/neat respiratory hygiene in the workplace.
- Ducts of air-conditioning systems must be properly disinfected and cleaned at all times.
- Display posters promoting respiratory hygiene. Combine this with other communication measures such as offering guidance from occupational health and safety officers, briefing at meetings and information on the intranet etc.
- Ensure that facemasks (preferably N95 mask, if not available use surgical mask in duplicate) and/or paper tissues are available at your workplaces, for those who develop a runny nose or cough at work, along with closed bins for hygienically disposing of them.
- Brief your employees, contractors and customers that if COVID-19 starts spreading in your community anyone with even a mild cough or low-grade fever (37.3 °C or more) needs to stay at home and report to health authorities
- Modify workstations or stagger hours to increase space between staff, guests, and clients
- Schedule video or phone calls instead of face to face meetings
- Ask delivery drivers to call upon arrival and/or leave items outside the office instead of entering the lobby or reception area
- Place signs on entrances requesting that sick guests do not enter the building
- Practice social distancing by maintaining at least 01 meter (3 feet) distance between staff and visitors
- Use alternate greetings such as waving or bowing
- Body temperature of all entering individuals shall be monitored at entry points by dedicated. Person(s) with other symptoms including dry cough, flu, and muscular pains etc.
- Work from home routine should be developed for all employees as much as possible
- Mess to have sufficient space in between seating places in order to discourage people from eating together in groups.

For Construction staff & site:

- Availability of temperature measuring device, disinfectant and hand sanitizers at all construction sites. A hand washing area must be neat and available with antibacterial soap and sufficient water at construction site.
- Raw materials, machinery, and any other tools and material required at construction site shall be only allowed to use or in camp premises after the vehicle is completely sanitized and disinfected at the entry point.
- Temperature of the drivers, machinery operators, loaders and other staff of the vehicle transporting such materials shall be monitored during start of the assignment and end of the day along with other indicators of COVID-19 that are flu, cough and muscular pain etc.
- No person(s) associated with such vehicles having any or all symptoms of COVID19 shall be allowed to enter the camp area or active construction site or premises. The material like steel, wood, cloth, iron, plastic keep the COVID-19 for days, therefore, all such raw material shall be properly sanitized and disinfected before entry to camp site or premises.
- Seating arrangement of such vehicles amongst the individuals occupying it shall be such that 3 feet distance is maintained.
- Individuals occupying such vehicles shall wash hands with soap before entry into construction area or premises and, subsequently, their hands shall be sanitized.
- Proper head gear, gloves, gown and masks shall be worn by the individuals occupying such vehicles. No person(s) without proper gear shall be allowed entry to construction site or premises.
- Environmentalist and safety staff should always be available at site.
- Dispose of the waste material (used mask, gloves etc) in secured way (soil burial, proper incinerate etc)
- First Aid Box must always be available at site.

Camp Site & Worker Resident Area:

- It is mandatory to check the temperature and disinfectant at residents. A hand washing area should be available and must be neat and cleans. Antibacterial soap and sufficient water should be available.
- Make sure workplaces are clean and hygienic at all times.
- Place sanitizer at entryways and provide with disinfecting wipes
- Display posters promoting hand-washing, advice near washing sinks.
- Promote good/neat respiratory hygiene in the camp site and worker resident place.
- Ducts of air-conditioning systems must be properly disinfected and cleaned at all times
- Place signs on entrances requesting that sick guests do not enter the building
- Practice social distancing by maintaining at least 01 meter (3 feet) distance between each other and between the beds of persons
- Use alternate greetings such as waving or bowing
- Body temperature of all entering individuals shall be monitored at entry points by dedicated. Person(s) with other symptoms including dry cough, flu, and muscular pains etc.

- Mess to have sufficient space in between seating places in order to discourage people from eating together in groups.
59. The overall compliance of the implementation of the precautionary measures are given in Anexure-1.

3.2.1. Site Inspections

60. Environmental expert of CSC conducts regular site inspection during the site visits. Every month one site is mandatory of each subproject.

3.2.2. Issues Tracking (Based on Non-Conformance Notices)

61. Since most of the major construction activates have been completed. The following issues pertaining to the package were discussed:
- i. The issue of the shifting of the sui gas pipe lines currently located inside the existing culverts was discussed in detail. After detailed discussion it was decided that, the consultant's experts team will visit the site and will prepare a strategy including obtaining NOC from Sui Gas Authorities. The matter will be resolved within two weeks time.
 - ii. Traffic management at site was not adequate at the Mardan bypass road and Haripur Hattar road. The TMP implemented through the contractor's staff after giving then site memos.
 - iii. Compliance of the provision of PPE at some packages was poor which improved through tool box talk at work site during the reporting period.
 - iv. Corrective action plans of above non-conformities are given in under corrective action plan appendix 4.

3.2.3. Trends

62. Most of the issues have been resolved, while some are in process of compliance. As this report is fifth semi-annual report therefore, quantitative data and respective trends in terms of environmental parameters are given in bar chart form in Section 4 of this report.

Biannual Reports	Total Non-conformities (NC)	Non-conformities Resolved	Non-conformities Late
SAEMR 1	9	2	9
SAEMR 2	7	2	7
SAEMR 3	5	3	5
SAEMR 4	2	2	2
SAEMR 5	2	2	2
SAEMR= Semi Annual Environmental Monitoring Report			

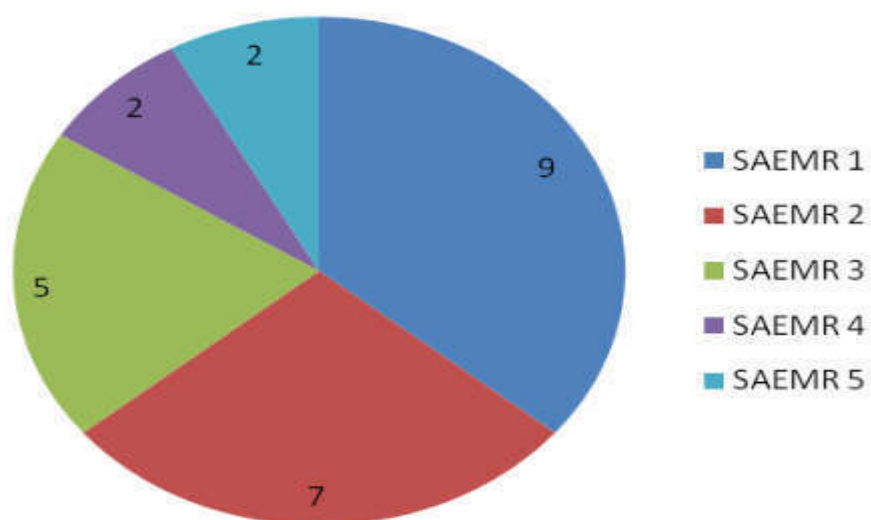


Chart Showing Nonconformities during all Semi-Annual Reporting Periods

4. RESULTS OF ENVIRONMENTAL MONITORING

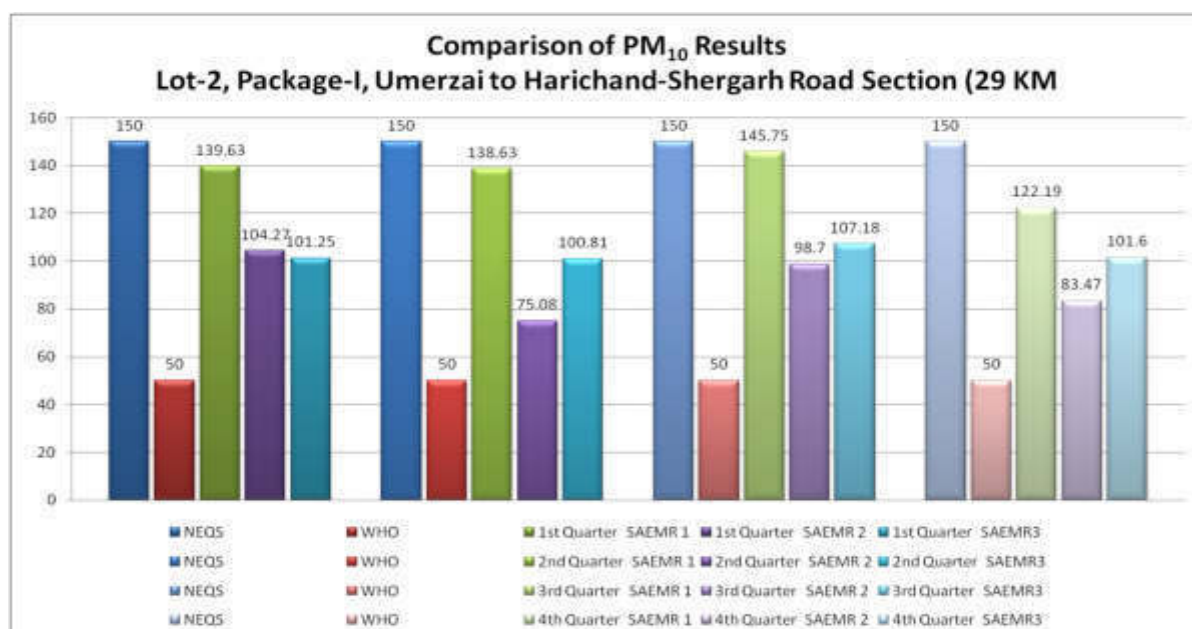
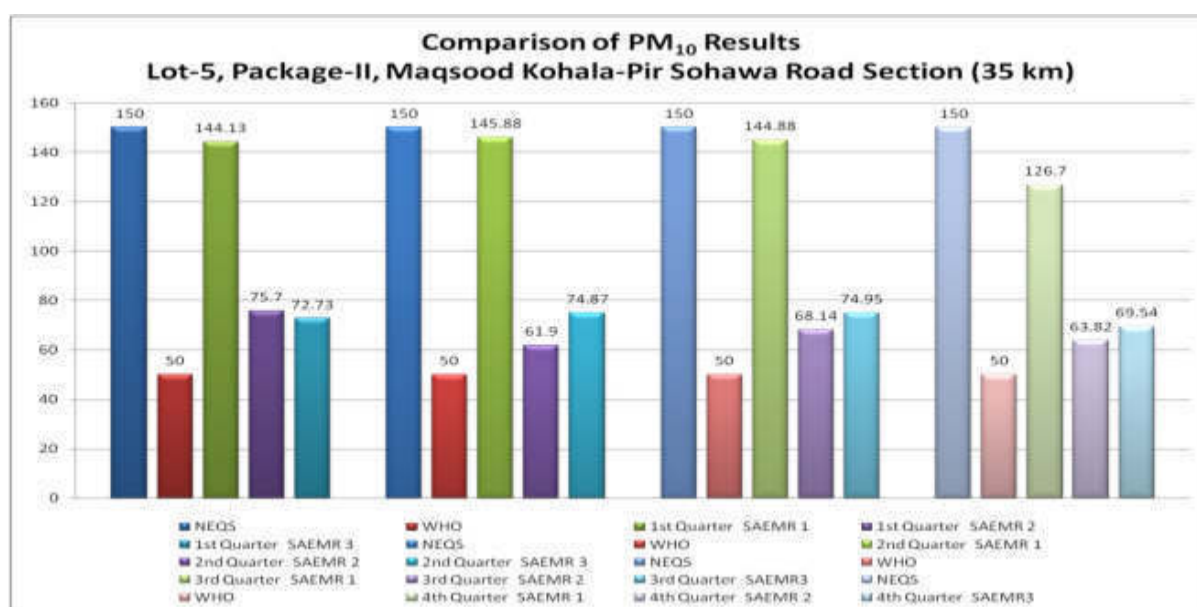
4.1. Overview of Monitoring Conducted during Current Period

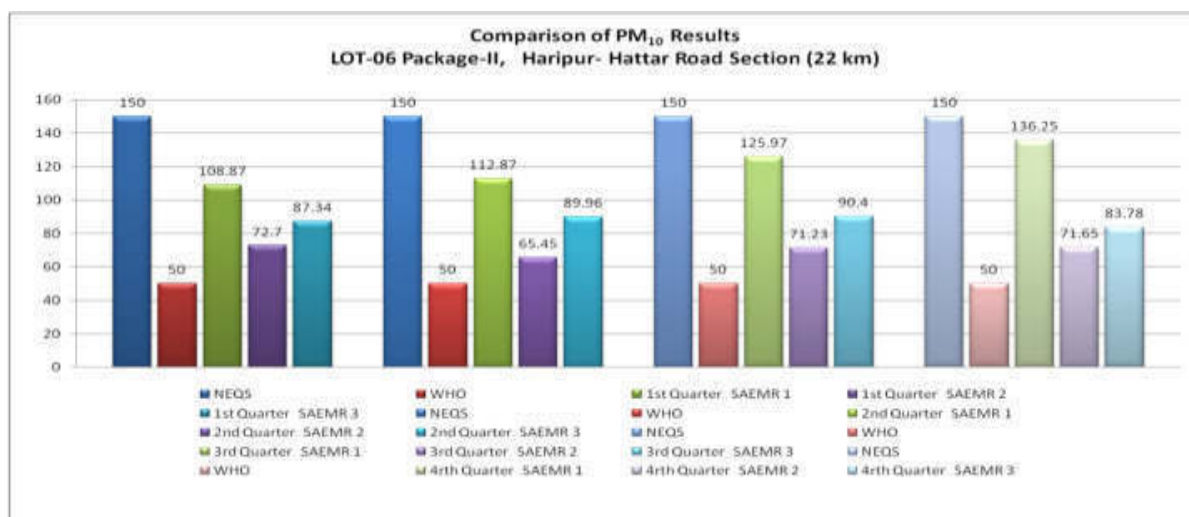
63. The instrumental monitoring was carried out on Category B projects. The monitoring was conducted for air, noise, drinking water and wastewater from various sites. Pictorial details may be referred to in **Appendix-2**.

4.2. Trends

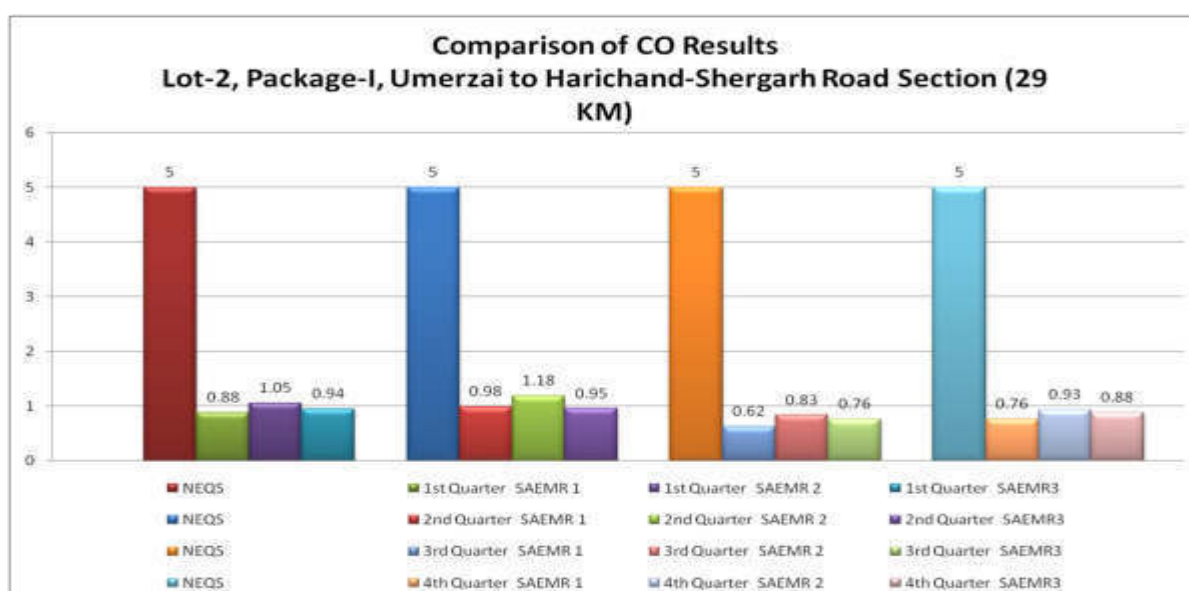
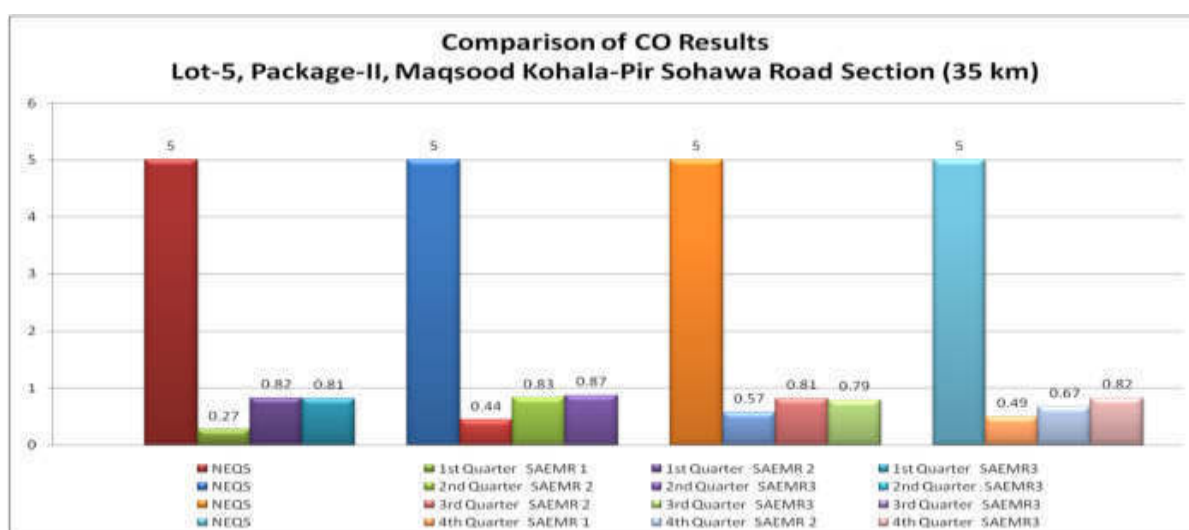
64. The monitored parameters are in compliance with the prescribed standards during all quarters as depicted in the followings bar charts:

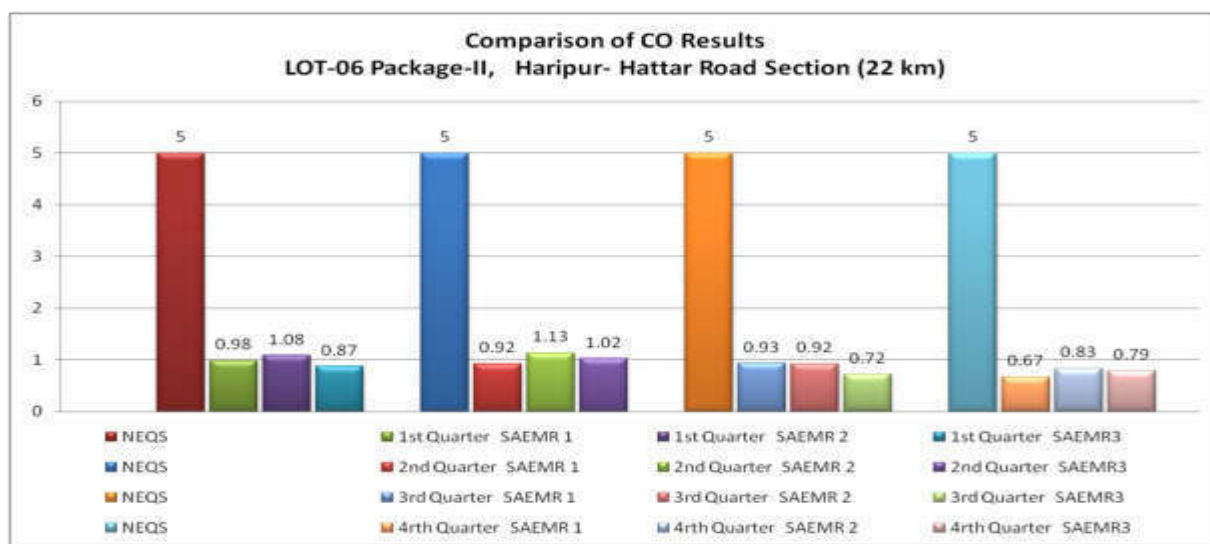
4.3. Trends of Ambient Particulate Matter (PM₁₀) at Monitored Sites during the Reporting Quarters



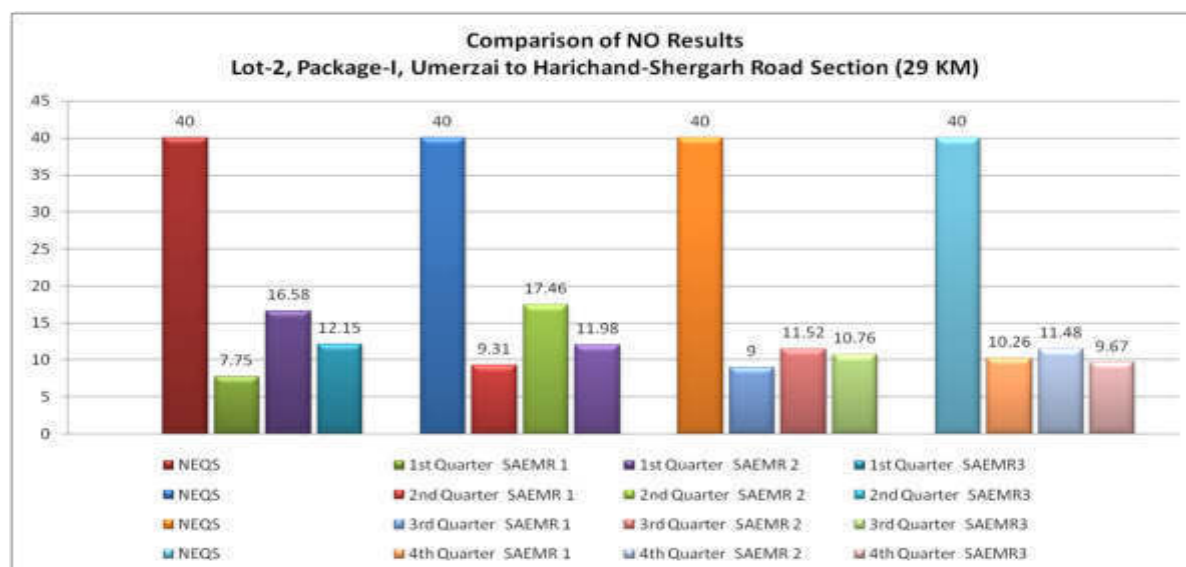
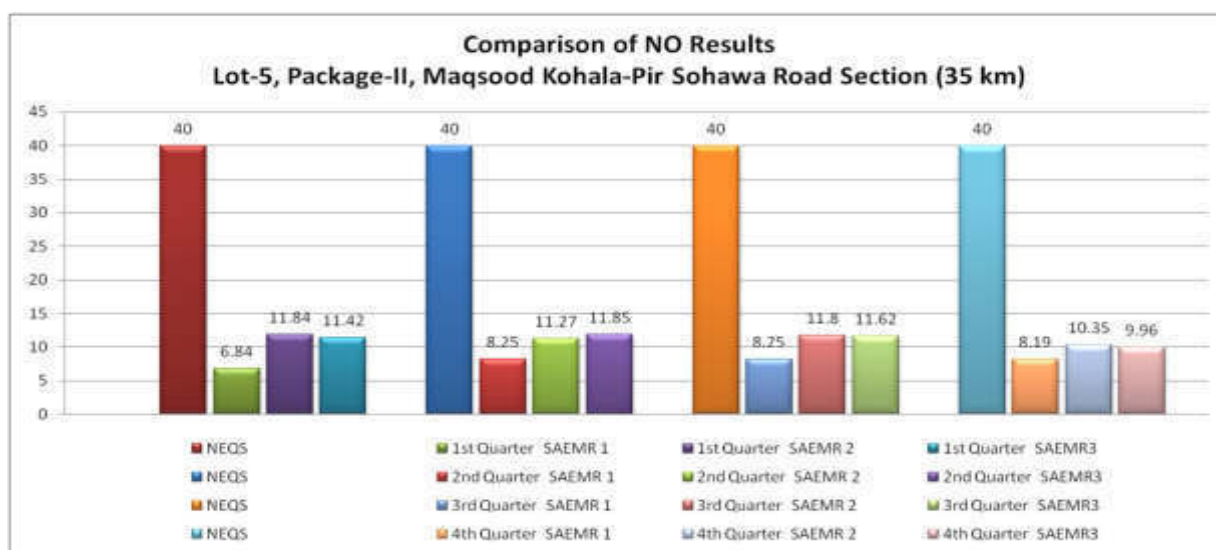


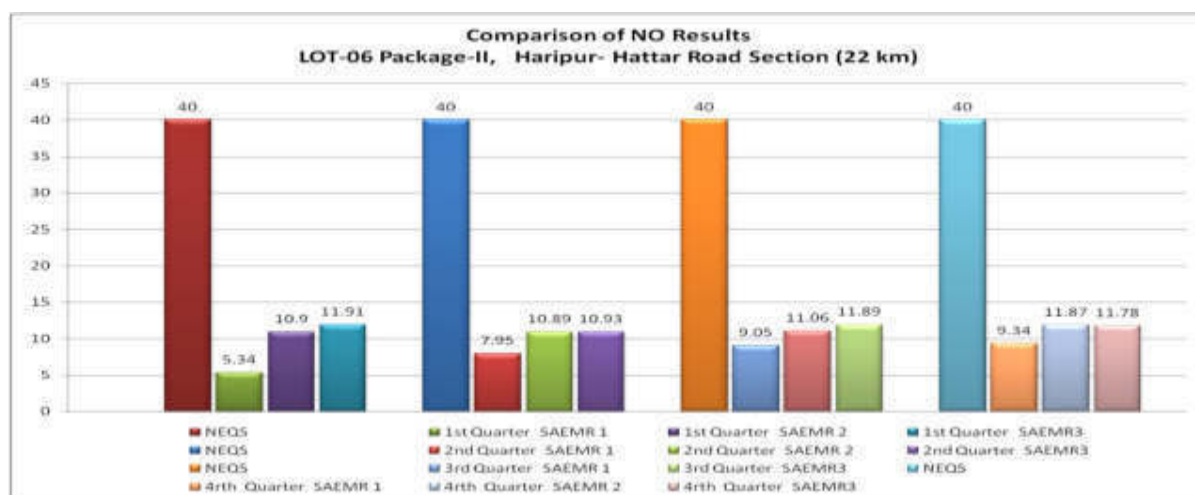
4.4. Trends of Ambient Gases (CO) at Monitored Sites during the Reporting Quarters



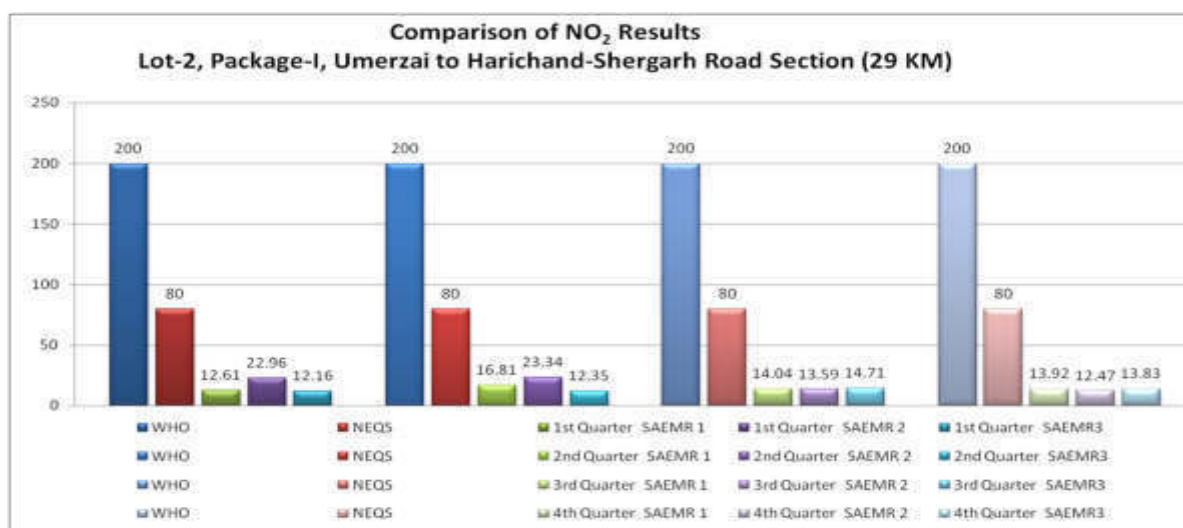
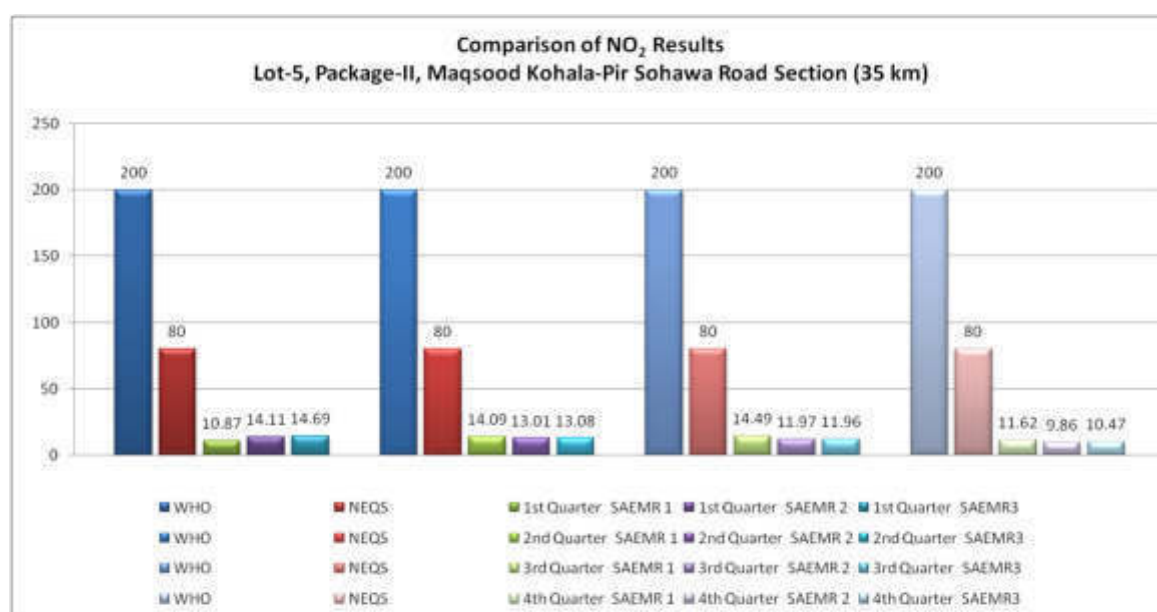


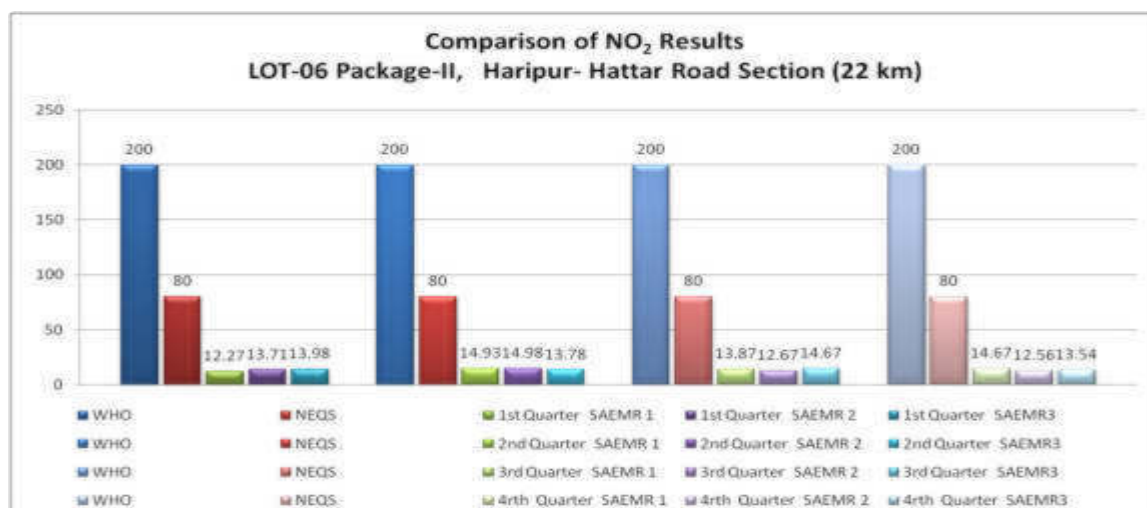
4.5. Trends of Ambient Gases (NO) at Monitored Sites during the Reporting Quarters



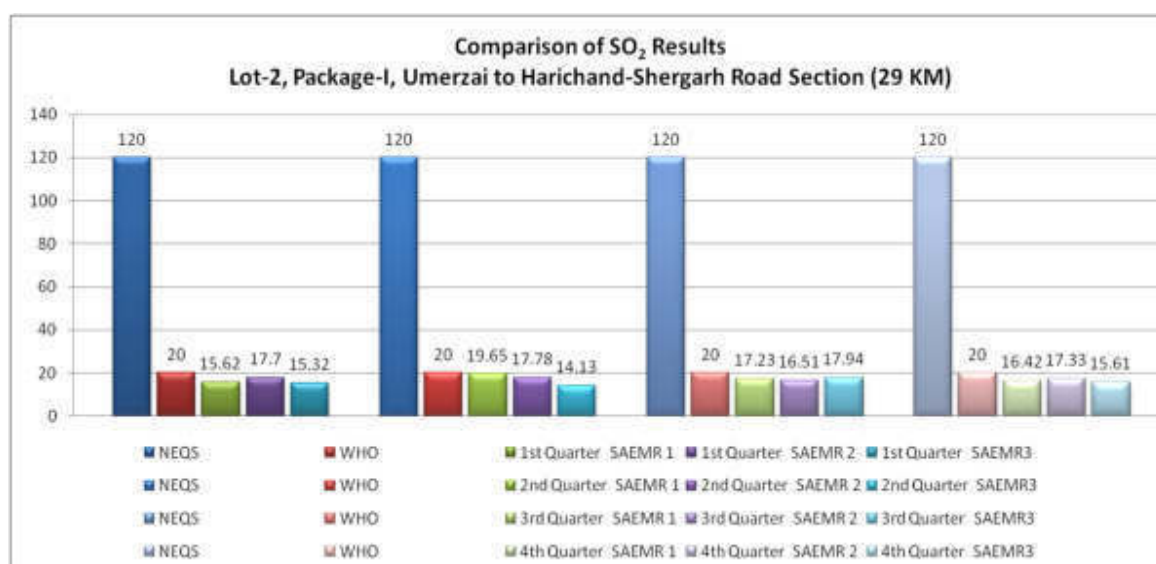
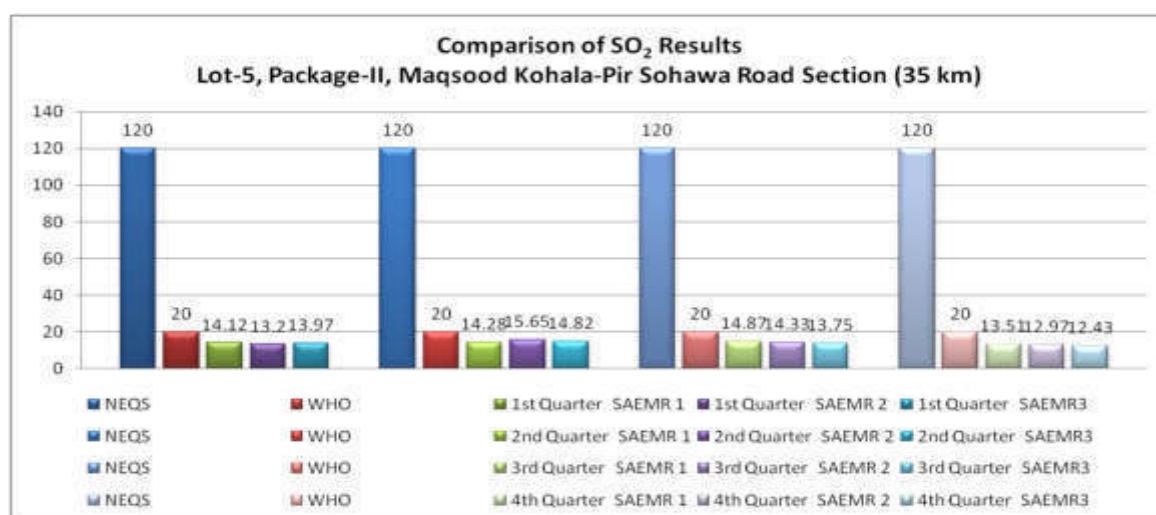


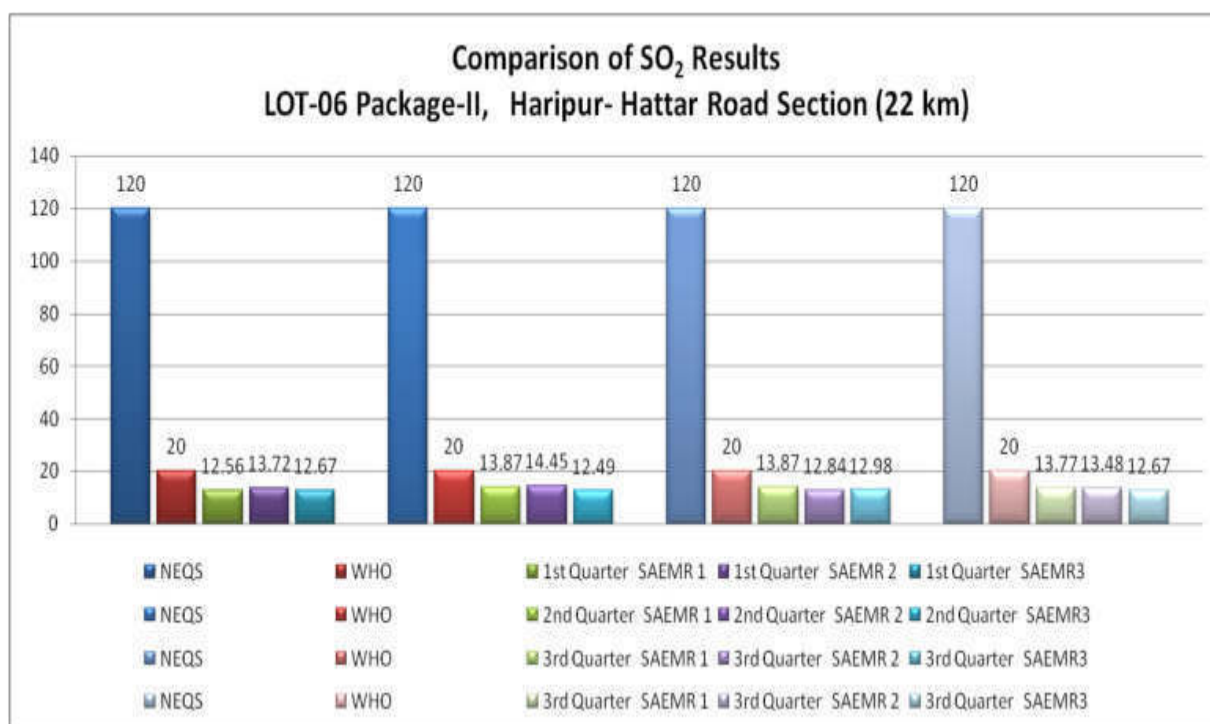
4.6. Trends of Ambient Gases (NO₂) at Monitored Sites during the Reporting Quarters



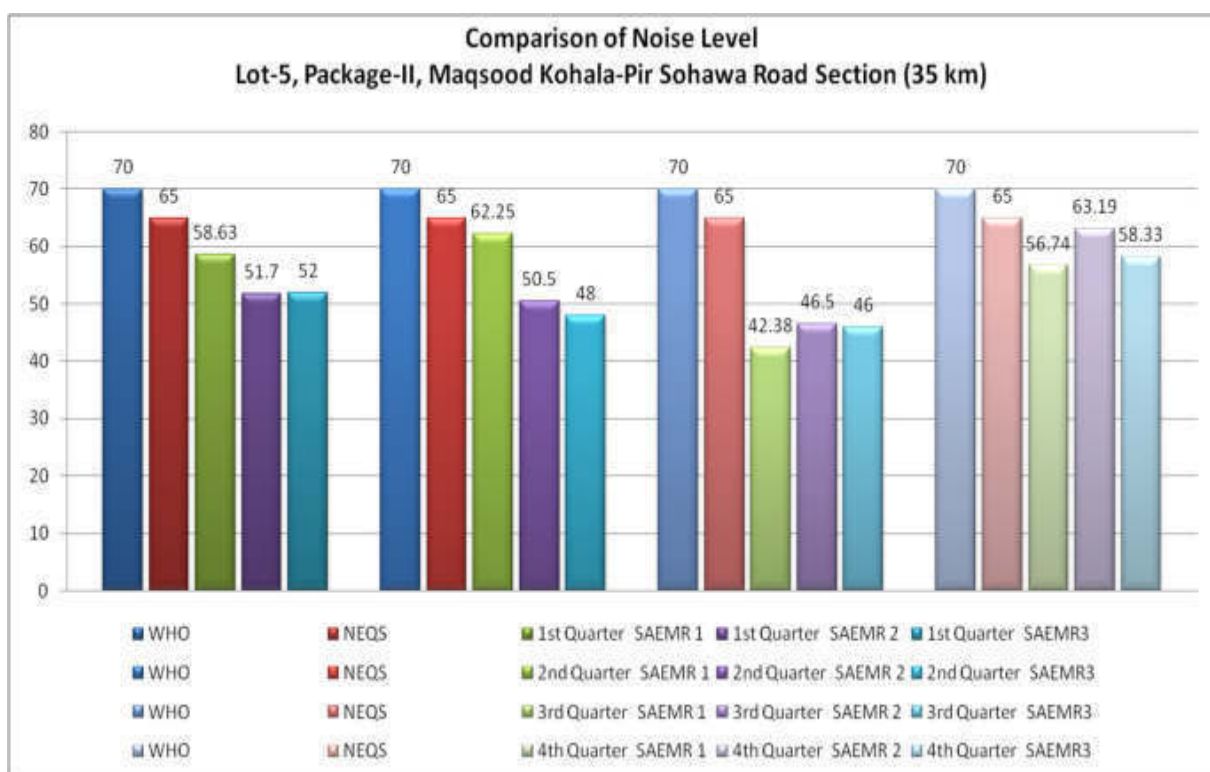


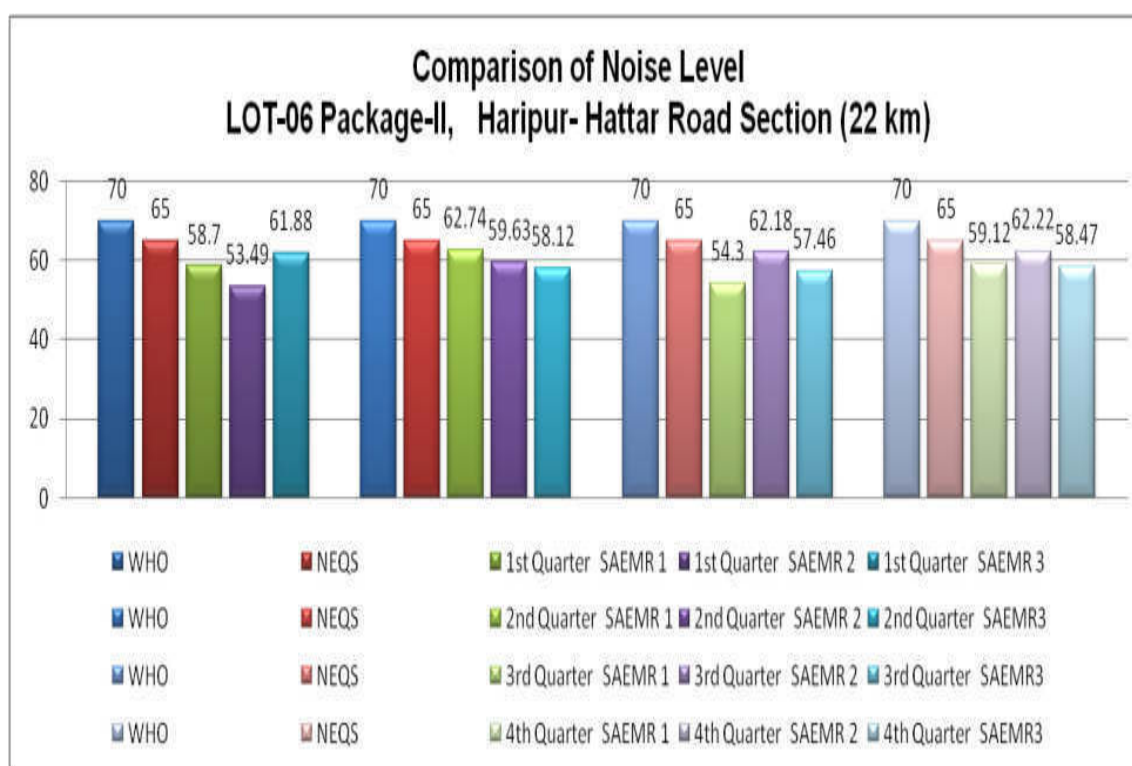
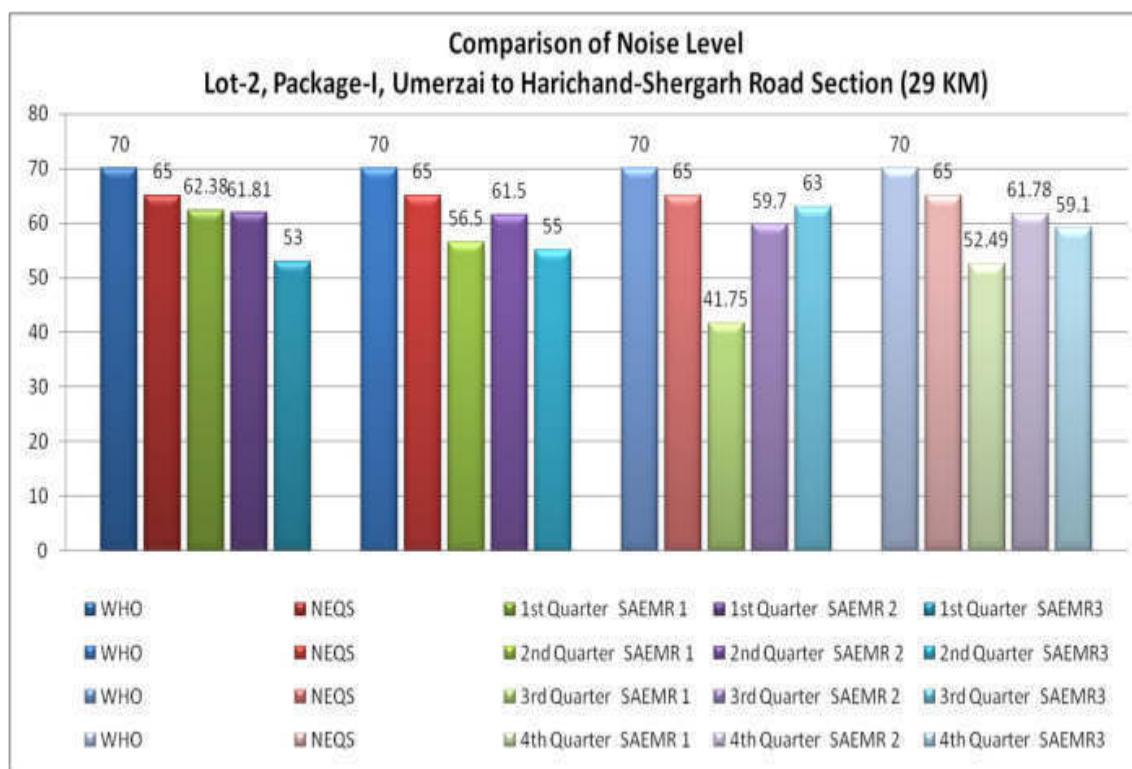
4.7. Trends of Ambient Gases (SO₂) at Monitored Sites during the Reporting Quarters





4.8. Trends of Noise Level at Monitored Sites during the Reporting Quarters





4.9. Summary of Monitoring Outcomes

4.9.1. Ambient Air

65. The monitoring data for ambient air revealed that during monitoring hours the air parameters were in compliance with the prescribed standards (NEQS) for ambient air particulates.
66. The monitoring parameters for CO, NO_x, SO₂ in air were also in compliance with the prescribed World Bank EHS guidelines as well as National Environmental quality Standards (NEQS) for ambient air gases.
67. Drinking water and wastewater samples were also collected from various sites of different packages and analyzed chemical and biological parameters. The monitored data revealed that all parameters were in compliance with the prescribed standards for drinking water and wastewater. The noise levels measurements were also conducted. The monitored results revealed that all parameters are in compliance with the noise standards.

4.9.2. Training

68. Two major training sessions have already been conducted to all contractors as follows:
- On-site Trainings/Tool Box Talks have been extensively provided to the workers by the supervision and contractor's environmental specialist on regular basis during reporting period.
 - SSEMP/EMP Preparation and Implementation Training
 - "Stakeholders Environmental Safeguards Training for Provincial Roads Improvement Project (PRIP), Peshawar". All project staff regarding the environmental safeguard participated the training session.

5. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

5.1.1. Good Practice

5.1.2. EMP for Subproject with ADB Category

69. Of all nine roads, the seven roads fall in Category C for which an approved EMP is in place and being implemented. Environmental staff of the contractors is being monitored through the Engineer; for details refer to Table-3 Key Environmental Personnel. The design changes are made without compromising the environmental safeguards and activities are well taken care of for the environmental aspects.

5.1.3. Site Specific Environment Management Plan

70. Package-2, Lot 05 Maqsood Kohala-Pir Sohawa (S-1) Road Section and Haripur Hattar Section (S-1) of Package-2, Lot – 06 falls in ADB category B project. SSEMP already in place for these project roads. Full time environmentalists of the contractors are also available for implementation of SSEMP.

5.1.4. Other site related best practices

71. Regular meetings for continual improvement with safeguard staff of all subprojects.
72. Signboards displayed for work site traffic diversion and road safety purpose.
73. Onsite review meetings with the consultants and contractor staff helps to expedite the job executions and to avoid any social and environmental risk.
74. Toolbox talk for safety with workers and suitable Personnel Protective Equipment (PPE) are mandatory at work site and regular tool box talks are in place.
75. Solid Waste disposal sites of S-1 road section have been proper defined and are in place for use. While for all other road section the environment expert of contractor get approval from CSC before to start the disposal. Cofferdam has been constructed to control waste disposal at Maqsood-Kohala road.
76. Community involvement during the project construction phase for social sustainability is in place and consultative meetings are effective in project implementation.
77. Designation of proper vehicles for regular water sprinkling.
78. Tree plantation has been carried out for slope stabilization at Maqsood Kohala road section.
79. Based on regular coordination between client, the Engineers and contractors, a culture of continuous improvement is in place.

5.1.5. Opportunities for Improvement

80. Better opportunity for road gadgets including the mirrors, road sign boards, and green belts along the candidate road.
81. Increased training of all construction staff.
82. Combined tree plantation on a place owned by the forest department.
83. For improved implementation of PPEs and SSEMP/EMP implementation, provision of these should be the part of bill of quantities of the contract of all contractors in future.
84. A special COVID -19 precautionary measures funds may be given to all project staff to rescues the pandemic situations.

APPENDIX-1

PREVENTIVE MEASURES REGARDING COVID -19 AT ALL SUBPROJECTS

PREVENTIVE MEASURES REGARDING COVID -19

The key features of the instruction were site specific for offices, camps areas and active construction sites.

To ascertain the COVID -19 Preventive Measures compliance at work sites, checklist was filled during the site visits, the compliance status of instructions at subprojects were as followings:

Compliance Status at Mardan bypasses (Eastern & Western Sections)

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
1	Availability of temperature measuring device at camp site or work site of contractor.	✓		IR thermometer was available at site.
2	Availability of disinfectant and hand sanitizers at all work places (office, camp site, construction site etc).		✓	Satisfactory disinfection activities were not observed at site.
3	Is contractor providing every worker face mask (preferably N95 mask, if not available provide surgical mask in duplicate) and safety gloves ?	✓		Partial Compliance. Only medical and cloth masks were provided at site.
4	Is disinfection of tools, machinery, equipment in place ?	✓		Partial Compliance. Satisfactory disinfection activities were not observed at site.
5	Worker are observing the social distance (3feet) ?		✓	Partial Compliance.
6	Is first aid box available at all active sites ?	✓		Compliance, first aid box is available at site, however, it is recommended that regular check up of medicines may be conducted by the Safety expert of the site to check the expiry dates of the medicines.
7	Is sufficient arrangements are available at construction site for washing hands and sanitization ?	✓		Compliance. Contractor has placed a water drum of clean water at the active contraction site for hand washing.
8	Is work place is properly hygiene ?		✓	Partial Compliance. During the site visits the work place was partially hygiene.
9	Are signs on entrances requesting that sick guests do not enter the building without prior information placed ?	✓		Compliance
10	Body temperature of all entering individuals is being monitored at entry points by dedicated Person(s) along with other symptoms including dry	✓		Compliance

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
	cough, flu, and muscular pains etc. ?			
11	Are raw materials, machinery, and any other tools and material required at construction site completely sanitized and disinfected at the entry point ?	✓		Compliance Regular disinfection is in place.
12	Environmentalist and safety staff available at site?	✓		Compliance, During the site visit Environmentalist and safety staff were available at site.

Compliance Status at Package -1, Lot-02 Umarzai – Harichand (S-9)

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
1	Availability of temperature measuring device at camp site or work site of contractor.	✓		Compliance; Infra red Thermometer was available at site.
2	Availability of disinfectant and hand sanitizers at all work places (office, camp site, construction site etc).	✓		Partial Compliance. Partial disinfection activities are in place.
3	Is contractor providing every worker face mask (preferably N95 mask, if not available provide surgical mask in duplicate) and safety gloves ?	✓		Partial Compliance. Due to shortage of N95 mask, only medical mask is being provided at the site. (refer to attached pictures)
4	Is disinfection of tools, machinery, equipment in place ?	✓		Partial Compliance. Due to shortage of N95 mask, only medical mask is being provided at the site. (refer to attached pictures)
5	Worker are observing the social distance (3feet) ?		✓	No staff was observing the social distances.
6	Is first aid box available at all active sites ?	✓		Compliance, first aid box is available at site, however, it is recommended that regular check up of medicines may be conducted by the Safety expert of the site to check the expiry dates of the medicines.
7	Is sufficient arrangements are available at construction site for	✓		Compliance. Contractor has placed a water drum of

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
	washing hands and sanitization ?			clean water at the active contraction site for hand washing.
8	Is work place is properly hygiene ?		✓	During the site visits the work place was partially hygiene.
9	Are signs on entrances requesting that sick guests do not enter the building without prior information placed ?	✓		Compliance
10	Body temperature of all entering individuals is being monitored at entry points by dedicated Person(s) along with other symptoms including dry cough, flu, and muscular pains etc. ?		✓	Due to shortage of the thermal heat sensor
11	Are raw materials, machinery, and any other tools and material required at construction site completely sanitized and disinfected at the entry point ?	✓		Compliance Regular disinfection is in place.
12	Environmentalist and safety staff available at site?	✓		Compliance, During the site visit Environmentalist and safety staff were available at site.

Compliance Status at Mardan bypass (Eastern & Western Sections)

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
1	Availability of temperature measuring device at camp site or work site of contractor.		✓	No IR Thermometer was available at site.
2	Availability of disinfectant and hand sanitizers at all work places (office, camp site, construction site etc).	✓		Partial Compliance. Partial disinfection activities are in place.
3	Is contractor providing every worker face mask (preferably N95 mask, if not available provide surgical mask in duplicate) and safety gloves ?	✓		Partial Compliance. Due to shortage of N95 mask, only medical and cloth masks were provided at the site. (refer to attached pictures)
4	Is disinfection of tools, machinery, equipment in place ?	✓		Partial Compliance.

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
5	Worker are observing the social distance (3feet) ?		✓	No staff was observing the social distances.
6	Is first aid box available at all active sites ?	✓		Compliance, first aid box is available at site, however, it is recommended that regular check up of medicines may be conducted by the Safety expert of the site to check the expiry dates of the medicines.
7	Is sufficient arrangements are available at construction site for washing hands and sanitization?	✓		Partial Compliance
8	Is work place is properly hygiene?		✓	Partial Compliance
9	Are signs on entrances requesting that sick guests do not enter the building without prior information placed ?	✓		Compliance
10	Body temperature of all entering individuals is being monitored at entry points by dedicated Person(s) along with other symptoms including dry cough, flu, and muscular pains etc. ?		✓	Due to shortage of the thermal heat sensor
11	Are raw materials, machinery, and any other tools and material required at construction site completely sanitized and disinfected at the entry point ?		✓	Partial Compliance
12	Environmental and safety staff available at site?		✓	Partial Compliance

Compliance Status at Package-2, Lot - 01 Khairabad–Kahi–Nizampur Road (S-6)

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
1	Availability of temperature measuring device at camp site or work site of contractor.	✓		IR thermometer was available at site.
2	Availability of disinfectant and hand sanitizers at all work places (office, camp site, construction site etc).	✓		Partial Compliance. Partial disinfection activities are in place.
3	Is contractor providing every worker face mask (preferably N95 mask, if not	✓		Partial Compliance.

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
	available provide surgical mask in duplicate) and safety gloves ?			Due to shortage of N95 mask, only medical and cloth masks were provided at the site. (refer to attached pictures)
4	Is disinfection of tools, machinery, equipment in place ?	✓		Partial Compliance.
5	Worker are observing the social distance (3feet) ?		✓	No staff was observing the social distances.
6	Is first aid box available at all active sites ?	✓		Compliance, first aid box is available at site, however, it is recommended that regular check up of medicines may be conducted by the Safety expert of the site to check the expiry dates of the medicines.
7	Is sufficient arrangements are available at construction site for washing hands and sanitization?	✓		Partial Compliance
8	Is work place is properly hygiene ?		✓	Partial Compliance
9	Are signs on entrances requesting that sick guests do not enter the building without prior information placed ?	✓		Compliance
10	Body temperature of all entering individuals is being monitored at entry points by dedicated Person(s) along with other symptoms including dry cough, flu, and muscular pains etc. ?		✓	Due to shortage of the thermal heat sensor
11	Are raw materials, machinery, and any other tools and material required at construction site completely sanitized and disinfected at the entry point ?		✓	Partial Compliance
12	Environmentalist and safety staff available at site?		✓	Partial Compliance

Compliance Status at Lot - 04 Adina – Yar Hussain Road (S-1-C)

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
1	Availability of temperature measuring device at camp site or work site of contractor.	✓		IR thermometer was available at site.
2	Availability of disinfectant and hand sanitizers at all work places (office, camp site, construction site etc).	✓		Partial Compliance. Partial disinfection activities are in place.
3	Is contractor providing every worker face mask (preferably N95 mask, if not available provide surgical mask in duplicate) and safety gloves ?	✓		Partial Compliance. Due to shortage of N95 mask, only medical and cloth masks were provided at the site. (refer to attached pictures)
4	Is disinfection of tools, machinery, equipment in place ?	✓		Partial Compliance.
5	Worker are observing the social distance (3feet) ?		✓	No staff was observing the social distances.
6	Is first aid box available at all active sites ?	✓		Compliance, first aid box is available at site, however, it is recommended that regular check up of medicines may be conducted by the Safety expert of the site to check the expiry dates of the medicines.
7	Is sufficient arrangements are available at construction site for washing hands and sanitization?	✓		Partial Compliance
8	Is work place is properly hygiene ?		✓	Partial Compliance
9	Are signs on entrances requesting that sick guests do not enter the building without prior information placed ?	✓		Compliance
10	Body temperature of all entering individuals is being monitored at entry points by dedicated Person(s) along with other symptoms including dry cough, flu, and muscular pains etc. ?	✓		
11	Are raw materials, machinery, and any other tools and material required at construction site completely sanitized and disinfected at the entry point ?		✓	Partial Compliance

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
12	Environmental and safety staff available at site?		✓	Partial Compliance

Compliance Status at Lot-05, Maqsood – Kohala-Pir Sohawa Road Section (S-1)

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
1	Availability of temperature measuring device at camp site or work site of contractor.	✓		IR thermometer was available at site.
2	Availability of disinfectant and hand sanitizers at all work places (office, camp site, construction site etc).	✓		Partial Compliance. Partial disinfection activities are in place.
3	Is contractor providing every worker face mask (preferably N95 mask, if not available provide surgical mask in duplicate) and safety gloves ?	✓		Partial Compliance. Due to shortage of N95 mask, only medical and cloth masks were provided at the site. (refer to attached pictures)
4	Is disinfection of tools, machinery, equipment in place ?	✓		Partial Compliance.
5	Worker are observing the social distance (3feet) ?		✓	No staff was observing the social distances.
6	Is first aid box available at all active sites ?	✓		Compliance, first aid box is available at site, however, it is recommended that regular check up of medicines may be conducted by the Safety expert of the site to check the expiry dates of the medicines.
7	Is sufficient arrangements are available at construction site for washing hands and sanitization?	✓		Partial Compliance
8	Is work place is properly hygiene ?		✓	Partial Compliance
9	Are signs on entrances requesting that sick guests do not enter the building without prior information placed ?	✓		Compliance
10	Body temperature of all entering individuals is being monitored at entry		✓	No thermal heat sensor

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
	points by dedicated Person(s) along with other symptoms including dry cough, flu, and muscular pains etc. ?			
11	Are raw materials, machinery, and any other tools and material required at construction site completely sanitized and disinfected at the entry point ?		✓	Partial Compliance
12	Environmentalist and safety staff available at site?		✓	Partial Compliance

Compliance Status at Lot – 06, Haripur – Hattar –Taxila Section (S-1)

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
1	Availability of temperature measuring device at camp site or work site of contractor.	✓		Proper Thermometer was available at site.
2	Availability of disinfectant and hand sanitizers at all work places (office, camp site, construction site etc).	✓		To rescues the situation a disinfection tunnel was available at site. (refer to attached pictures)
3	Is contractor providing every worker face mask (preferably N95 mask, if not available provide surgical mask in duplicate) and safety gloves ?	✓		Compliance. Due to shortage of N95 mask, some worker involved in construction activities were provided the N95 Mask while others were given medical and cloth masks. (refer to attached pictures)
4	Is disinfection of tools, machinery, equipment in place ?	✓		Compliance.
5	Worker are observing the social distance (3feet) ?	✓		All staff / workers were observing the social distances.
6	Is first aid box available at all active sites ?	✓		Compliance, first aid box is available at site, however, it is recommended that regular check up of medicines may be conducted by the Safety expert of the site to check the expiry dates of the medicines.
7	Is sufficient arrangements are available at construction site for	✓		Compliance: Sufficient arrangements were available at construction site for

Sr. No	Preventive measures	Compliance status		Remarks
		Yes	No	
	washing hands and sanitization?			washing hands and sanitization.
8	Is work place is properly hygiene ?		✓	Partial Compliance
9	Are signs on entrances requesting that sick guests do not enter the building without prior information placed ?	✓		Compliance
10	Body temperature of all entering individuals is being monitored at entry points by dedicated Person(s) along with other symptoms including dry cough, flu, and muscular pains etc. ?	✓	✓	Compliance
11	Are raw materials, machinery, and any other tools and material required at construction site completely sanitized and disinfected at the entry point?	✓		Compliance
12	Environmental and safety staff available at site?	✓		Compliance

APPENDIX-2

ENVIRONMENTAL SAFEGUARDS ACTIVITIES IN REPORTING PERIOD



Air Monitoring Station at Camp Site



Air Monitoring Station at Active Construction Site



Waste Water Sampling



Noise Measurements



Water Sampling

APPENDIX-3

ENVIRONMENTAL MONITRING RESULTS



PAK GREEN ENVIRO-ENGINEERING (Pvt.) Ltd.

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Doc.#: PGG/IMS/FF/063 Issue Date: 13-Oct-17 Issue # 01 Rev. # 00

Head Office: 46-M, Gulberg III, Lahore-Pakistan. Ph: +9242-35441444 Cell: 0303-4442334




Sr. No.	Parameters	Time Duration	Results Units ($\mu\text{g}/\text{m}^3$)	NEQSAA	WHO	Result (Average 24 Hrs)
16.		11:00 PM	98.12			
17.		12:00 AM	85.43			
18.		01:00 AM	100.38			
19.		02:00 AM	97.86			
20.		03:00 AM	84.01			
21.		04:00 AM	99.92			
22.		05:00 AM	96.14			
23.		06:00 AM	120.53			
24.		07:00 AM	106.4			

End of Report

NEQSAA: National Environmental Quality Standards for Ambient Air

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- The report is not valid for any negotiations.
- Dually calibrated instruments were used during monitoring.

Field Analyst	Chief Analyst	Laboratory Incharge
 ADIL JAVED	 MUHAMMAD RAZAULLAH	 IFTIKHAR AHMED



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Head Office: 46-M, Gulberg III, Lahore-Pakistan. Ph: +9242-35441444 Cell: 0303-4442334

TEST REPORT

Ref #: PGG/LAB/2021-301231/AA

Date: 15-Feb-21

Name of Industry/Client:
Site Location:
Nature of Monitoring:
Monitoring Instrument:
Monitoring Date:

Ghulam Rasool & Company
Asphalt Plant Site
Ambient Air
Air Sampler IPM-FDS
10-Feb-21

Result:

Sr. No.	Parameters	Time Duration	Results Units ($\mu\text{g}/\text{m}^3$)	NEQSAA	WHO	Result (Average 24 Hrs)
1.	Particulate Matter (PM_{10})	08:00 A.M	96.58	150 ($\mu\text{g}/\text{m}^3$)	50 ($\mu\text{g}/\text{m}^3$) (24 Hrs)	109.3546 ($\mu\text{g}/\text{m}^3$)
2.		09:00 A.M	93.44			
3.		10:00 A.M	105.77			
4.		11:00 A.M	109.44			
5.		12:00 P.M	112.15			
6.		01:00 P.M	114.45			
7.		02:00 P.M	117.5			
8.		03:00 P.M	121.31			
9.		04:00 PM	135.87			
10.		05:00 PM	147.68			
11.		06:00 PM	137.11			
12.		07:00 PM	143.21			
13.		08:00 PM	121.48			
14.		09:00 PM	86.37			
15.		10:00 PM	89.43			



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Sr. No.	Parameters	Time Duration	Results Units ($\mu\text{g}/\text{m}^3$)	NEQSA A	WHO	Result (Average 24 Hrs)
16.		11:00 PM	78.22			
17.		12:00 AM	76.77			
18.		01:00 AM	75.33			
19.		02:00 AM	71.91			
20.		03:00 AM	72.99			
21.		04:00 AM	71.41			
22.		05:00 AM	68.54			
23.		06:00 AM	71.31			
24.		07:00 AM	69.22			

End of Report

NEQSAA: National Environmental Quality Standards for Ambient Air

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- Dually calibrated instruments were used during monitoring.

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TEST REPORT

Ref #: PGG/LAB/2021-301231/AA

Date: 15-Feb-21

Name of Industry/Client:
Site Location:
Nature of Monitoring:
Monitoring Instrument:
Monitoring Date:

Ghulam Rasool & Company
RD 18+550
Ambient Air
Air Sampler IPM-FDS
10-Feb-21

Result:

Sr. No.	Parameters	Time Duration	Results Units ($\mu\text{g}/\text{m}^3$)	NEQSA A	WHO	Result (Average 24 Hrs)
1.	Particulate Matter (PM_{10})	08:00 A.M	91.64	150 ($\mu\text{g}/\text{m}^3$)	50 ($\mu\text{g}/\text{m}^3$) (24 Hrs)	86.10167 ($\mu\text{g}/\text{m}^3$)
2.		09:00 A.M	91.28			
3.		10:00 A.M	103.26			
4.		11:00 A.M	108.72			
5.		12:00 P.M	102.44			
6.		01:00 P.M	98.77			
7.		02:00 P.M	96.71			
8.		03:00 P.M	98.31			
9.		04:00 PM	99.49			
10.		05:00 PM	97.17			
11.		06:00 PM	92.15			
12.		07:00 PM	85.52			
13.		08:00 PM	84.44			
14.		09:00 PM	82.39			
15.		10:00 PM	78.45			



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Sr. No	Time	Parameters			
		CO	NO	NO ₂	SO ₂
		Units			
	Hours	(mg/m ³)	(µg/m ³)	(µg/m ³)	(µg/m ³)
20.	03:00 AM	1.01	16.38	22.86	17.62
21.	04:00 AM	1.21	13.97	21.63	15.84
22.	05:00 AM	1.25	17.32	23.72	15.57
23.	06:00 AM	1.55	16.71	22.78	16.17
24.	07:00 AM	1.46	18.72	22.97	15.18
Average Concentration		1.06	16.06042	22.5825	17.28792
NEQSAA		05 (24hr)	40 (24 hr)	80 (24 hr)	120 (24 hr)
WHO		---	---	200 (24 hrs)	20 (24 hrs)

End of Report

NEQSAA: National Environmental Quality Standards for Ambient Air

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TEST REPORT

Ref #: PGG/LAB/2021-301231/AA

Date: 15-Feb-21

Name of Industry/Client:
Site Location:
Nature of Monitoring:
Monitoring Instrument:
Monitoring Date:

Ghulam Rasool & Company
(RD 7+600) Base Camp
Ambient Air (Gases)
Air Sampler IPM-FDS
10-Feb-21

Result:

Sr. No	Time	Parameters			
		CO	NO	NO ₂	SO ₂
		Units			
	Hours	(mg/m ³)	(µg/m ³)	(µg/m ³)	(µg/m ³)
1.	08:00 A.M	1.41	19.40	23.85	18.84
2.	09:00 A.M	0.71	11.93	20.16	17.83
3.	10:00 A.M	1.49	19.85	24.64	17.67
4.	11:00 A.M	1.69	17.87	24.02	18.39
5.	12:00 P.M	0.59	13.71	21.51	16.76
6.	01:00 P.M	1.21	18.59	22.67	17.89
7.	02:00 P.M	0.68	14.72	22.05	17.85
8.	03:00 P.M	0.71	13.71	21.43	16.67
9.	04:00 PM	0.95	15.89	22.76	17.48
10.	05:00 PM	0.88	14.79	21.96	17.78
11.	06:00 PM	0.62	13.37	21.78	16.44
12.	07:00 PM	0.91	15.80	22.5	17.56
13.	08:00 PM	0.72	14.39	21.88	16.59
14.	09:00 PM	1.11	16.70	23.82	17.63
15.	10:00 PM	0.91	16.77	22.49	17.33
16.	11:00 PM	0.70	15.48	21.71	17.95
17.	12:00 AM	1.05	16.48	22.98	17.78
18.	01:00 AM	0.91	15.29	22.33	17.68
19.	02:00 AM	1.71	17.61	23.48	18.41



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Doc.#: PGG/IMS/FF/063 Issue Date: 13-Oct-17 Issue # 01 Rev. # 00

Head Office: 46-M, Gulberg III, Lahore-Pakistan. Ph: +9242-35441444 Cell: 0303-4442334

Sr. No	Time	Parameters			
		CO	NO	NO ₂	SO ₂
	Hours	(mg/m ³)	(µg/m ³)	(µg/m ³)	(µg/m ³)
20.	03:00 AM	1.65	17.778	22.43	17.7
21.	04:00 AM	1.54	19.56	24.68	17.29
22.	05:00 AM	1.23	18.89	21.75	17.89
23.	06:00 AM	0.68	14.76	22.65	17.62
24.	07:00 AM	0.95	18.54	21.27	16.23
Average Concentration		1.1558	17.8136667	23.1954	17.7238
NEQSAA		05 (24hr)	40 (24 hr)	80 (24 hr)	120 (24 hr)
WHO		---	---	200 (24 hrs)	20 (24 hrs)

End of Report

NEQSAA: National Environmental Quality Standards for Ambient Air

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TEST REPORT

Ref #: PGG/LAB/2021-301231/AA

Date: 15-Feb-21

Name of Industry/Client:
Site Location:
Nature of Monitoring:
Monitoring Instrument:
Monitoring Date:

Ghulam Rasool & Company
Asphalt Plant Site
Ambient Air
Air Sampler IPM-FDS
10-Feb-21

Result:

Sr. No.	Time	Parameters			
		CO	NO	NO ₂	SO ₂
		Units			
	Hours	(mg/m ³)	(µg/m ³)	(µg/m ³)	(µg/m ³)
1.	08:00 A.M	0.87	19.54	24.97	18.23
2.	09:00 A.M	0.98	19.67	24.78	18.84
3.	10:00 A.M	0.88	17.89	23.82	17.25
4.	11:00 A.M	1.03	18.95	24.57	18.69
5.	12:00 P.M	1.29	18.78	23.93	19.27
6.	01:00 P.M	0.89	17.78	21.47	16.69
7.	02:00 P.M	1.47	19.53	24.46	18.68
8.	03:00 P.M	0.81	16.57	21.85	18.03
9.	04:00 PM	0.93	15.94	22.64	17.45
10.	05:00 PM	1.45	19.84	24.37	18.57
11.	06:00 PM	0.78	14.39	21.88	17.9
12.	07:00 PM	0.98	15.18	21.23	16.58
13.	08:00 PM	0.97	15.88	22.6	17.45
14.	09:00 PM	1.25	18.06	23.72	18.16
15.	10:00 PM	1.88	16.87	23.15	17.46
16.	11:00 PM	1.76	19.78	24.25	18.48
17.	12:00 AM	1.28	17.88	23.63	16.61
18.	01:00 AM	1.08	16.54	22.43	17.35
19.	02:00 AM	1.11	18.93	24.16	16.95



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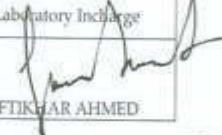
Sr. No	Time	Parameters			
		CO	NO	NO ₂	SO ₂
		Units			
	Hours	(mg/m ³)	(µg/m ³)	(µg/m ³)	(µg/m ³)
20.	03:00 AM	1.87	19.54	22.78	13.68
21.	04:00 AM	1.27	18.67	21.52	14.76
22.	05:00 AM	1.16	17.89	22.66	14.23
23.	06:00 AM	1.87	19.67	22.78	13.65
24.	07:00 AM	1.45	17.89	22.98	13.54
Average Concentration		1.226768	16.7292	22.85048	14.1851
NEQSAA		05 (24hr)	40 (24 hr)	80 (24 hr)	120 (24 hr)
WHO		---	---	200 (24 hrs)	20 (24 hrs)

End of Report

NEQSAA: National Environmental Quality Standards for Ambient Air

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TEST REPORT

Ref #: PGG/LAB/2021-301231/AA

Date: 15-Feb-21

Name of Industry/Client:
Site Location:
Nature of Monitoring:
Monitoring Instrument:
Monitoring Date:

Ghulam Rasool & Company
(RD 18+ 550)
Ambient Air (Gases)
Air Sampler IPM-FDS
10-Feb-21

Result:

Sr. No	Time	Parameters			
		CO	NO	NO ₂	SO ₂
		Units			
	Hours	(mg/m ³)	(µg/m ³)	(µg/m ³)	(µg/m ³)
1.	08:00 A.M	0.96	16.87	23.06	15.32
2.	09:00 A.M	0.87	15.34	23.17	14.87
3.	10:00 A.M	0.93	15.89	23.97	14.28
4.	11:00 A.M	0.87	14.45	22.66	14.87
5.	12:00 P.M	0.67	13.88	21.4	14.87
6.	01:00 P.M	0.97	15.98	22.54	13.74
7.	02:00 P.M	0.78	14.23	21.32	13.66
8.	03:00 P.M	1.07	16.45	23.08	14.67
9.	04:00 PM	0.98	15.65	23.76	12.76
10.	05:00 PM	1.28	17.13	23.59	14.88
11.	06:00 PM	1.85	16.61	24.67	14.62
12.	07:00 PM	0.92	15.41	21.76	14.77
13.	08:00 PM	1.25	17.64	24.81	14.67
14.	09:00 PM	1.87	16.48	22.76	13.53
15.	10:00 PM	1.37	14.54	21.77	14.35
16.	11:00 PM	1.16	17.47	24.77	14.63
17.	12:00 AM	1.56	18.01	22.22	13.56
18.	01:00 AM	1.33	18.52	21.64	13.32
19.	02:00 AM	1.13	17.29	22.74	13.16

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TEST REPORT

Ref #: PGG/LAB/2021-301251/NL

Date: 15-Feb-21

Name of Industry/Client:
Site Location:
Nature of Monitoring:
Monitoring Instrument:
Monitoring Date:

Ghulam Rasool & Company
(RD 7+600) Base Camp
Noise Level
Noise Meter
10-Feb-21

Result:




Sr. No.	Location	Units	Minimum	Maximum	Leq
1	Near Batching Plant	dB(A)	68.90	73.66	71.28
2	Camp site		58.89	60.15	59.515
3	Main Entrance		57.21	62.81	60.02
4	Asphalt Plant site		72.22	74.83	73.545
5	Road side		57.3	60.5	59.4

End of Report

NEQS: National Environmental Quality Standards

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19	Mercury	APHA-3500-Hg B	mg/L	0.001	N.D.
20	Iodine		mg/L	---	0.077
21	Zinc	APHA-3500-Zn B	mg/L	5	1.09
22	Boron	APHA-4500B-C	mg/L	0.7	N.D
23	Chromium	APHA-3500Cr B	mg/L	≤0.05	N.D
24	Selenium	APHA-3500Se C	mg/L	≤0.5	N.D

End of Report

NEQS: National Environmental Quality Standards

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TEST REPORT

Ref #: PGG/LAB/2021-301242/DW

Date: 15-Feb-21

Name of Industry/Client: Ghulam Rasool & Company
Site Location: (RD 7+600) Base Camp
Nature of Monitoring: Drinking Water
Monitoring Instrument: APHA/USEPA Standard
Monitoring Date: 10-Feb-21

Result:

Sr. No.	Parameters	Analysis Method	Units	NEQS	Results
1	pH	APHA-4500H+ B	--	6.5-8.5	7.3
2	Taste & Odor	In-house	--	Non Objectionable	Non Objectionable
3	Color	APHA-2120 B/C	TCU	<15	3.7
4	Turbidity	APHA-2130 B	NTU	<5	2.81
5	Total Coliform	APHA-9222 B	Number/100 mL	0 Number/100 mL	0
6	E-Coli	APHA-9222 D	Number/100 mL	0 Number/100 mL	0
7	Total Dissolved Solids (TDS)	APHA-2540 C	mg/L	<1000	360
8	Total Hardness	APHA-2340 C	mg/L	<500	143
9	Nitrate	APHA-4500NO3 B	mg/L	≤50	3.1
10	Nitrite	APHA-4500NO2 B	mg/L	≤3	0.0061
11	Ammonia	APHA-4500-NH3-B	mg/L	---	0.062
12	Arsenic	APHA-3500As B	mg/L	<0.05	N.D.
13	Antimony	APHA-3500Sb B	mg/L	<0.005	N.D.
14	Barium	APHA-3500Ba B	mg/L	0.7	N.D.
15	Chloride	APHA-4500Cl- B	mg/L	250	107
16	Fluoride	APHA-4500F- C	mg/L	<1.5	0.83
17	Aluminum	APHA-3500Al B	mg/L	≤0.2	N.D.
18	Manganese	APHA-3500-Mn B	mg/L	≤0.5	N.D.

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16.	Barium	APHA-3500Ba B	mg/L	1.5	0.074
-----	--------	---------------	------	-----	-------

End of Report

NEQS: National Environmental Quality Standards for Liquid Effluents

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TEST REPORT

Ref #: PGG/LAB/2021-301252/WW

Date: 15-Feb-21

Name of Industry/Client:
Site Location:
Nature of Monitoring:
Monitoring Instrument:
Monitoring Date:

Ghulam Rasool & Company
(RD 7+600) Base Camp
Final Disposal Point
APHA/USEPA Standard
10-Feb-21

Result:

Sr. No	Parameters	Analysis Method	Units	NEQS	Results
1.	Temperature	--	°C	--	22.4
2.	pH	APHA-4500H+ B	---	6-9	8.2
3.	Total Dissolved Solids (TDS)	APHA-2540 C	mg/L	3500	2355
4.	Chemical Oxygen Demand (COD)	APHA-5220-D	mg/L	150	105.6
5.	Biological Oxygen Demand (BOD ₅) at 20 °C	APHA, 5210	mg/L	80	67.6
6.	Phenolic Compounds as Phenols	APHA-5530 D	mg/L	0.01	0.0053
7.	Chloride (Cl ⁻)	APHA-4500Cl- B	mg/L	1000	165
8.	Copper (Cu ⁺)	APHA-3500Cu B	mg/L	1.0	0.067
9.	Total Iron (Fe ⁺)	APHA-3500-Fe-B	mg/L	8.0	0.52
10.	Lead (Pb ⁺)	APHA-3500-Pb B	mg/L	0.5	N.D.
11.	Manganese	APHA-3500-Mn B	mg/L	1.5	0.087
12.	Sulfate (SO ₄)	APHA-4500-SO4C	mg/L	600	125
13.	Zinc (Zn)	APHA-3500-Zn B	mg/L	5.0	0.077
14.	Silver	APHA-3500Ag-B	mg/L	1.0	0.062
15.	Boron	APHA-4500B-C	mg/L	6.0	0.063

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Sr. No.	Parameters	Time Duration	Results Units ($\mu\text{g}/\text{m}^3$)	NEQSA A	WHO	Result (Average 24 Hrs)
16.		11:00 PM	120.59			
17.		12:00 AM	123.72			
18.		01:00 AM	125.36			
19.		02:00 AM	132.40			
20.		03:00 AM	146.30			
21.		04:00 AM	141.32			
22.		05:00 AM	126.41			
23.		06:00 AM	139.35			
24.		07:00 AM	142.28			

End of Report

NEQSAA: National Environmental Quality Standards for Ambient Air

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TEST REPORT

Ref #: PGG/LAB/2021-301231/AA

Date: 15-Feb-21

Name of Industry/Client: Ghulam Rasool & Company
Site Location: (RD 7+600) Base Camp
Nature of Monitoring: Ambient Air
Monitoring Instrument: Air Sampler IPM-FDS
Monitoring Date: 10-Feb-21

Result:

Sr. No.	Parameters	Time Duration	Results Units ($\mu\text{g}/\text{m}^3$)	NEQSA A	WHO	Result (Average 24 Hrs)
1.	Particulate Matter (PM_{10})	08:00 A.M	106.14	150 ($\mu\text{g}/\text{m}^3$)	50 ($\mu\text{g}/\text{m}^3$) (24 Hrs)	115.01 ($\mu\text{g}/\text{m}^3$)
2.		09:00 A.M	145.65			
3.		10:00 A.M	135.26			
4.		11:00 A.M	124.13			
5.		12:00 P.M	116.25			
6.		01:00 P.M	106.98			
7.		02:00 P.M	92.78			
8.		03:00 P.M	89.69			
9.		04:00 PM	85.56			
10.		05:00 PM	83.74			
11.		06:00 PM	79.03			
12.		07:00 PM	87.54			
13.		08:00 PM	95.58			
14.		09:00 PM	102.07			
15.		10:00 PM	112.31			



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APPENDIX-4
CORRECTIVE ACTION PLAN RELATED WITH ENVIRONMENT AND EHS

CORRECTIVE ACTION PLAN (CAP) FOR ENVIRONMENT, HEALTH AND SAFETY ISSUE

Sr. No.	Issue	Comments / Observations	Action Required	Indicator	Implementation Responsibility	Status as of Dec 2020
1	Occupational health and safety	Workers not provided with all essential PPE.	Provision of required PPE (Especially Safety Shoes, Mask & Gloves to Asphalt workers) to all staff at site.	100% PPE Continuous efforts needed utilization by workers	Contractor's Health & Safety Team	1. Partially Resolved. Continuous efforts needed. 2- Overall situation of PPEs provision and utilization has found to be improved at both sections
2	Road Safety	Missing road safety / diversion signs at the diversion at various reach of road sector	Road safety signs / diversion signs to be installed at active construction sites	1- Swift and safe traffic movement. Road safety signs installed. 2. Road Safety Sign Installed	Contractor's Health & Safety Team	1. Partially Resolved. Continuous efforts needed.

PHOTOLOG



Meeting with Contractor Staff



Meeting with Contractor Staff



Meetings with Local Population



Onsite Meetings with Project Staff



Meetings with Local Population



Visit of Third Party Mission at Project Site