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**ENVIRONMENTAL MONITORING REPORT
OF
BHARAT COKING COAL LIMITED,
FOR MISCELLANEOUS UNITS/WASHERIES,
(FOR THE MONTH JULY, 2024)**

**CMPDI**

ISO 9001 Company
Regional Institute-II
Dhanbad, Jharkhand

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EXECUTIVE SUMMARY

1.0 Introduction

The purpose of environmental monitoring is to assess the quality of various attributes that affects the fauna and flora. In accordance with the quality of these attributes appropriate strategy is to be developed to control the pollution level within the permissible limits. The three major attributes are air, water and noise level.

Bharat Coking Coal Limited (BCCL), a Subsidiary company of Coal India Limited is operating Underground and Opencast Mines in Jharia Coalfield (JCF) is a part of Gondwana Coalfields located in Dhanbad district of Jharkhand, the JCF is bounded by 23°37' N to 23°52' N latitudes and 86°09' E to 86°30' E longitude occupying an area of 450 Sq.km. BCCL has awarded Environmental monitoring work of Jharia Coalfield (JCF) to Central Mine Planning & Design Institute Limited (CMPDIL). The environmental monitoring has been carried out as per the conditions laid down by the MoEF&CC while granting environmental clearance of project, consent letter issued by the respective SPCB, and other statutory requirements.

2.0 Sampling location and rationale

2.1 Ambient air sampling locations

The ambient air quality monitoring stations were selected to represent core, buffer zone area. The rationale has been based on the guidelines stipulated by MoEF&CC, consent letter of SPCB, as well as other statutory requirements.

2.2 Noise level monitoring locations

Noise levels vary depending on the various activities in mining areas. The monitoring of noise level in different locations will be helpful to take appropriate mitigating measures. The noise levels were recorded in mining area, washery and in residential area.

3.0 Methodology of sampling and analysis

3.1 Ambient air quality

Parameters chosen for assessment of ambient air quality were Particulate Matter (PM₁₀), Fine Particulate Matter (PM_{2.5}), Sulphur Di-oxide (SO₂) and Nitrogen Oxides (NO_x). Respirable Dust Samplers (RDS) were used for sampling of PM₁₀, SO₂, & NO_x and Fine Dust Sampler (PM_{2.5} sampler) were used for sampling of PM_{2.5} at 24 hours interval once in a fortnight and the same for the

gaseous pollutants. The samples were analyzed in Environmental Laboratory of CMPDI, RI-II, Dhanbad.

3.2 Noise level monitoring

Noise level measurements in form of 'L_{EQ}' were taken using Integrated Data Logging Sound Level Meter. Noise levels were measured in Decibels, 'A' weighted average, i.e. dB(A).

4.0 Results and interpretations

4.1 Air quality

It has been seen from the analysis results that the 24 hours average concentration parameters like PM₁₀, PM_{2.5}, SO₂ and NO_x are mostly within the permissible limits in all sampling locations as per MoEF&CC Gazette Notification No. GSR 742(E) dt 25.09.2000 Standards for Coal Mines and National Ambient Air Quality Standard -2009. Sometimes the concentration of PM₁₀ & PM_{2.5} exceeds the limits due to heavy public traffic, poor road condition, coke oven plants, burning of coal by surrounding habitants, brick making, municipal waste dumps and industries like Steel Plant, thermal Plants including their fly ash etc.

The following preventive and suppressive mitigative measures can be undertaken to contain the pollution level within prescribed level:-

- Wet drilling and controlled blasting should be practice.
- Explosive used should be optimized to restrict the dust generation.
- Transportation roads should be permanently asphalted free of ruts, potholes etc.
- Water should be sprayed on coal transportation road, service road more frequently and at regular interval.
- Dust from roads should be removed physically or mechanically.
- Greenbelts around industrial sites, service building area besides Avenue plantation along roads should be created.
- Coal dust should be suppressed by using fixed sprinklers.
- Regular maintenance of plant and machinery should be undertaken.

4.2 Noise Level

During the noise level survey it has been observed that the noise level in the sampling locations is within the permissible limits prescribed as per MoEF&CC Gazette Notification No. GSR 742(E) dt 25.09.2000 Standards for Coal Mines for Industrial Area and Noise pollution (Regulation and Control) Rules, 2000.

INTRODUCTION

- 1.0 Any industry and development activities including coal mining is bound to affect environmental attributes. There are positive as well as negative impacts of such operations. For controlling the adverse impacts a regular monitoring is essential. The environmental monitoring is being done as per the guide-lines stipulated by Ministry of Environment, Forest and Climate Change (MoEF&CC), Govt. of India.

The very purpose of environmental monitoring is to assess the quality of various attributes which affects the environment. As per quality of these attributes appropriate strategy is to be developed to control the pollution level within the permissible limits. The three major attributes are air, water and noise level.

Bharat Coking Coal has awarded Environmental Monitoring work of all Projects, Cluster wise, to Central Mine Planning & Design Institute Limited (CMPDIL). The environmental monitoring has been carried out as per conditions laid down by MoEF&CC while granting environmental clearance to different projects. CMPDI has trained manpower and well equipped laboratory to carry out monitoring, analysis and R&D work in the field of environment.

- 1.1 The environmental monitoring for the following stations (listed below) is being carried out in addition to the existing stations, these locations are selected on time to time basis as per the conditions laid down by the JSPCB or Regional Officers of MoEF&CC or on requirement basis of BCCL for fulfilling various statutory requirements. The monitoring stations being covered are:-
- 1.1.1 DugdaWashery (Air/Noise)
 - 1.1.2 BhojudihWashery(Air/Noise)
 - 1.1.3 MahudaWashery (Air/Noise)
 - 1.1.4 Sinidih Workshop (Air/Noise)
 - 1.1.5 Patherdihwashery(Air/Noise)
 - 1.1.6 Koyla Nagar Hospital (Air/Noise)
 - 1.1.7 Central Hospital Dhanbad(Air/Noise)

Ministry of Environment, Forest and Climate Change while granting environmental clearance has given one of the General conditions that " Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.5}, SO₂, NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board." And other conditions regarding water / effluent and noise level monitoring. In compliance of these conditions the environmental monitoring has been carried out& report prepared for submission to MoEF&CC SPCB and other statutory authorities.

AMBIENT AIR QUALITY MONITORING

2.1 Location of sampling station and their rationale:

(As per G.S.R. 742 (E) dt. 25th December, 2000)

2.1.1 Ambient Air Quality Sampling Locations

i) Bhojudih Washery(A34): Industrial Area

The location of the sampling station is 23°36'56.00" N & 086°28' 40.00"E. The sampler was placed at a height of approx. 2 m height at rooftop of Bhojudih Guest House in vicinity of the existing Washery.

ii) Dugda Washery (A35): Industrial Area

The location of the sampling station is 23°44'55.19" N & 086°09'04.17"E. The sampler was placed at a height of approx. 2 m height at rooftop of Dugda Guest House in vicinity of the existing Washery

iii) Mahuda Washery(A36): Industrial Area

The location of the sampling station is 23°44'29.00" N & 086°16'52.00"E. The sampler was placed at a height of approx. 1.5m above ground level at Washery Office.

iv) Sinidih Workshop (A38):Industrial Area

The location of the sampling station is 23°46'55.60" N & 086°15'29.76"E The sampler was placed at a height of approx. 1.5m above ground level at Sinidih Workshop Office.

v) Pathadih Washery (A39):Industrial Area

The location of the sampling station is 23°40'52.00"N & 86°26'0.00"E The sampler was placed at a height of approx. 1.5m above ground level at washery

vi) Koyla Nagar Hospital (A40):Residential Area

The location of the sampling station is 23°48'21.58"N & 86°27'56.75"E. The sampler was placed at a height of approx. 1.5m above ground level.

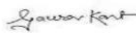
vii) Central Hospital Dhanbad (A43):Residential Area

The location of the sampling station is 23°42'32"N & 86°26'38"E. The sampler was placed at a height of approx. 1.5m above ground level.

viii) Santaldih Basti (Bhojudih wahery buffer)(A46): Residential Area

The location of the sampling station is 23°36'54"N & 86°28'17"E. The sampler was placed at a height of approx. 1.5m above ground level.

AMBIENT AIR QUALITY DATA

		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in	
Test Report for Ambient Air Samples							
Month & Year		07/2024		Cluster		Misc.	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)				ULR No.	
Project		Bhojudih Washery-Industrial Area		Sample Ref. No.		TC1012224000001059F	
Date of Sampling		08.07.2024		REM/BCCL/2024/07		Date of Issue	
Sampling Method		25.07.2024		20.09.2024		23.09.2024	
Zone of Station:		CORE ZONE					
MoEF Standards Notification dated 25 th September, 2000 (GSR 742 E)		NAAQS, 2009					
Sl. No.	Parameter	Method Analysis	Observed Values (in µg/m ³)	Range Of Testing	LDL		
			1 st FN	2 nd FN			
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	155	107	10 µg/m ³ - 1000 µg/m ³	10 µg/m ³	100
2	PM _{2.5}	IS -5182(Part 24):2019	75	62	10 µg/m ³ - 400 µg/m ³	10 µg/m ³	60
3	SO ₂	IS-5182(Part-2): 2001, R-2017	<10	10	10 µg/m ³ - 1050 µg/m ³	10 µg/m ³	80
4	NO ₂	IS-5182 (Part-6): 2006, R-2017	32	29	06 µg/m ³ - 420 µg/m ³	06 µg/m ³	80
* LDL indicates Lower Detection Limit,							
**All units are in µg/m ³ , 24 hourly Average,							
 ANALYSED BY		 (Gaurav Kant) REVIEWED BY		 (Amit Raj Mishra) Authorised Signatory			
Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.							
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Test Report for Ambient Air Samples							
Month & Year		07/2024		Cluster		Misc.	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)				ULR No.	
Project		Dugda Washery : Industrial Area		Sample Ref. No.		REM/BCCL/2024/07	
Date of Sampling		12.09.2024		Period of Analysis		12.09.2024	
Sampling Method		20.09.2024		Zone of Station:		CORE ZONE	
MoEF Standards Notification dated 25th September, 2000 (GSR 742 E)		300		NAAQS, 2009		100	
Sl. No.	Parameter	Method of Analysis	Observed Values (in µg/m³)		Range Of Testing	LDL	
			1st FN	2nd FN			
1	PM ₁₀	IS-5182(Part 23):2006, R-2017	93	113	10 µg/m ³ - 1000 µg/m ³	10 µg/m ³	
2	PM _{2.5}	IS-5182(Part 24):2019	40	62	10 µg/m ³ - 400 µg/m ³	10 µg/m ³	
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	10	<10	10 µg/m ³ - 1050 µg/m ³	10 µg/m ³	
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	30	29	06 µg/m ³ - 420 µg/m ³	06 µg/m ³	
* LDL indicates Lower Detection Limit, **All units are in µg/m ³ , 24 hourly Average,							
 ANALYSED BY		 (Gaurav Kant) REVIEWED BY		 (Amit Raj Mishra) Authorised Signatory			
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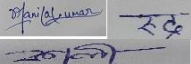
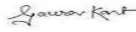
 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in	
Test Report for Ambient Air Samples							
Month & Year	07/2024	Cluster	Misc.			ULR No.	TC1012224000001059F
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.07.2024
Project	Mahuda Washery:Industrial area	Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 11, (IS 5182)	
Date of Sampling	08.07.2024	23.07.2024	Period of Analysis	08.07.2024	20.09.2024	Zone of Station:	CORE ZONE
Sl. No.	Parameter	Method of Analysis	Observed Values (in µg/m³)		Range Of Testing	LDL	MoEF Standards Notification dated 25th September,2000 (GSR 742 E)
			1st FN	2nd FN			NAAQS, 2009
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	134	86	10 µg/m ³ - 1000 µg/m ³	10 µg/m ³	300
2	PM _{2.5}	IS -5182(Part 24):2019	67	45	10 µg/m ³ - 400 µg/m ³	10 µg/m ³	Not Specified
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	<10	10 µg/m ³ - 1050 µg/m ³	10 µg/m ³	120
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	29	28	06 µg/m ³ - 420 µg/m ³	06 µg/m ³	120
* LDL indicates Lower Detection Limit,							
**All units are in µg/m ³ , 24 hourly Average,							
 ANALYSED BY		 (Gaurav Kant) REVIEWED BY		 (Amit Raj Mishra) Authorised Signatory			
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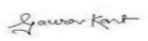
 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in					
Test Report for Ambient Air Samples											
Month & Year		07/2024		Cluster		Misc		ULR No.		TC1012224000001059F	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)						Date of Issue		23.09.2024	
Project		Sinidih Workshop:Industrial Area		Sample Ref. No.		REM/BCCL/2024/07		Sampling Method		CMPDI/RI-II/LPM 11 , (IS 5182)	
Date of Sampling		02.07.2024		17.07.2024		Period of Analysis		02.07.2024		20.09.2024	
Zone of Station:		CORE ZONE									
Sl. No.	Parameter	Method of Analysis	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25th September,2000 (GSR 742 E)		NAAQS, 2009		
			1st FN	2nd FN							
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	70	81	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100			
2	PM _{2.5}	IS -5182(Part 24):2019	27	28	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	60			
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	11	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80			
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	26	28	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80			
**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average * LDL indicates Lower Detection Limit,											
 ANALYSED BY		 (Gaurav Kant) REVIEWED BY				 (Amit Raj Mishra) Authorised Signatory					
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Test Report for Ambient Air Samples																																							
Month & Year					07/2024					Cluster					Misc.										ULR No.					TC1012224000001059F									
Customer					Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)																				Date of Issue					23.09.2024									
Project					Patherdih Washery :Industrial Area					Sample Ref. No.					REM/BCCL/20 24/07					Sampling Method					CMPDI/RI-II/LPM 11 , (IS 5182)														
Date of Sampling					15.07.2024					30.07.2024					Period of Analysis					15.07.2024					20.09.2024					Zone of Station:					CORE ZONE				
Sl. No.		Parameter		Method of Analysis		Observed Values (in $\mu\text{g}/\text{m}^3$)					Range Of Testing					LDL					MoEF Standards Notification dated 25th September,2000 (GSR 742 E)					NAAQS, 2009													
						1st FN					2nd FN																												
1		PM ₁₀		IS -5182(Part 23):2006, R-2017		99					141					10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$					10 $\mu\text{g}/\text{m}^3$					300					100								
2		PM _{2.5}		IS -5182(Part 24):2019		43					72					10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$					10 $\mu\text{g}/\text{m}^3$					Not Specified					60								
3		SO ₂		IS-5182(Part-2): 2001 , R-2017		<10					<10					10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$					10 $\mu\text{g}/\text{m}^3$					120sss					80								
4		NO ₂		IS-5182 (Part-6): 2006 , R-2017		30					28					06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$					06 $\mu\text{g}/\text{m}^3$					120					80								
**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average, * LDL indicates Lower Detection Limit,																																							
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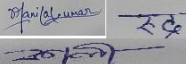
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Test Report for Ambient Air Samples																					
Month & Year		07/2024		Cluster		Misc						ULR No.		TC1012224000001059F							
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)										Date of Issue		23.09.2024							
Project		Koyla Nagar Hospital: Residential Area		Sample Ref. No.		REM/BCCL/2024/ 07		Sampling Method		CMPDI/RI-II/LPM 11, (IS 5182)											
Date of Sampling		04.07.2024		18.07.2024		Period of Analysis		04.07.2024		20.09.2024		Zone of Station:		BUFFER ZONE							
Sl. No.	Parameter	Method Analysis	of	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25th September,2000 (GSR 742 E)		NAAQS, 2009											
				1st Day	2nd Day																
1	PM ₁₀	IS -5182(Part 23):2006, R-2017		87	93	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$		300		100										
2	PM _{2.5}	IS -5182(Part 24):2019		36	34	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified		ss60											
3	SO ₂	IS-5182(Part-2): 2001, R-2017		10	<10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120		80											
4	NO ₂	IS-5182 (Part-6): 2006, R-2017		20	19	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120		80											
**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average * LDL indicates Lower Detection Limit,																					
 ANALYSED BY				 REVIEWED BY				 Authorised Signatory													
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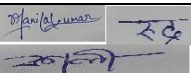
 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in		
Test Report for Ambient Air Samples								
Month & Year	07/2024	Cluster	Misc			ULR No.	TC1012224000001059F	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024	
Project	Koyla Nagar Hospital: Residential Area	Sample Ref. No.	REM/BCCL/2024/07	Sampling Method		CMPDI/RI-II/LPM 11, (IS 5182)		
Date of Sampling	05.07.2024	19.07.2024	Period of Analysis	05.07.2024	20.09.2024	Zone of Station:	BUFFER ZONE	
Sl. No.	Parameter	Method of Analysis	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25th September, 2000 (GSR 742 E)	NAAQS, 2009
			3rd Day	4th Day				
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	81	98	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100
2	PM _{2.5}	IS -5182(Part 24):2019	35	28	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	s60
3	SO ₂	IS-5182(Part-2): 2001, R-2017	<10	<10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80
4	NO ₂	IS-5182 (Part-6): 2006, R-2017	21	19	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80
**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average * LDL indicates Lower Detection Limit,								
 ANALYSED BY		 REVIEWED BY (Gaurav Kant)			 Authorised Signatory (Amit Raj Mishra)			
Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.								
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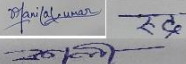
 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in		
Test Report for Ambient Air Samples								
Month & Year	07/2024	Cluster	Misc			ULR No.	TC1012224000001059F	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024	
Project	Koyla Nagar Hospital: Residential Area	Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 11 , (IS 5182)		
Date of Sampling	11.07.2024	25.07.2024	Period of Analysis	11.07.2024	20.09.2024	Zone of Station:	BUFFER ZONE	
Sl. No.	Parameter	Method of Analysis	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25th September,2000 (GSR 742 E)	NAAQS, 2009
			5th Day	6th Day				
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	72	78	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100
2	PM _{2.5}	IS -5182(Part 24):2019	25	39	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	60
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	<10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	21	20	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80
<i>**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average * LDL indicates Lower Detection Limit,</i>								
 ANALYSED BY		 REVIEWED BY			 Authorised Signatory			
Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.								
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 cmpdi <i>A Mini Ratna Company</i> CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in									
Test Report for Ambient Air Samples									
Month & Year	07/2024	Cluster	Misc				ULR No.	TC1012224000001059F	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024		
Project	Koyla Nagar Hospital: Residential Area	Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 11, (IS 5182)			
Date of Sampling	12.07.2024		26.07.2024	Period of Analysis	12.07.2024		20.09.2024	Zone of Station:	BUFFER ZONE
Sl. No.	Parameter	Method of Analysis	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25 th September,2000 (GSR 742 E)	NAAQS, 2009	
			7 th Day	8 th Day					
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	77	93	10 $\mu\text{g}/\text{m}^3$ – 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100	
2	PM _{2.5}	IS -5182(Part 24):2019	31	42	10 $\mu\text{g}/\text{m}^3$ – 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	<10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80	
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	19	20	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80	
**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average * LDL indicates Lower Detection Limit,									
 ANALYSED BY			 REVIEWED BY (Gaurav Kant)			 Authorised Signatory (Amit Raj Mishra)			
Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.									
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Page -1 of 1									

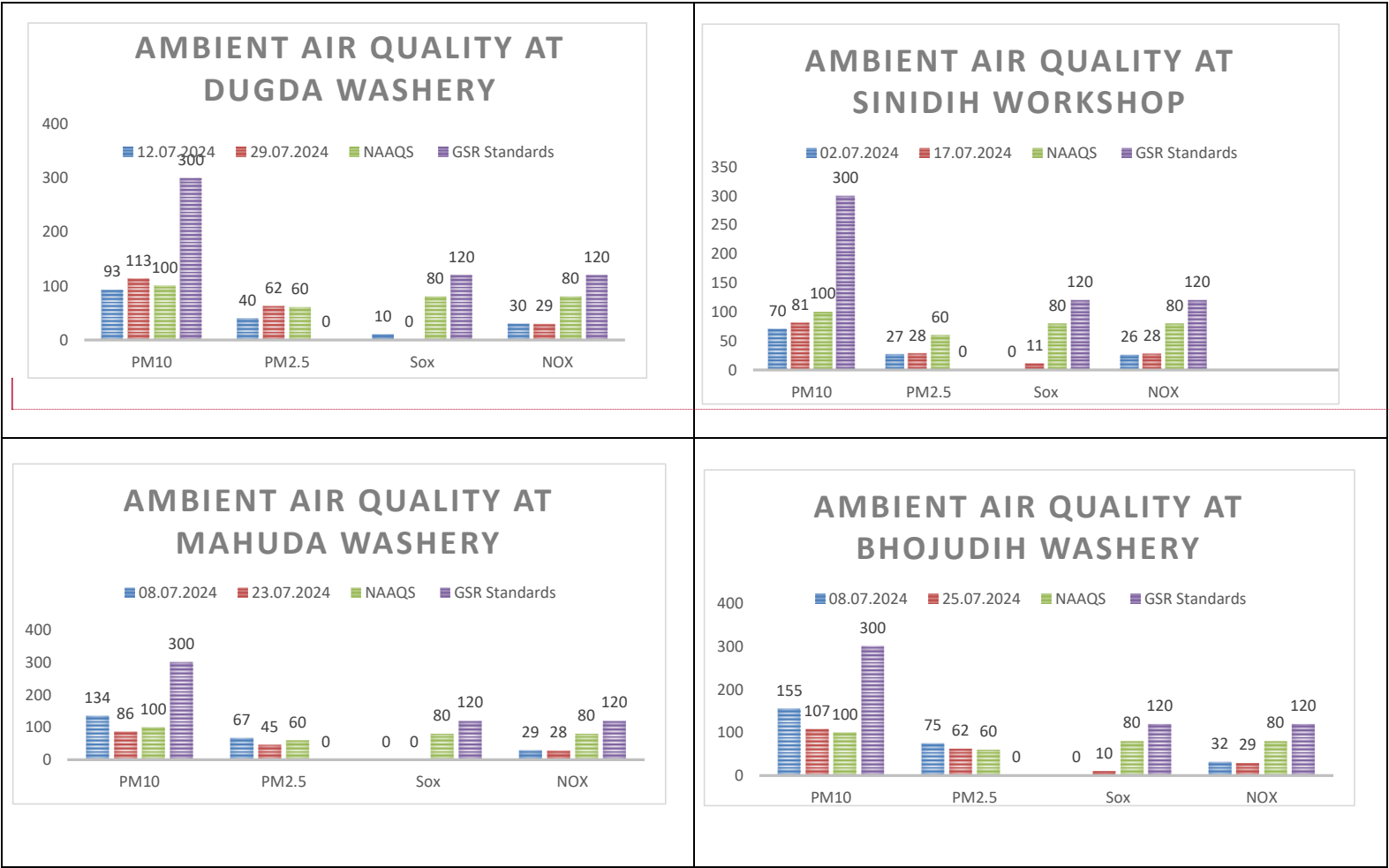
 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in			
<i>Test Report for Ambient Air Samples</i>									
Month & Year	07/2024	Cluster	Misc.			ULR No.	TC1012224000001059F		
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024		
Project	CENTRAL HOSPITAL DHANBAD	Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 11, (IS 5182)			
Date of Sampling	04.07.2024	19.07.2024	Period of Analysis	04.07.2024	20.09.2024	Zone of Station:	CORE ZONE		
Sl. No.	Parameter	Method Analysis of	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25th September,2000 (GSR 742 E)	NAAQS, 2009	
			1st Day	2nd Day					
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	72	69	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100	
2	PM _{2.5}	IS -5182(Part 24):2019	31	33	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001, R-2017	<10	<10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80	
4	NO ₂	IS-5182 (Part-6): 2006, R-2017	22	20	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80	
**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average, * LDL indicates Lower Detection Limit,									
 ANALYSED BY		 REVIEWED BY				 Authorised Signatory			
sssNote: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.									
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 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in			
<i>Test Report for Ambient Air Samples</i>									
Month & Year	07/2024	Cluster	Misc.			ULR No.	TC1012224000001059F		
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024		
Project	CENTRAL HOSPITAL DHANBAD	Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 11, (IS 5182)			
Date of Sampling	05.07.2024		25.07.2024	Period of Analysis	05.07.2024	20.09.2024	Zone of Station:	CORE ZONE	
Sl. No.	Parameter	Method of Analysis	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25th September, 2000 (GSR 742 E)	NAAQS, 2009	
			3rd Day	4th Day					
1	PM ₁₀	IS-5182(Part 23):2006, R-2017	68	69	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100	
2	PM _{2.5}	IS-5182(Part 24):2019	30	44	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80	
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	21	21	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80	
<i>**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average, * LDL indicates Lower Detection Limit,</i>									
 ANALYSED BY		 REVIEWED BY (Gaurav Kant)				 Authorised Signatory (Amit Raj Mishra)			
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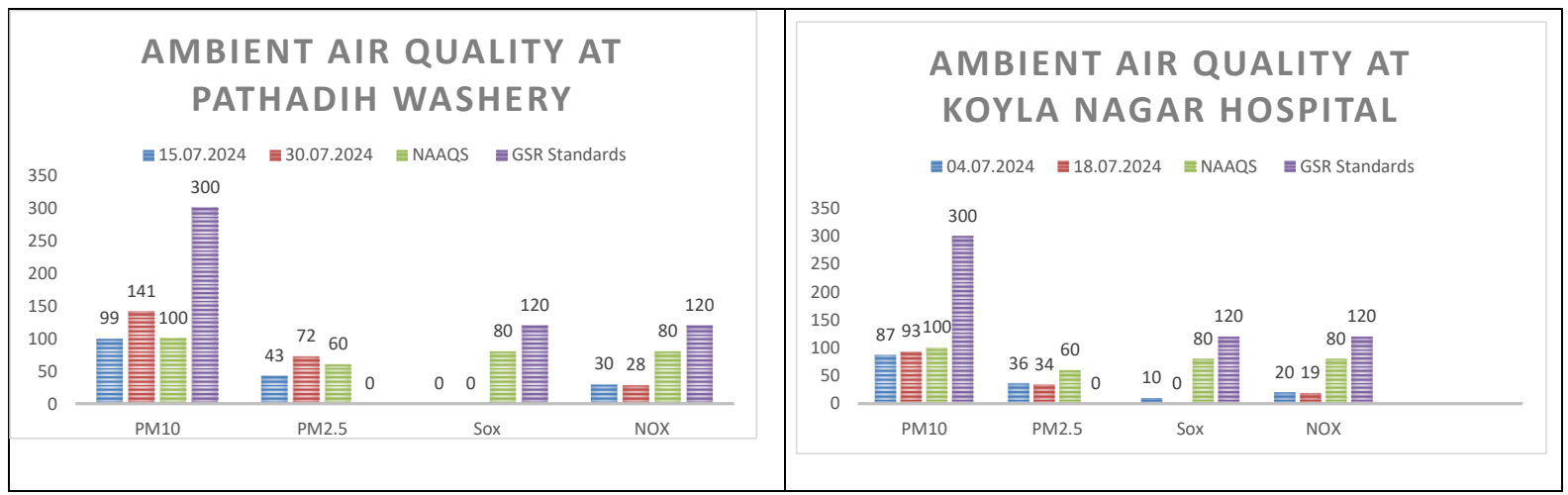
 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in			
<i>Test Report for Ambient Air Samples</i>									
Month & Year	07/2024	Cluster	Misc.			ULR No.	TC1012224000001059F		
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024		
Project	CENTRAL HOSPITAL DHANBAD	Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 11, (IS 5182)			
Date of Sampling	11.07.2024		26.07.2024	Period of Analysis	11.07.2024	20.09.2024	Zone of Station:	CORE ZONE	
Sl. No.	Parameter	Method of Analysis	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25 th September,2000 (GSR 742 E)	NAAQS, 2009	
			5 TH Day	6 th Day					
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	84	75	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100	
2	PM _{2.5}	IS -5182(Part 24):2019	38	27	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001, R-2017	<10	<10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80	
4	NO ₂	IS-5182 (Part-6): 2006, R-2017	21	20	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80	
<i>**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average, * LDL indicates Lower Detection Limit,</i>									
 ANALYSED BY		 REVIEWED BY (Gaurav Kant)				 Authorised Signatory (Amit Raj Mishra)			
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 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in		
<i>Test Report for Ambient Air Samples</i>								
Month & Year	07/2024	Cluster	Misc.			ULR No.	TC1012224000001059F	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024	
Project	CENTRAL HOSPITAL DHANBAD	Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 11, (IS 5182)		
Date of Sampling	12.07.2024	18.07.2024	Period of Analysis	12.07.2024	20.09.2024	Zone of Station:	CORE ZONE	
Sl. No.	Parameter	Method of Analysis	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25 th September, 2000 (GSR 742 E)	NAAQS, 2009
			7 th Day	8 th Day				
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	81	76	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100
2	PM _{2.5}	IS -5182(Part 24):2019	51	31	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	60
3	SO ₂	IS-5182(Part-2): 2001, R-2017	<10	<10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80
4	NO ₂	IS-5182 (Part-6): 2006, R-2017	20	21	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80
**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average, * LDL indicates Lower Detection Limit,								
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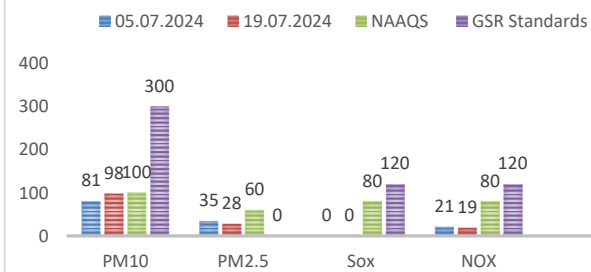
 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Air Quality Test Report				CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in					
Test Report for Ambient Air Samples											
Month & Year		07/2024		Cluster		Misc.		ULR No.		TC1012224000001059F	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)						Date of Issue		23.09.2024	
Project		Santaldih Bhojudih washery buffer		Sample Ref. No.		REM/BCCL/2024/07		Sampling Method		CMPDI/RI-II/LPM 11, (IS 5182)	
Date of Sampling		08.07.2024		25.07.2024		Period of Analysis		08.07.2024		20.09.2024	
Zone of Station:		BUFFER ZONE									
Sl. No.	Parameter	Method Analysis	Observed Values (in $\mu\text{g}/\text{m}^3$)		Range Of Testing	LDL	MoEF Standards Notification dated 25th September,2000 (GSR 742 E)	NAAQS, 2009			
			1st FN	2nd FN							
1	PM ₁₀	IS-5182(Part 23):2006, R-2017	85	84	10 $\mu\text{g}/\text{m}^3$ - 1000 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	300	100			
2	PM _{2.5}	IS-5182(Part 24):2019	36	36	10 $\mu\text{g}/\text{m}^3$ - 400 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	Not Specified	60			
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	<10	10 $\mu\text{g}/\text{m}^3$ - 1050 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$	120	80			
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	24	26	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80			
**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average, * LDL indicates Lower Detection Limit,											
 ANALYSED BY		 (Gaurav Kant) REVIEWED BY				 (Amit Raj Mishra) Authorised Signatory					
Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.											
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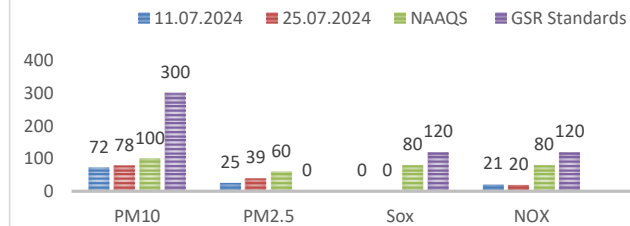
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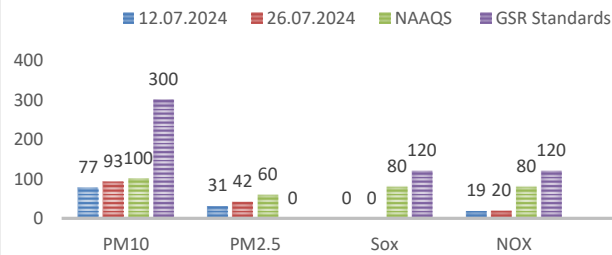
AMBIENT AIR QUALITY AT KOYLA NAGAR HOSPITAL



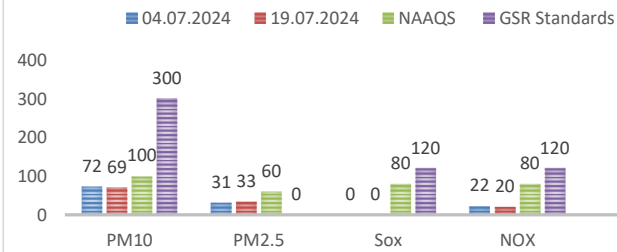
AMBIENT AIR QUALITY AT KOYLA NAGAR HOSPITAL



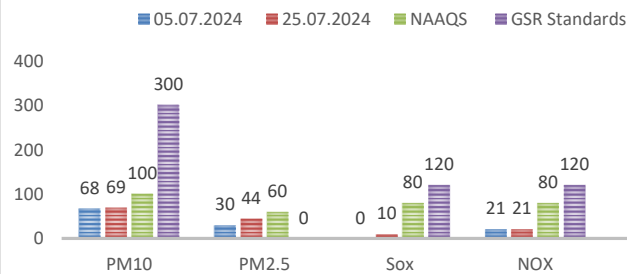
AMBIENT AIR QUALITY AT KOYLA NAGAR HOSPITAL



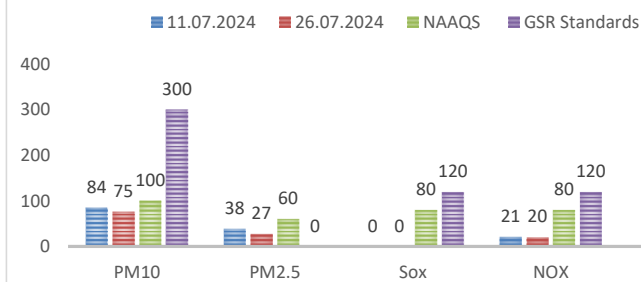
AMBIENT AIR QUALITY AT CHD HOSPITAL



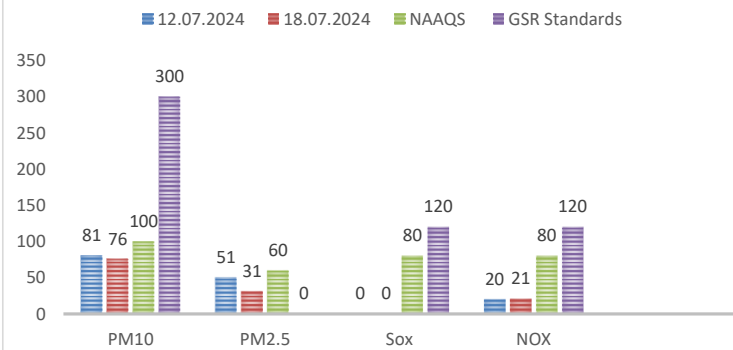
AMBIENT AIR QUALITY AT CHD HOSPITAL



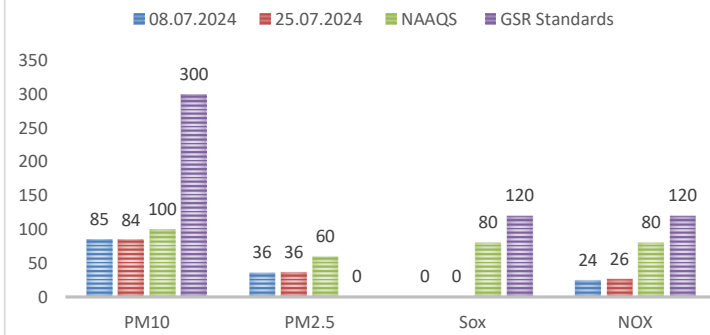
AMBIENT AIR QUALITY AT CHD HOSPITAL



AMBIENT AIR QUALITY AT CHD HOSPITAL



AMBIENT AIR QUALITY AT SANTALDIH BHOJUDIH BUFFER



NOISE LEVEL QUALITY MONITORING

4.1 Location of sampling sites

- i) **Bhojudih Washery(N34) -**
- ii) **Dugda Washery (N35)**
- iii) **Mahuda Washery (N36)**
- iv) **Sinidih Workshop (N38)**
- v) **Patherdih Washery(N 39)**
- vi) **Koyla Nagar Hospital(N40)- twice a week as per NAAQS**
- vi) **Central Hospital Dhanbad(N43) -twice a week as per NAAQS**
- vii) **Santhaldih Bhojudih washery (N46)**

4.2 Noise level measurements in form of 'L_{EQ}' were taken using Integrated Data Logging Sound Level Meter during day time & night time. Noise levels were measured for the complete day & night time, the Intergration time taken was one hour or 3600 seconds. Noise levels were measured in Decibels, 'A' weighted average, i.e. dB (A).

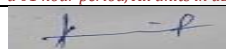
4.3 Results & Interpretations

Ambient noise levels were recorded during day time & night time and the observed values were compared with standards prescribed by MoEF&CC. The results of Noise levels recorded during day & night time on fortnightly basis are presented in tabular form along with the applicable standard permissible limits. The observed values in terms of L_{EQ} are presented. The observed values at all the monitoring locations are found to be within permissible limits

		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report				CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in			
Month & Year	07/2024	Cluster	Misc.			ULR No.	TC1012224000001093F		
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024		
Project	Bhojudih Washery	Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 22			
		Date of Sampling				Zone Category of Station:	CORE ZONE		
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) First Fortnight	Observed Values (in Leq dB(A)) Second Fortnight	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards Zones Limits in dB	
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	48.3	47.4	CPCB, Protocol for Ambient Level Noise Monitoring - 2015	35 dB-135 dB	35 dB (A)	Industrial Commercial Residential Silence	75 65 55 50
2		07:00 - 08:00	48.6	49.5					
3		08:00 - 09:00	53	52.1					
4		09:00 - 10:00	56.7	56					
5		10:00 - 11:00	52.7	54.5					
6		11:00 - 12:00	54.7	54					
7		12:00 - 13:00	53.9	55.6					
8		13:00 - 14:00	59.9	62.3					
9		14:00 - 15:00	51	52.8					
10		15:00 - 16:00	50	50.9					
11		16:00 - 17:00	48.3	48.8					
12		17:00 - 18:00	47.9	47.9					
13		18:00 - 19:00	46.7	46.8					
14		19:00 - 20:00	41.8	46.7					
15		20:00 - 21:00	41.5	45.4					
16		21:00 - 22:00	42.1	45					
		Leq Day	52.7	53.9					
1	Noise Level dB(A)Leq -Night	22:00-23:00	37.8	39.3	CPCB, Protocol for Ambient Level Noise Monitoring - 2015	35 dB-135 dB	35 dB (A)	Industrial Commercial Residential Silence	70 55 45 50
2		23:00- 00:00	34.1	33.5					
3		00:00- 01:00	33.6	33.2					
4		01:00-02:00	33.2	32.4					
5		02:00-03:00	32.9	32.5					
6		03:00-04:00	36.5	36					
7		04:00-05:00	37.6	37.5					
8		05:00-06:00	38.1	37.8					
		Leq Night	34.7	34.3					

*LDL indicates Lower Detection Limit

**All noise measurements are integrated for a 01 hour period, All units in dB(A)

Sampling Assistants ANALYSED BY	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
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 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report				CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in		
Month & Year	07/2024	Cluster	Misc.			ULR No.	TC1012224000001093F	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024	
Project		Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 22		
Sampling Stations	i	Dugda Washery	Date of Sampling	12.07.2024	29.07.2024	Zone Category of Station:	CORE ZONE	
Sl. No.sss	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) First Fortnight	Observed Values (in Leq dB(A)) Second Fortnight	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards Zones Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	46.2	45.2	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence ss75 65 55 50
2		07:00 - 08:00	50.9	49.7				
3		08:00 - 09:00	51.6	52				
4		09:00 - 10:00	54	53.9				
5		10:00 - 11:00	54.5	55.1				
6		11:00 - 12:00	54.9	55.4				
7		12:00 - 13:00	55.1	55.2				
8		13:00 - 14:00	55.2	55.4				
9		14:00 - 15:00	56.2	56				
10		15:00 - 16:00	56.5	56.5				
11		16:00 - 17:00	55.7	54.9				
12		17:00 - 18:00	55.1	54.8				
13		18:00 - 19:00	54.2	54.7				
14		19:00 - 20:00	53.9	53.1				
15		20:00 - 21:00	53.4	53.9				
16		21:00 - 22:00	53.1	53.1				
		Leq Day	54.3	54.3				
1	Noise Level dB(A)Leq -Night	22:00-23:00	46.8	47.5	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence 70 55 45 50
2		23:00- 00:00	40.9	42.2				
3		00:00- 01:00	40.9	41.4				
4		01:00-02:00	40.7	41.3				
5		02:00-03:00	39.2	38.7				
6		03:00-04:00	43.2	42.8				
7		04:00-05:00	46	45.5				
8		05:00-06:00	45.3	45				
		Leq Night	42.1	42.0				
**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit								
Sampling Assistants		 (Gaurav Kant)		 (Amit Raj Mishra)		ANALYSED BY REVIEWED BY Authorised Signatory		
Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env), CMPDI, RI-II.								
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 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report				CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in		
Month & Year	07/2024	Cluster	MISC.	ULR No.	TC1012224000001093F			
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)				Date of Issue	23.09.2024		
Project		Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 22		
Sampling Stations	i	Mahuda Washery	Date of Sampling	08.07.2024	23.07.2024	Zone Category of Station:	CORE ZONE	
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) First Fortnight	Observed Values (in Leq dB(A)) Second Fortnight	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards Zones Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	36.1	36.7	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence 75 65 55 50
2		07:00 - 08:00	46.5	46.7				
3		08:00 - 09:00	48.3	48.3				
4		09:00 - 10:00	48.8	49.9				
5		10:00 - 11:00	49.2	49.8				
6		11:00 - 12:00	48.9	50.8				
7		12:00 - 13:00	50.9	49.7				
8		13:00 - 14:00	54.5	52.8				
9		14:00 - 15:00	55.2	53.4				
10		15:00 - 16:00	56.2	54				
11		16:00 - 17:00	56	54.9				
12		17:00 - 18:00	53	51.8				
13		18:00 - 19:00	52.9	51.8				
14		19:00 - 20:00	50.5	49.5				
15		20:00 - 21:00	49.5	49.2				
16		21:00 - 22:00	48.9	48.7				
		Leq Day	52.1	51.1				
1	Noise Level dB(A)Leq -Night	22:00-23:00	44	43.6	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence 70 55 45 50
2		23:00- 00:00	38.9	38.9				
3		00:00- 01:00	38.8	38.8				
4		01:00-02:00	38.1	38.7				
5		02:00-03:00	38	38.1				
6		03:00-04:00	42.5	42.5				
7		04:00-05:00	43.1	42.2				
8		05:00-06:00	43.2	43				
		Leq Night	40.0	39.8				

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit.

Sampling Assistants ANALYSED BY	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
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 CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report									
Month & Year	07/2024	Cluster	MISC	ULR No.	TC1012224000001093F				
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)			Date of Issue	23.09.2024				
Project		Sample Ref. No.	REM/BCCL/2024/07	Sampling Method	CMPDI/RI-II/LPM 22				
Sampling Stations	i	Sinidih Workshop	Date of Sampling	02.07.2024	17.07.2024	Zone Category of Station:	CORE ZONE		
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) First Fortnight	Observed Values (in Leq dB(A)) Second Fortnight	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	45.2	43.5	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	75 65 55 50
2		07:00 - 08:00	45.6	41.9					
3		08:00 - 09:00	46.7	48.2					
4		09:00 - 10:00	47	49.1					
5		10:00 - 11:00	51.7	52					
6		11:00 - 12:00	52	52.9					
7		12:00 - 13:00	53	53.6					
8		13:00 - 14:00	54.2	54.5					
9		14:00 - 15:00	54.6	55.1					
10		15:00 - 16:00	54.9	53.8					
11		16:00 - 17:00	51.8	51					
12		17:00 - 18:00	51	50.9					
13		18:00 - 19:00	50.4	50					
14		19:00 - 20:00	49.2	49.2					
15		20:00 - 21:00	48.9	49.4					
16		21:00 - 22:00	48.7	50.2					
		Leq Day	51.3	51.5					
1	Noise Level dB(A)Leq -Night	22:00-23:00	44	44.2	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50
2		23:00- 00:00	39.5	39.7					
3		00:00- 01:00	39.4	39.5					
4		01:00-02:00	39.3	38.4					
5		02:00-03:00	38.9	38.7					
6		03:00-04:00	43.2	42					
7		04:00-05:00	42	42.2					
8		05:00-06:00	42	42.2					
		Leq Night	39.9	39.6					

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit.

Sampling Assistants ANALYSED BY	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
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 CMPDI <i>A Mine Related Company</i> CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD - 826005 Phone: 0326-223-850 email: rdri2cmpdi@coalindia.in									
Month & Year	07/2024	Cluster	Misc.	ULR No.				TC1012224000001093F	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)				Date of Issue		23.09.2024		
Project			Sample Ref. No.	REM/BCCL/2024/07		Sampling Method		CMPDI/RI-II/LPM 22	
Sampling Stations	i	Pathardih Washery		Date of Sampling		15.07.2024	30.07.2024	Zone Category of Station:	CORE ZONE
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) First Fortnight	Observed Values (in Leq dB(A)) Second Fortnight	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards	
								Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	48.3	48.8	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	75 65 55 50
2		07:00 - 08:00	50.9	55.6					
3		08:00 - 09:00	52.1	56.9					
4		09:00 - 10:00	52.9	51.3					
5		10:00 - 11:00	53.8	56.7					
6		11:00 - 12:00	57.5	57.4					
7		12:00 - 13:00	57.5	57.5					
8		13:00 - 14:00	56.9	57.5					
9		14:00 - 15:00	57	56.9					
10		15:00 - 16:00	56.3	55.1					
11		16:00 - 17:00	55.3	53.6					
12		17:00 - 18:00	55.1	50.7					
13		18:00 - 19:00	54.6	53.4					
14		19:00 - 20:00	54.2	53.7					
15		20:00 - 21:00	52.9	54.5					
16		21:00 - 22:00	53	54.2					
		Leq Day	54.9	55.3					
1	Noise Level dB(A)Leq - Night	22:00-23:00	47.9	50.1	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50
2		23:00- 00:00	42.1	42.3					
3		00:00- 01:00	41.8	42.3					
4		01:00-02:00	41.5	41.8					
5		02:00-03:00	41.3	42.3					
6		03:00-04:00	45.6	45.8					
7		04:00-05:00	45.3	45.8					
8		05:00-06:00	45.1	45.5					
		Leq Night	42.6	43.0					

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit

Sampling Assistants ANALYSED BY	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
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 CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report									
Month & Year	07/2024	Cluster	Misc.	ULR No.	TC1012224000001093F				
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)			Date of Issue	23.09.2024				
Project		Sample Ref. No.	REM/BCCL/2024/07	Sampling Method	CMPDI/RI-II/LPM 22				
Sampling Stations	i	Koyla Nagar Hospital		Date of Sampling	04.07.2024 18.07.2024				
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A))	Observed Values (in Leq dB(A))	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards	
			First Day	Second Day				Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	34.5	35.1	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	75 65 55 50
2		07:00 - 08:00	35.1	35.6					
3		08:00 - 09:00	42.3	42.6					
4		09:00 - 10:00	48.5	46.9					
5		10:00 - 11:00	49.1	51.6					
6		11:00 - 12:00	48.9	46.9					
7		12:00 - 13:00	55.6	56.1					
8		13:00 - 14:00	56.1	57.6					
9		14:00 - 15:00	45.6	46.1					
10		15:00 - 16:00	50.9	52.6					
11		16:00 - 17:00	46.9	48.2					
12		17:00 - 18:00	53.6	52.6					
13		18:00 - 19:00	45.6	46.4					
14		19:00 - 20:00	41.5	42.6					
15		20:00 - 21:00	40.9	40.9					
16		21:00 - 22:00	38.6	36.1					
		Leq Day	49.8	50.5					
1	Noise Level dB(A)Leq - Night	22:00-23:00	35.9	36.1	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50
2		23:00- 00:00	35.8	35.7					
3		00:00- 01:00	31.6	31.5					
4		01:00-02:00	30.8	30.7					
5		02:00-03:00	30.5	30.5					
6		03:00-04:00	32.6	32.6					
7		04:00-05:00	37.3	37.2					
8		05:00-06:00	37.5	37.4					
		Leq Night	33.2	33.2					

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit.

Sampling Assistants ANALYSED BY	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
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 CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in									
Month & Year	07/2024	Cluster	Washeries <th>ULR No.</th> <td>TC1012224000001093F</td>	ULR No.	TC1012224000001093F				
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)				Date of Issue	23.09.2024			
Project		Sample Ref. No.	REM/BCCL/2024/07	Sampling Method	CMPDI/RI-II/LPM 22				
Sampling Stations	i	Koyla Nagar Hospital	Date of Sampling	05.07.2024	19.07.2024	Zone Category of Station:	BUFFER ZONE		
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) Third Day	Observed Values (in Leq dB(A)) Forth Day	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards	
								Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	34.6	35.6	CPCB, Protocol for Ambient Level Noise Monitoring - 2015	35 dB-135 dB	35 dB(A)	Indssustrial Commercial Residential Silence	75 65 55 50
2		07:00 - 08:00	35.4	36.1					
3		08:00 - 09:00	43.5	41.6					
4		09:00 - 10:00	49.1	47.5					
5		10:00 - 11:00	50.9	51.6					
6		11:00 - 12:00	47.8	48.2					
7		12:00 - 13:00	58.5	57.6					
8		13:00 - 14:00	56.2	55.7					
9		14:00 - 15:00	45.8	45.2					
10		15:00 - 16:00	53	52.5					
11		16:00 - 17:00	45.6	46.1					
12		17:00 - 18:00	53.1	54.5					
13		18:00 - 19:00	45.8	47.1					
14		19:00 - 20:00	43.1	41.5					
15		20:00 - 21:00	40.2	41.3					
16		21:00 - 22:00	35.9	36.1					
		Leq Day	50.9	50.6					
1	Noise Level dB(A)Leq - Night	22:00-23:00	35.2	36.2	CPCB, Protocol for Ambient Level Noise Monitoring - 2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50
2		23:00- 00:00	35.7	36.1					
3		00:00- 01:00	31.5	31.4					
4		01:00-02:00	30.7	30.1					
5		02:00-03:00	30.5	30.6					
6		03:00-04:00	32.6	33.1					
7		04:00-05:00	37.2	36.8					
8		05:00-06:00	37.4	37.5					
		Leq Night	33.2	33.1					

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit

Sampling Assistants ANALYSED BY  (Gaurav Kant)	REVIEWED BY  (Amit Raj Mishra) Authorised Signatory
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 CMPDI A Mini Ratna Company CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in									
Month & Year	07/2024	Cluster	Washeries	ULR No.	TC1012224000001093F				
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)			Date of Issue	23.09.2024				
Project		Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 22			
Sampling Stations	i	Koyla Nagar Hospital		Date of Sampling	11.07.2024	25.07.2024	Zone Category of Station:	BUFFER ZONE	
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) Fifth Day	Observed Values (in Leq dB(A)) Sixth Day	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards	
								Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	33.8	34.5	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	75 65 55 ss50
2		07:00 - 08:00	35.8	36.2					
3		08:00 - 09:00	44.6	44.1					
4		09:00 - 10:00	48.5	46.9					
5		10:00 - 11:00	52.1	51.6					
6		11:00 - 12:00	49.23	49.2					
7		12:00 - 13:00	56.4	59.1					
8		13:00 - 14:00	58.2	56.6					
9		14:00 - 15:00	45.3	46.1					
10		15:00 - 16:00	52.9	52.4					
11		16:00 - 17:00	47.5	48.5					
12		17:00 - 18:00	52.6	56.2					
13		18:00 - 19:00	45.6	46.2					
14		19:00 - 20:00	42.5	42.4					
15		20:00 - 21:00	40.5	39.6					
16		21:00 - 22:00	35.8	37.5					
		Leq Day	50.9	51.7					
1	Noise Level dB(A)Leq -Night	22:00-23:00	35.4	35.9	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50
2		23:00- 00:00	35.6	35.8					
3		00:00- 01:00	31.5	31.6					
4		01:00-02:00	30.7	30.8					
5		02:00-03:00	30.5	30.6					
6		03:00-04:00	32.6	32.7					
7		04:00-05:00	37.1	37.3					
8		05:00-06:00	37.3	37.5					
		Leq Night	33.1	33.3					

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit

Sampling Assistants ANALYSED BY <i>(Signature)</i> (Gaurav Kant)	REVIEWED BY <i>(Signature)</i> (Amit Raj Mishra)	Authorised Signatory
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---- End of Report ----
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 cmpdi A Mini Ratna Company CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in									
Month & Year	07/2024	Cluster	MISC.	ULR No.	TC1012224000001093F				
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)			Date of Issue	23.09.2024				
Project		Sample Ref. No.	REM/BCCL/2024/07	Sampling Method	CMPDI/RI-II/LPM 22				
Sampling Stations	i	Koyla Nagar Hospital	Date of Sampling	12.07.2024	26.07.2024				
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) Seventh Day	Observed Values (in Leq dB(A)) Eighth Day	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards	
								Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	33.8	33.7	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	75 65 55 50
2		07:00 - 08:00	35.6	35.4					
3		08:00 - 09:00	43.5	43.8					
4		09:00 - 10:00	48.2	46.5					
5		10:00 - 11:00	50.7	50.9					
6		11:00 - 12:00	50.1	50.7					
7		12:00 - 13:00	57.6	53.9					
8		13:00 - 14:00	54.9	56.2					
9		14:00 - 15:00	47.2	45.6					
10		15:00 - 16:00	52.6	53					
11		16:00 - 17:00	46.5	45.9					
12		17:00 - 18:00	56.4	55.4					
13		18:00 - 19:00	45.8	46.4					
14		19:00 - 20:00	43.1	42.9					
15		20:00 - 21:00	40.5	40.5					
16		21:00 - 22:00	36.5	36.4					
		Leq Day	50.9	50.2					
1	Noise Level dB(A)Leq -Night	22:00-23:00	36.2	35.8	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50
2		23:00- 00:00	36.2	35.7					
3		00:00- 01:00	31.5	31.5					
4		01:00-02:00	30.2	30.8					
5		02:00-03:00	30.7	30.6					
6		03:00-04:00	33.2	32.7					
sss7		04:00-05:00	36.9	37.2					
8		05:00-06:00	37.6	37.4					
		Leq Night	33.2	33.2					

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit

Sampling Assistants ANALYSED BY ss	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
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---- End of Report ----
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 CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report		CMPDI, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in							
Month & Year	07/2024	Cluster	Cluster MISC						
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)		ULR No.						
Project	Sample Ref. No.		Date of Issue						
	REM/BCCL/2024/07		23.09.2024						
Sampling Stations	i	Central Hospital Dhanbad	CMPDI/RI-II/LPM 22						
		Date of Sampling							
		04.07.2024	19.07.2024						
		Zone Category of Station:	BUFFER ZONE						
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A))	Observed Values (in Leq dB(A))	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards	
			First Day	Second Day				Zones	Limits in dB
1	Noise Level dB(A)Leq – Day	06:00 – 07:00	42.9	42.1	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	75 65 55 50
2		07:00 – 08:00	43.3	43.4					
3		08:00 – 09:00	43.6	43.4					
4		09:00 – 10:00	43.9	44					
5		10:00 – 11:00	45	44.8					
6		11:00 – 12:00	53	52.8					
7		12:00 – 13:00	53.6	53.1					
8		13:00 – 14:00	54.2	54.5					
9		14:00 – 15:00	54.3	54.3					
10		15:00 – 16:00	54.6	54.5					
11		16:00 – 17:00	54.4	53.9					
12		17:00 – 18:00	48.2	46.9					
13		18:00 – 19:00	48.3	47.1					
14		19:00 – 20:00	39.4	39.1					
15		20:00 – 21:00	39.3	39.1					
16		21:00 – 22:00	37.7	37.4					
		Leq Day	42.0	41.8					
1	Noise Level dB(A)Leq -Night	22:00-23:00	41.2	40.4	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50
2		23:00- 00:00	36.9	36.2					
3		00:00- 01:00	36.7	36					
4		01:00-02:00	36.2	35.9					
5		02:00-03:00	35.2	34.9					
6		03:00-04:00	36	36.7					
7		04:00-05:00	38.9	36.8					
8		05:00-06:00	39.8	37.5					
		Leq Night	36.4	35.3					
**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit.									
Sampling Assistants		(Gaurav Kant)		(Amit Raj Mishra)					
ANALYSED BY		REVIEWED BY		Authorised Signatory					
Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env), CMPDI, RI-II.									
---- End of Report ----									
Page -1 of 1									

		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report					CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in		
Month & Year	07/2024	Cluster	Washeries			ULR No.	TC1012224000001093F		
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024		
Project			Sample Ref. No.	REM/BCCL/2023/7		Sampling Method	CMPDI/RI-II/LPM 22		
Sampling Stations	i	Central Hospital Dhanbad		Date of Sampling	05.07.2024	25.07.2024	Zone Category of Station:	BUFFER ZONE	
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) Third Day	Observed Values (in Leq dB(A)) Forth Day	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards	
								Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	41.2	41.4	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	75 65 55 50
2		07:00 - 08:00	42.9	42.1					
3		08:00 - 09:00	43.7	43.2					
4		09:00 - 10:00	44.4	44.6					
5		10:00 - 11:00	45.4	45.6					
6		11:00 - 12:00	51.8	52.4					
7		12:00 - 13:00	53.6	52.7					
8		13:00 - 14:00	55.1	54.6					
9		14:00 - 15:00	53.9	54					
10		15:00 - 16:00	55.1	54.5					
11		16:00 - 17:00	54.2	53.5					
12		17:00 - 18:00	47	46.1					
13		18:00 - 19:00	45.2	46.1					
14		19:00 - 20:00	37.2	37.2					
15		20:00 - 21:00	37.2	36.3					
16		21:00 - 22:00	37.2	36.7					
		Leq Day	41.8	41.5					
1	Noise Level dB(A)Leq -Night	22:00-23:00	40.4	39.8	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50
ssss2		23:00- 00:00	35.8	35.5					
3		00:00 - 01:00	35.6	35.4					
4		01:00-02:00	35.5	35.4					
5		02:00-03:00	35.2	34.9					
6		03:00-04:00	37.5	36.2					
7		04:00-05:00	37.3	37.5					
8		05:00-06:00	38.2	39.2					
		Leq Night	35.5	35.5					

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit

Sampling Assistants ANALYSED BY	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
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 cmpdi A Mini Kailash Company CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report											
Month & Year	07/2024	Cluster		Others						ULR No.	TC1012224000001093F
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)								Date of Issue	23.09.2024	
Project			Sample Ref. No.	REM/BCCL/2024/07		Sampling Method		CMPDI/RI-II/LPM 22			
Sampling Stations	i	Central Hospital Dhanbad		Date of Sampling		11.07.2024	26.07.2024	Zone Category of Station:	BUFFER ZONE		
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A))	Observed Values (in Leq dB(A))	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards			
			Fifth Day	Sixth Day				Zones	Limits in dB		
1	Noise Level dB(A)Leq - Day	06:00 – 07:00	41	41.5	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	75 65 55 50		
2		07:00 – 08:00	42.9	42.5							
3		08:00 – 09:00	43.7	43.1							
4		09:00 – 10:00	44.8	43.9							
5		10:00 – 11:00	45	45.6							
6		11:00 – 12:00	54.2	53.4							
7		12:00 – 13:00	52.4	53.1							
8		13:00 – 14:00	54.7	53.9							
9		14:00 – 15:00	54.6	54.2							
10		15:00 – 16:00	53.9	54.3							
11		16:00 – 17:00	53	53.3							
12		17:00 – 18:00	46.1	45.4							
13		18:00 – 19:00	46.6	46.1							
14		19:00 – 20:00	36.8	37.2							
15		20:00 – 21:00	35.9	35.8							
16		21:00 – 22:00	36	35.3							
	Leq Day		41.6	41.5							
s1	Noise Level dB(A)Leq -Night	22:00-23:00	39.3	38.5	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence	70 55 45 50		
2		23:00- 00:00	35.3	34.6							
3		00:00 -01:00	35.1	34.5							
4		01:00-02:00	34.9	33.5							
5		02:00-03:00	33.5	32.5							
6		03:00-04:00	37.3	36.6							
7		04:00-05:00	37.6	36.3							
8		05:00-06:00	38.8	38.8							
	Leq Night		35.3	34.6							

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit.

Sampling Assistants
ANALYSED BY

(Signature)
(Gaurav Kant)
REVIEWED BY

(Signature)
(Amit Raj Mishra)
Authorised Signatory

Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.

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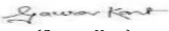
 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report				CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in		
Month & Year	07/2024	Cluster	Others			ULR No.	TC1012224000001093F	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024	
Project		Sample Ref. No.	REM/BCCL/2024/07		Sampling Method	CMPDI/RI-II/LPM 22		
Sampling Stations	i	Central Hospital Dhanbad		Date of Sampling	12.07.2024	18.07.2024	Zone Category of Station:	
							BUFFER ZONE	
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) Seventh Day	Observed Values (in Leq dB(A)) Eighth Day	Method of Analysis	Range Of Testing	LDL	NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards Zones Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	41.2	41.2	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence 75 65 55 50
2		07:00 - 08:00	42.1	41.6				
3		08:00 - 09:00	43	44.5				
4		09:00 - 10:00	44.4	44.6				
5		10:00 - 11:00	46.4	45				
6		11:00 - 12:00	52.4	52.8				
sss7		12:00 - 13:00	53.6	53.6				
8		13:00 - 14:00	54.2	54.6				
9		14:00 - 15:00	55.2	54.6				
10		15:00 - 16:00	54.2	53.6				
11		16:00 - 17:00	52.8	53.4				
12		17:00 - 18:00	45.6	45.5				
13		18:00 - 19:00	45.4	45.7				
14		19:00 - 20:00	37.7	37.5				
15		20:00 - 21:00	35.8	35.8				
16		21:00 - 22:00	35.8	35.7				
		Leq Day	41.6	41.5				
1	Noise Level dB(A)Leq -Night	22:00-23:00	39.1	39	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)	Industrial Commercial Residential Silence 70 55 45 50
2		23:00- 00:00	34.9	34.8				
3		00:00- 01:00	34.7	34.6				
s4		01:00-02:00	33.1	32.5				
5		02:00-03:00	32.5	32.9				
6		03:00-04:00	36.4	34.9				
7		04:00-05:00	36.7	36.4				
8		05:00-06:00	37.9	36.9				
		Leq Night	34.4	33.7				

**All noise measurements are integrated for a 01 hour period, All units in dB(A) *LDL indicates Lower Detection Limit

Sampling Assistants ANALYSED BY <i>Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.</i>	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
---- End of Report ---- Page -1 of 1		

 cmpdi <i>A Mini Ratna Company</i>		CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED Environment Laboratory, Regional Institute-II Ambient Noise Level Test Report				CMPDIL, RI-II KOYLA BHAWAN COMPLEX DHANBAD. -826005 Phone:0326-223-850 email: rdri2cmpdi@coalindia.in	
Month & Year	07/2024	Cluster	Misc.			ULR No.	TC1012224000001093F
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	23.09.2024
Project			Sample Ref. No.	REM/BCCL/2024/ 07	Sampling Method	CMPDI/RI-II/LPM 22	
Sampling Stations	i	Santhaldih Bhojudih buffer		Date of Sampling	08.07.2024	25.07.2024	Zone Category of Station:
Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A)) First Fortnight	Observed Values (in Leq dB(A)) Second Fortnight	Method of Analysis	Range Of Testing	LDL
NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 Standards							
Zones Limits in dB							
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	43.1	42.9	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)
2		07:00 - 08:00	45	44.7			
3		08:00 - 09:00	43.9	43.6			
4		09:00 - 10:00	45.1	44.6			
5		10:00 - 11:00	45.2	45.5			
6		11:00 - 12:00	54.2	53.8			
7		12:00 - 13:00	52.7	53.9			
8		13:00 - 14:00	53.7	53.8			
9		14:00 - 15:00	55.7	53.9			
10		15:00 - 16:00	53.9	54			
11		16:00 - 17:00	52.6	54			
12		17:00 - 18:00	46.9	49.8			
13		18:00 - 19:00	46.3	48.4			
14		19:00 - 20:00	45	45.4			
15		20:00 - 21:00	43.1	43.2			
16		21:00 - 22:00	40.1	39.8			
		Leq DAY	50.5	50.6			
1	Noise Level dB(A)Leq -Night	22:00-23:00	39.3	39.2	CPCB, Protocol for Ambient Level Noise Monitoring -2015	35 dB-135 dB	35 dB(A)
2		23:00- 00:00	35.3	34.9			
3		00:00- 01:00	35.2	34.7			
4		01:00-02:00	32.6	33.1			
5		02:00-03:00	33	32.8			
6		03:00-04:00	36.3	36.4			
7		04:00-05:00	36.4	36.6			
8		05:00-06:00	36.5	38.5			
		Leq NIGHT	34.0	36.3			

**All noise measurements are integrated for a 01 hour period, All units in dB(A)*LDL indicates Lower Detection Limit

Sampling Assistants ANALYSED BY	 (Gaurav Kant) REVIEWED BY	 (Amit Raj Mishra) Authorised Signatory
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Note: The results above relate to the samples tested as received. This report can not be reproduced in part or full without the written permission of the HOD(Env) , CMPDI, RI-II.

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Ambient Air Quality Standards for Jharia Coal Field
As per the Environment (Protection) Amendment Rules, 2000 notified vide notification G.S.R. 742(E), dated 25.9.2000.

Category	Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4	5
III Coal mines located in the coal fields of • Jharia • Raniganj • Bokaro	Suspended Particulate Matter (SPM)	Annual Average * 24 hours **	500 µg/m ³ 700 µg/m ³	- High Volume Sampling (Average flow rate not less than 1.1 m ³ /minute)
	Respirable Particulate Matter (size less than 10 µm) (RPM)	Annual Average * 24 hours **	250 µg/m ³ 300 µg/m ³	Respirable Particulate Matter sampling and analysis
	Sulphur Dioxide (SO ₂)	Annual Average * 24 hours **	80 µg/m ³ 120 µg/m ³	1.Improvedwest and Gaeke method 2.Ultraviolet fluorescene
	Oxide of Nitrogen as NO ₂	Annual Average * 24 hours **	80 µg/m ³ 120 µg/m ³	1. Jacob & Hochheiser Modified (Na- Arsenic) Method 2. Gas phase Chemilumine- scence

Note:

* Annual Arithmetic mean for the measurements taken in a year, following the guidelines for frequency of sampling laid down in clause2.

** 24hourly/8hourlyvaluesshallbemet 92%ofthetimeinayear.However,8% of the time it may exceed but not on two consecutive days.

NATIONAL AMBIENT AIR QUALITY STANDARDS

New Delhi the 18th November 2009

In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No. 14 of 1981), and in supersession of the notification No(s).S.O.384(E), dated 11th April 1994 and S.O.935(E), dated 14th NOVEMBER 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect.

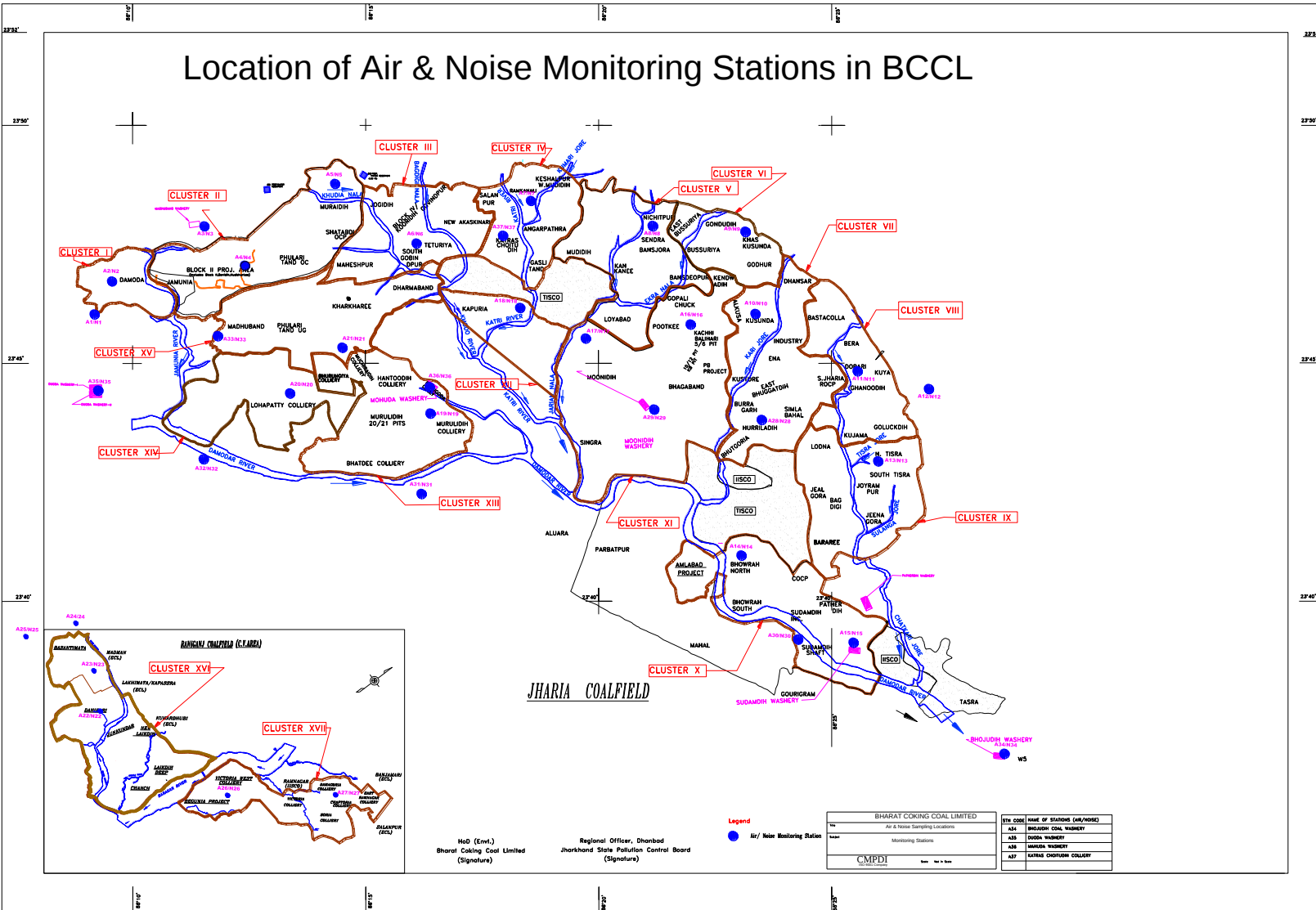
Pollutant	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
		Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (Notified by Central Government)	
Sulphur Dioxide (SO ₂), µg/m ³	Annual * 24 Hours **	50 80	20 80	-Improved West and Gaeke Method -Ultraviolet Fluorescence
Nitrogen dioxide (NO ₂), µg/m ³	Annual * 24 Hours **	40 80	30 80	-Jacob & Hochheiser modified (NaOH-NaAsO ₂) Method -Gas Phase Chemiluminescence
Particulate Matter (Size less than 10µm) or PM ₁₀ , µg/m ³	Annual * 24 Hours **	60 100	60 100	-Gravimetric -TEOM -Beta attenuation
Particulate Matter (Size less than 2.5µm) or PM _{2.5} , µg/m ³	Annual * 24 Hours **	40 60	40 60	-Gravimetric -TEOM -Beta attenuation
Ozone (O ₃), µg/m ³	8 Hours * 1 Hour **	100 180	100 180	-UV Photometric -Chemiluminescence -Chemical Method
Lead (Pb), µg/m ³	Annual * 24 Hours **	0.50 1.0	0.50 1.0	-AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper -ED-XRF using Teflon filter
Carbon Monoxide (CO), mg/m ³	8 Hours ** 1 Hour **	02 04	02 04	-Non dispersive Infrared (NDIR) Spectroscopy
Ammonia (NH ₃), µg/m ³	Annual * 24 Hours **	100 400	100 400	-Chemiluminescence -Indophenol blue method
Benzene (C ₆ H ₆), µg/m ³	Annual *	05	05	-Gas Chromatography (GC) based continuous analyzer -Adsorption and desorption followed by GC analysis
Benzo(a)Pyrene (BaP) Particulate phase only, ng/m ³	Annual *	01	01	-Solvent extraction followed by HPLC/GC analysis
Arsenic (As), ng/m ³	Annual *	06	06	-AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper

Nickel (Ni), ng/m ³	Annual *	20	20	-AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper
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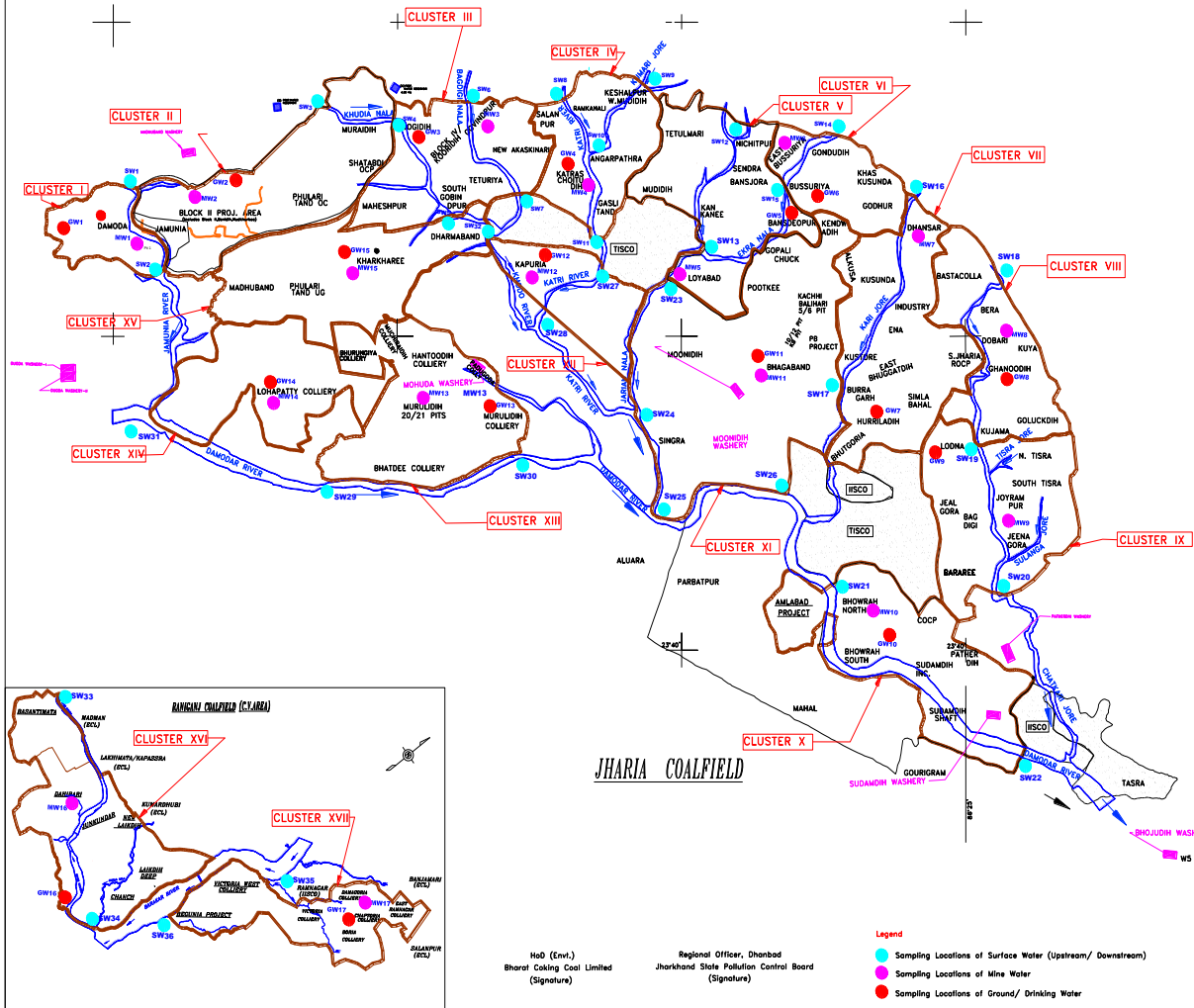
* Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they JUNE exceed the limits but not on two consecutive days of monitoring.

NOTE:Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigations.



Water Sampling Locations in BCCL



INDEX						
Cluster	Surface Water (LWS, LWS)	Name of River/ Nala/ Zone	Water Sampling Location	Ground Water	Sampling Location	
I	SW1, SW2	Jamuna River	SW1	SW1	Chhatrapati Village	
II	SW3, SW4	Khatia Nala	SW2	SW2	Chhatrapati Village	
III	SW4, SW5, SW6, SW7	Khatia Nala, Bagmati Nala	SW3	SW3	Chhatrapati Village	
IV	SW8, SW11, SW9, SW10	Khatia River, Khatia Nala	SW4	SW4	Khatia Nala Village	
V	SW12, SW13, SW15	Jamuna Nala	SW5	SW5	Chhatrapati Village	
VI	SW14, SW15	Khatia Nala	SW6	SW6	Khatia Nala Village	
VII	SW16, SW17	Khatia Nala	SW7	SW7	Khatia Nala Village	
VIII	SW18, SW19	Khatia Nala	SW8	SW8	Khatia Nala Village	
IX	SW19, SW20	Khatia Nala	SW9	SW9	Khatia Nala Village	
X	SW21, SW22	Khatia Nala	SW10	SW10	Khatia Nala Village	
XI	SW23, SW24, SW25, SW26	Khatia Nala	SW11	SW11	Khatia Nala Village	
XII	SW27, SW28	Khatia Nala	SW12	SW12	Khatia Nala Village	
XIII	SW29, SW30	Khatia Nala	SW13	SW13	Khatia Nala Village	
XIV	SW31, SW32	Khatia Nala	SW14	SW14	Khatia Nala Village	
XV	SW33, SW34	Khatia Nala	SW15	SW15	Khatia Nala Village	
XVI	SW35, SW36	Khatia Nala	SW16	SW16	Khatia Nala Village	
XVII	SW37, SW38	Khatia Nala	SW17	SW17	Khatia Nala Village	

Name: BHARAT COAL LIMITED	
WATER SAMPLING LOCATIONS	
MONITORING STATIONS	
CMPDI	