

Under jurisdiction of Dhanbad Court and Jharkhand High Court Bharat Coking Coal Limited A Mini Ratna Company (A Subsidiary of Coal India Limited- a Maharatna Company) Regt. Off : KoylaBhawan, Koyla Nagar Dhanbad- 826005 CIN : U10101JH1972GOI000918		Office of the General Manager (Ws.) Washery Division Saraidhela, Dhanbad- 828127 Phone : 0326-2202002 Fax No.: 0326-2222642 Website : www.bccl.gov.in
--	---	--

Ref: BCCL/WD/GM/Envr./2022-23/273

Date: 10.12.2022

To,
The Director,
IRO, Ranchi, MoEF&CC
Harmu, Jharkhand – 834002

**Subject – Six monthly report on Compliance to Environmental Clearance of 5.0 MTPA
Patherdih NLW Coal Washery for the period April'22 – September'22.**

Ref. – Environmental Clearance Letter no. - J-11015/240/2010-LA.II(M), Dated: 25.01.2012.

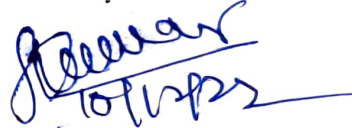
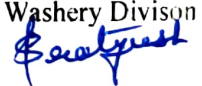
Dear Sir,

Please find enclosed herewith the six- monthly report on Compliance of Environmental Clearance for the period April'22 – September'22 in respect of 5.0 MTPA Patherdih NLW Coal Washery. We hope you will find in order.

Thanking You,

Encl: - As above.

Yours faithfully


General Manager (Ws)
Washery Division


Copy To: -

1. The Director, 1A Monitoring Cell, Paryavaran Bhawan, CGO Complex, New Delhi- 110003.
2. The Member Secretary, Jharkhand State Pollution Control Board, TA- Divison Building, Dhurwa, Ranchi – 834004.
3. Scientist & Incharge, Zonal Office, CPCB, 5th Floor 502, House & Conclave, 1582, Rajdanga Main Road, Kolkata- 700107.
4. General Manager, WCD - KoylaBhawan, Dhanbad.
5. HoD (Environment), BCCL – KoylaBhawan, Dhanbad.
6. Office Copy.

ENVIRONMENTAL CLEARANCE COMPLIANCE OF 5.0 MTPA
PATHERDIH NLW COAL WASHERY

GRANTED VIDE EC No. J-11015/240/2010-IA.II(M), DATED: 25.01.2012

(APRIL '22 – SEPTEMBER '22)

<u>Sl. No.</u>	<u>Compliance Conditions</u>	<u>Compliance Status</u>
(A)	Specific Conditions :	
(i)	The capacity of the washery shall not exceed 6.5 MTPA without prior environment clearance from this Ministry.	Being Complied. Patherdih NLW coal washery will not exceed 6.5 MTPA capacity without prior NOC from MoEF&CC.
(ii)	Transport of raw coal from the identified mines of the company, washed coal from the washery to the steel plants in Durgapur, Bhilai and Bokaro and middling to TPPS and coal rejects to FBC based TPP shall be by rail mode only from the railway siding located within the premises.	Being Complied. Patherdih Railway Siding, located within the premises of the Patherdih NLW Coal Washery, is being used for transportation of Washed Coal products.
(iii)	The entire rejects from the washery shall be fully utilized in an FBC based TPP for which open tender for operation of the FBC based TPP has been called by the proponent. The FBC based TPP shall be preferably located in or near Jharia Coalfields. The company shall enter into a long term MOU for utilization of the coal rejects from the washery within 3 months and also for utilization of fly ash generated from the FBC based TPP with a suitable company.	Being Complied. The rejects produced are being stacked separately and its disposal is carried out as per the <i>Policy for Handling & Disposal of Washery Rejects</i> prescribed by the Ministry of Coal.
(iv)	As the washery is located in Jharia Coalfields, which forms a part of the Critically Polluted Area of Dhanbad, the company shall implement the mitigative measures outlined in the Environmental Action Plan for CPA-Dhanbad applicable to the project, which would be in conformity with the Environmental Action Plan prepared for Dhanbad Area to keep the levels of air quality parameters well within limits. The proponent shall implement mitigative measures such as providing water sprinkling arrangements at various transfer points and loading/unloading points, regular maintenance of vehicles used for coal transportation, periodic and regular checking of vehicles for source emission, main approach roads used for transportation	Being Complied. This unit is operating as per the guidelines of Environmental Action Plan for CPA- Dhanbad & takes all the mitigative measures to keep air quality parameters well within limit. The unit also arranges for sufficient sprinkling arrangements on roads and all coal transfer points (Photographs of mobile water sprinkler are enclosed in ANNEXURE-I). Regular maintenance of vehicles is being done to keep minimum source emissions. Three tier green belt with native species is being developed, and plantation drives are also carried out at regular intervals. Pictures of plantation are enclosed in ANNEXURE-I . Bag Filter is installed and operational at the washery.

	of raw coal to be black topped, monitoring for particulate matter (PM ₁₀ and PM _{2.5}) and maintenance of records thereof, bag filter at suitable locations of the washery, wind shelters/wind breaks in coal stockyards (raw coal, clean coal and coal rejects), providing 3-tier green belt with native species.	
(v)	The proponent shall implement a plan to regularly dredge River Damodar 0.5 km upstream and 1 km length downstream of the washery free of sludge, coal fines and silt which has accumulated in the river over a period of time and dispose the wastes in an environmentally friendly manner, in consultation with the Jharkhand State Pollution Control Board.	Not Applicable. As the Patherdih NLW Coal Washery Unit is nearly 3.5 KM away from Damodar River and no effluent/ drainage from this unit will meet to Damodar River. Therefore any sludge or coal fines deposit and siltation will be caused by the Washery. So, dredging of River Damodar by Patherdih NLW Washery is not called for.
(vi)	The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site(s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored raw coal, washed coal and coal wastes don not catch fire.	Being Complied. Raw Coal, Washed Coal and Coal Rejects are being stacked within stockyards fitted with wind breakers/ shields and adequate measures have been taken to ensure that stored Raw Coal, Washed Coal and Coal Rejects don't catch fire.
(vii)	Hoppers of the coal crushing unit and washery unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.	Being Complied. The unit has installed high efficiency Bag Filters & Water Sprinkling system at all crushing & coal transfer points to control fugitive emissions.
(viii)	All approach roads should be black topped and all internal roads shall be black topped or concreted. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using local species shall be developed along the main roads and approach roads to the washery.	Being Complied. Black topped roads have been constructed. Presently cleaning of roads is being done manually and proposal for procurement of mechanical sweeper has been initiated. Gabion plantation along the main/approach road has been taken up. Further plantation activities have been carried out at different locations in the project Pictures of plantation are enclosed in ANNEXURE-I .
(ix)	The proponent shall maintain proper records of the ash of the ash content of raw (ROM) coal, clean coal and coal rejects of every consignment received and washed and the same shall be uploaded along with quantum of raw coal obtained and washed and dispatched every month on the company's website every month.	Being Complied. Proper records of Ash content of Raw Coal, Clean Coal and Coal Rejects is being maintained every month (Copy enclosed)
(x)	Water for the coal washery shall be met	Being Complied.

	from mine water from BCCL mines. No groundwater shall be used for the washery plant operations. Any additional water requirement envisaged shall be obtained by recycle/reuse to the maximum extent and from rain water harvesting measures. Pressure Filter and Thickener shall be installed in the washery for water recovery and reuse.	Water requirement for washery is being met from the nearest mines of BCCL. Additional water requirement has been obtained by recycle/ reuse and from Rain Water Harvesting measures. Construction of infrastructure for Rain Water Harvesting has been completed and construction of additional Rain Water Harvesting structures is under process.
(xi)	The Washery unit shall be a zero- discharge facility and no wastewater shall be discharged from the washery into the drains/ natural water courses. The Washery shall be provided with a garland drain to carry/ recycle the effluent generated from the washery operations and coal fines collected- shall be recovered from the slurry and concentrated and also sold for users. The wastewater from the washery shall be free of coal dust and particles and recycled from development and maintenance of green belt and in the plant operations.	Being Complied. As per plan, Washery is operating on Zero-Discharge Basis and no waste water is being discharged from this unit. The washery has been provided with a garland drain.
(xii)	A separate storm water drain to carry water from the washery for discharge outside the premises to nallas/ streams shall be established. The storm water drains shall be regularly desilted.	Being Complied. Separate Storm Water drain on one side is already present and on the other side (along railway siding) the same has been constructed to discharge storm water outside Washery premises.
(xiii)	Industrial wastewater (workshop and wastewater from the washery) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed for treatment of workshop effluents.	Being Complied. CMPDI Dhanbad is carrying out monitoring of environment quality work. Oil and Grease Trap has been constructed; and soon commissioning will be done after completion of ramp construction
(xiv)	Green belt shall be developed using local species all along the periphery of the site, along the areas such as the crushing unit and stockyard, transfer and loading points.	Being Complied. Development of Green-belt using local species in the periphery of site along the area of crushing unit, transfer and loading point, Stockyard, etc is being taken up.
(xv)	Socio-economic and welfare measures for the local communities shall be implemented under CSR with an outlay of Rs. 2 crores and Rs. 5/T of coal as recurring expenditure. The village- wise activities undertaken and proposed and the expenditure thereon shall be displayed on the company website every year. A	Being Complied. The Unit has started its commercial operation in July 2020. As per Company's policy, a monitoring Cell of the Company already exists for monitoring activities undertaken under CSR.

	monitoring Cell shall be established for monitoring activities undertaken under CSR.	
(xvi)	Levels of heavy metals such as mercury in raw coal, washed coal and rejects shall be analyzed twice in a year and records maintained thereof and furnished as part of the Compliance Report to the MoEF RO, Bhubaneswar.	Being Complied. Work has been awarded to CIMFR, Dhanbad for “Heavy Metal Analysis of Raw Coal, Washed Coal and Rejects”, result awaited.
(xvii)	Corporate Environment Responsibility: (a). The Company shall have a well laid down Environment Policy approved by the Board of Directors. (b). The Environment Policy shall prescribe for standard operating process/ procedures to bring onto focus any infringements/ deviation/ violation of the environmental or forest norms/ conditions. (c). The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. (d). To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the company and/ or shareholders or stakeholders at large.	Being Complied. A well-defined Corporate Environment Policy has already been laid down and approved by the Board of Directors. This is also posted on BCCL website. (http://www.bcclweb.in/environment/CEP_04.11.2019.pdf) An Environment department · at BCCL H.Q. looks after the infringements/ deviation/ violation of Environment & Forest norms, environmental issues, and compliances, etc., for all the units running in BCCL. To implement the Corporate Environment Policy, a manual for Environment Personnel is prescribed by CIL : https://www.coalindia.in/media/documents/Guidelines_for_Environmental_Personnel_in_Min es_20092016_hAukCHt.pdf which has the proper operating procedures. In addition, status of Environment Management is reported to the BCCL Board every quarter. Monitoring is being done by CMPDIL. CMPDIL has a laboratory accredited by NABL.
(B) General Conditions :		
(i)	No change in technology and scope of working of the washery shall be made without prior approval of the Ministry of Environment and Forests.	Being Complied.
(ii)	Four ambient air quality monitoring stations shall be established in the core zone as well as the buffer zone for monitoring PM ₁₀ , PM _{2.5} , SO ₂ and NO _x . Locations of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, PM ₁₀ , and PM _{2.5} etc. shall be carried out at	Being Complied. Four ambient air monitoring stations for monitoring of PM ₁₀ , PM _{2.5} , SO ₂ and NO _x have been established in the core zone and buffer zone (Monitoring Reports are enclosed). Monitoring is being done by CMPDIL, which has NABL accredited laboratory. Data of six-monthly monitoring (done by CMPDIL) of heavy metals is also enclosed.

	least once in six months.	Monitoring is being done by CMPDIL, which has NABL accredited laboratory.
(iii)	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EP Rules, 1986.	Being Complied. Four ambient air monitoring stations for monitoring of PM ₁₀ , PM _{2.5} , SO ₂ and NO _x have been established in the core zone and buffer zone (Monitoring Reports are enclosed). Presently, CMPDIL Dhanbad is carrying out regular monitoring of environmental quality work.
(iv)	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO _x and heavy metals such as Hg, As, Ni, Cr, etc.) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EP Rules, 1986 shall be furnished as part of the compliance report.	Being Complied. Four ambient air monitoring stations for monitoring of PM ₁₀ , PM _{2.5} , SO ₂ and NO _x have been established in the core zone and buffer zone (Monitoring Reports are enclosed). Monitoring is being done by CMPDIL, which has NABL accredited laboratory. Data of six-monthly monitoring (done by CMPDIL) of heavy metals is also enclosed. Monitoring for the same is done by CMPDIL having own laboratory recognized under EPA Rules, 1986.
(v)	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc. shall be provided with ear plugs/ muffs.	Being Complied. Monitoring is being done by CMPDIL, which has NABL accredited laboratory. Monitoring Reports are enclosed.
(vi)	Personnel working in dusty area shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.	Being Complied. As per Safety Policy of the Company, necessary protective respiratory devices are provided to the workmen working in dusty conditions. As per Company's Policy, periodic PME of all the workmen is arranged by the company and corrective measures are taken accordingly.
(vii)	A separate environmental management cell with suitable qualified personnel shall be set up under control of a Senior Executive, who will report directly to the Head of the Company.	Being Complied. A full- fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives which includes Environment, Mining, Excavation, Civil, Survey, Electrical & Mechanical, Forestry discipline executives and technicians (4 nos.) has been established in BCCL Headquarters. They are also trained in ecological restoration, sustainable development, rainwater harvesting methods, etc. At the project level, one Executive in each Area has also been nominated as Project Nodal

		Officer (Environment) and is also entrusted with the responsibility of compliance and observance of the Environmental Acts/ Laws including Environment Protection measures. The activities are monitored on regular basis at Area and at Head \quarter levels. HoD (Environment) at Headquarter level coordinates with all the Areas and reports to the Director (Technical) and in turn he reports to the CMD of the company. The team is multidisciplinary and very much motivated under the guidance of company's Director (Technical) and CMD. Further capacity building. Environment Management Cell, which looks after all the matters related to the statutory compliances, has been constituted at the washery.
(viii)	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be delivered for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office, Bhubaneswar.	Being Complied. Funds for Environment Protection and Environment Compliance related activities are allotted in the Budget every financial year, which are kept separately under Environment Head of the Budget.
(ix)	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the Ministry of Environment & Forest at http://envfor.nic.in .	Being Complied. The Washery has already advertised the Environment Clearance letter in local newspapers for wide circulation dated: 01.03.2012 in local daily newspapers Prabhat Khabar and Dainik Jagran.
(x)	A copy of the environmental clearance letter shall be marked to concerned Panchayat/ Zila Parishad/ Municipal Corporation or Urban Local Body/ Local NGO, if any from whom any suggestion/ representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.	Being Complied. The copy of Environmental Clearance has already been made available to District Collector, local Zila Parishad, Ward Councilor, Municipal Corporation. A copy of the Environmental Clearance has also been displayed on the Company's website.
(xi)	A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/ Tehsildar's Office for 30	Being Complied. The Environmental Clearance letter has already been forwarded to Jharkhand State Pollution Control Board, Regional Office, District Industry Centre and Collector's Office for doing the needful.

	days.	
(xii)	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient and stack, if any) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.	Being Complied. The Environmental Clearance letter has been uploaded on the Company's website. Compliance status is also regularly uploaded on the Company's website every six months. Environment Monitoring Report (Air, Water, Noise and Soil) are also displayed on the Company's website. Monitoring data of environmental quality parameters has been displayed at the project office and being updated regularly.
(xiii)	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MoEF, the respective Zonal Offices of CPCB and the SPCB.	Being Complied.
(xiv)	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/ monitoring reports.	Being Complied.
(xv)	The environmental statement for each financial year ending 31 st March in Form- V is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF&CC by e-mail.	Being Complied. (Copy of Environment Statement is enclosed).

B. Singh 10.12.2022

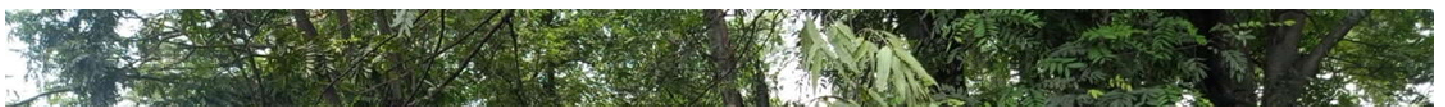
Project Officer

(5.0 MTPA Patherdih NLW Coal Washery)

S. Singh

ANNEXURE – I

3-TIER PLANTATION DONE IN 5.0 MTPA PATHERDIH NLW COAL WASHERY



PLANTATION OF LOCAL SPECIES AROUND THE PERIPHERY OF THE WASHERY



GABION PLANTATION ALONG THE APPROACH ROAD



MOBILE SPRINKLING AT 5.0 MTPA PATHERDIH NLW COAL WASHERY





cmpdi
A Mini Ratna Company

AL 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		07/2022	Cluster	Misc.			Report No.		RI-II/AIR/2022-23/04					
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)						Date of Issue		07.10.2022				
Project				Sample Ref. No.	REM/BCCL/2022/07		Sampling Method		CMPDI/RI-II/LPM 13 , (IS 5182)					
Sampling Stations		i	Pathadih Washery :Industrial Area		Date of Sampling		15.07.2022		26.07.2022		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	97	92	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	56	53	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	12	<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	17	15	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)
CHECKED BY

(Amit Raj Mishra)
HOD's Signature

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.

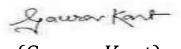
---- End of Report ----

Page -1 of 1

  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									
Month & Year	07/2022	Cluster	Washeries	Report No.	RI-II/NOISE/2022-23/04				
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)				Date of Issue	07.10.2022			
Project		Sample Ref. No.	REM/BCCL/2022/07		Sampling Method	CMPDI/RI-II/LPM 13			
Sampling Stations	i	Pathardih Washery		Date of Sampling	15.07.2022	26.07.2022	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	46.9	45.5	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	49.4	47.8					
3		08:00 - 09:00	52.3	50.1					
4		09:00 - 10:00	57.5	55.7					
5		10:00 - 11:00	58.8	57.0					
6		11:00 - 12:00	57.5	55.7					
7		12:00 - 13:00	60.2	61.2					
8		13:00 - 14:00	61.5	59.6					
9		14:00 - 15:00	62.3	54.3					
10		15:00 - 16:00	55.2	53.1					
11		16:00 - 17:00	54.7	53.0					
12		17:00 - 18:00	54.2	52.5					
13		18:00 - 19:00	53.4	51.8					
14		19:00 - 20:00	52.4	50.8					
15		20:00 - 21:00	51.2	50.4					
16		21:00 - 22:00	50.6	50.3					
		Leq Day	56.9	55.0					
1	Noise Level dB(A)Leq -Night	22:00-23:00	43.5	44.1	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	43.5	43.9					
3		00:00- 01:00	43.1	43.9					
4		01:00-02:00	42.8	43.6					
5		02:00-03:00	42.5	43.1					
6		03:00-04:00	41.8	42.2					
7		04:00-05:00	40.7	42.0					
8		05:00-06:00	38.8	41.6					
		Leq Night	42.3	43.1					

**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)
CHECKED BY


 (Amit Raj Mishra)
HOD's Signature

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

AMBIENT AIR QUALITY DATA



cmpdi
A Mini Ratna Company

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		07/2022	Cluster	Cluster X			Report No.	RI-II/AIR/2022-23/04	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	07.10.2022	
Project				Sample Ref. No.	REM/BCCL/2022/07	Sampling Method	CMPDI/RI-II/LPM 13 , (IS 5182)		
Sampling Stations		i	Bhowrah North		Date of Sampling	12.07.22	27.07.22	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)	NAAQS, 2009	
			1st FN	2nd FN					
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	96	88	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100	
2	PM _{2.5}	IS -5182(Part 24):2019	50	50	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	13	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80	
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	21	23	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80	

* LDL indicates Lower Detection Limit,

**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average,

[Signature]

ANALYSED BY

[Signature]

(Gaurav Kant)
CHECKED BY

[Signature]

(Amit Raj Mishra)
HOD's Signature

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



cmpdi
A Mini Ratna Company

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		07/2022	Cluster	Cluster X			Report No.	RI-II/AIR/2022-23/04	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	07.10.2022	
Project				Sample Ref. No.	REM/BCCL/2022/07	Sampling Method	CMPDI/RI-II/LPM 13 , (IS 5182)		
Sampling Stations		i	Sudamdih Washery		Date of Sampling	14.07.22	29.07.22	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)	NAAQS, 2009	
			1st FN	2nd FN					
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	81	89	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100	
2	PM _{2.5}	IS -5182(Part 24):2019	48	55	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	11	<10	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80	
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	12	11	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80	

* LDL indicates Lower Detection Limit,

**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average,

[Signature]
ANALYSED BY

[Signature]
(Gaurav Kant)
CHECKED BY

[Signature]
(Amit Raj Mishra)
HOD's Signature

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

JOB NO. 200316028

Cluster – X, BCCL

Environmental Monitoring Report



cmpdi
A Mini Ratna Company

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		07/2022	Cluster	CLUSTER X			Report No.	RI-II/AIR/2022-23/04	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	07.10.2022	
Project				Sample Ref. No.	REM/BCCL/2022/07	Sampling Method	CMPDI/RI-II/LPM 13 , (IS 5182)		
Sampling Stations		i	Sudamdih Mine Shaft		Date of Sampling	14.07.22	29.07.22	Zone of Station:	Core Zone
Sl. No.	Parameter	Method Analysis	of	Observed Values (in µg/m³)		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		87	81	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100
2	PM _{2.5}	IS -5182(Part 24):2019		53	48	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60
3	SO ₂	IS-5182(Part-2): 2001 , R-2017		<10	12	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017		7	<6	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80

****All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average * LDL indicates Lower Detection Limit,**

Anil Kumar
[Signature]

ANALYSED BY

Gaurav Kant

(Gaurav Kant)
CHECKED BY

[Signature]

(Amit Raj Mishra)
HOD's Signature

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



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	07/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/04	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)						Date of Issue	07.10.2022	
Project		Sample Ref. No.	REM/BCCL/2022/07			Sampling Method	CMPDI/RI-II/LPM 13		
Sampling Stations	i	Bhowrah North		Date of Sampling	12.07.22	27.07.22	Zone Category of Station:	Core 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 Fortnight	Second Fortnight				Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	51.4	50.4	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	54.8	53.6					
3		08:00 - 09:00	57.4	56.2					
4		09:00 - 10:00	63.8	64.1					
5		10:00 - 11:00	65.3	64.2					
6		11:00 - 12:00	64.5	65.4					
7		12:00 - 13:00	66.8	62.8					
8		13:00 - 14:00	68.3	65.5					
9		14:00 - 15:00	62.2	62.5					
10		15:00 - 16:00	61.3	60.4					
11		16:00 - 17:00	60.7	61.2					
12		17:00 - 18:00	64.2	63.8					
13		18:00 - 19:00	59.3	58.0					
14		19:00 - 20:00	58.2	56.9					
15		20:00 - 21:00	57.6	55.4					
16		21:00 - 22:00	57.6	56.4					
		Leq DAY	62.8	61.6					
1	Noise Level dB(A)Leq -Night	22:00-23:00	46.1	45.6	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	45.4	44.1					
3		00:00- 01:00	44.3	43.9					
4		01:00-02:00	44.0	43.5					
5		02:00-03:00	42.5	43.1					
6		03:00-04:00	41.2	40.8					
7		04:00-05:00	40.0	40.2					
8		05:00-06:00	39.8	40.1					
		Leq NIGHT	43.5	43.1					
*LDL indicates Lower Detection Limit									
**All noise measurements are integrated for a 01 hour period, All units in dB(A)									
			 (Gaurav Kant)					 (Amit Raj Mishra)	
	ANALYSED BY		CHECKED BY					HOD's Signature	
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									



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	07/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/04	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)						Date of Issue	07.10.2022	
Project		Sample Ref. No.	REM/BCCL/2022/07			Sampling Method	CMPDI/RI-II/LPM 13		
Sampling Stations	i	Sudamdih Washery		Date of Sampling	14.07.22	29.07.22	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	46.0	46.5	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	51.5	51.2					
3		08:00 - 09:00	55.2	53.0					
4		09:00 - 10:00	56.5	56.1					
5		10:00 - 11:00	61.2	60.1					
6		11:00 - 12:00	63.0	63.0					
7		12:00 - 13:00	66.0	67.9					
8		13:00 - 14:00	67.1	67.4					
9		14:00 - 15:00	68.0	68.1					
10		15:00 - 16:00	57.8	62.5					
11		16:00 - 17:00	57.4	57.7					
12		17:00 - 18:00	55.0	52.0					
13		18:00 - 19:00	51.2	50.9					
14		19:00 - 20:00	50.4	48.8					
15		20:00 - 21:00	48.5	43.6					
16		21:00 - 22:00	47.4	42.0					
		Leq DAY	61.3	61.9					
1	Noise Level dB(A)Leq -Night	22:00-23:00	45.6	45.6	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	43.8	45.0					
3		00:00- 01:00	42.1	44.2					
4		01:00-02:00	42.3	43.1					
5		02:00-03:00	42.0	42.1					
6		03:00-04:00	41.2	40.8					
7		04:00-05:00	40.8	40.2					
8		05:00-06:00	39.7	38.9					
		Leq NIGHT	42.5	43.0					
**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		CHECKED BY						HOD's Signature	
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									



cmpdi
A Mini Ratna Company

CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED
Environment Laboratory, Regional Institute-II
Ambient Noise Level Test Report

Month & Year	07/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/04	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)							Date of Issue	07.10.2022
Project		Sample Ref. No.	REM/BCCL/2022/07			Sampling Method		CMPDI/RI-II/LPM 13	
Sampling Stations	i	Sudamdih Mine Shaft		Date of Sampling	14.07.22	29.07.22	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	40.5	40.7	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	42.3	42.6					
3		08:00 - 09:00	43.2	44.1					
4		09:00 - 10:00	44.1	45.6					
5		10:00 - 11:00	45.6	46.5					
6		11:00 - 12:00	51.2	50.1					
7		12:00 - 13:00	53.0	53.1					
8		13:00 - 14:00	54.6	54.5					
9		14:00 - 15:00	56.1	57.0					
10		15:00 - 16:00	54.1	53.6					
11		16:00 - 17:00	52.3	50.1					
12		17:00 - 18:00	48.5	45.0					
13		18:00 - 19:00	47.1	44.1					
14		19:00 - 20:00	46.2	42.3					
15		20:00 - 21:00	45.0	41.9					
16		21:00 - 22:00	41.2	41.1					
		Leq DAY	50.4	50.2					
1	Noise Level dB(A)Leq -Night	22:00-23:00	44.1	43.2	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	43.1	43.0					
3		00:00- 01:00	42.6	41.9					
4		01:00-02:00	42.3	41.6					
5		02:00-03:00	41.9	41.2					
6		03:00-04:00	41.0	40.4					
7		04:00-05:00	40.8	40.2					
8		05:00-06:00	40.4	39.7					
		LeqNIGHT	42.2	41.6					

*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) CHECKED BY	 (Amit Raj Mishra) HOD's Signature
---	--	---

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



cmpdi
A Mini Ratna Company

AL 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		08/2022	Cluster	Misc.			Report No.	RI-II/AIR/2022-23/05
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	26.10.2022
Project			Sample Ref. No.	REM/BCCL/2022/08	Sampling Method		CMPDI/RI-II/LPM 13 , (IS 5182)	
Sampling Stations		i	Pathadih Washery :Industrial Area	Date of Sampling	09.08.2022	23.08.2022	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)	NAAQS, 2009
			1st FN	2nd FN				
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	78	73	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100
2	PM _{2.5}	IS -5182(Part 24):2019	36	34	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	<10	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	20	18	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80

****All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average, * LDL indicates Lower Detection Limit,**

[Signature]
ANALYSED BY

[Signature]
(Gaurav Kant)
CHECKED BY

[Signature]
(Amit Raj Mishra)
HOD's Signature

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.

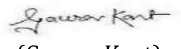
---- End of Report ----

Page -1 of 1

  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									
Month & Year	08/2022	Cluster	Washeries	Report No.	RI-II/NOISE/2022-23/05				
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)				Date of Issue	26.10.2022			
Project		Sample Ref. No.	REM/BCCL/2022/08		Sampling Method	CMPDI/RI-II/LPM 13			
Sampling Stations	i	Pathardih Washery		Date of Sampling	09.08.22	23.08.22	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	46.9	44.0	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	49.4	46.3					
3		08:00 - 09:00	52.3	48.5					
4		09:00 - 10:00	57.5	53.9					
5		10:00 - 11:00	58.8	55.2					
6		11:00 - 12:00	57.5	53.9					
7		12:00 - 13:00	60.2	56.5					
8		13:00 - 14:00	61.5	57.7					
9		14:00 - 15:00	62.3	52.6					
10		15:00 - 16:00	55.2	51.8					
11		16:00 - 17:00	54.7	51.3					
12		17:00 - 18:00	54.2	50.8					
13		18:00 - 19:00	53.4	50.1					
14		19:00 - 20:00	52.4	49.2					
15		20:00 - 21:00	51.2	49.2					
16		21:00 - 22:00	50.6	48.7					
		Leq Day	56.9	52.6					
1	Noise Level dB(A)Leq -Night	22:00-23:00	43.5	44.1	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	43.5	43.9					
3		00:00- 01:00	43.1	43.9					
4		01:00-02:00	42.8	43.6					
5		02:00-03:00	42.5	43.1					
6		03:00-04:00	41.8	43.2					
7		04:00-05:00	40.7	42.0					
8		05:00-06:00	37.9	40.8					
		Leq Night	42.3	43.1					

**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)
CHECKED BY


 (Amit Raj Mishra)
HOD's Signature

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

AMBIENT AIR QUALITY DATA



cmpdi
A Mini Ratna Company

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		08/2022	Cluster	Cluster X			Report No.	RI-II/AIR/2022-23/05	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	26.10.2022	
Project				Sample Ref. No.	REM/BCCL/2022/08	Sampling Method	CMPDI/RI-II/LPM 13 , (IS 5182)		
Sampling Stations		i	Bhowrah North		Date of Sampling	11.08.22	23.08.22	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)	NAAQS, 2009	
			1st FN	2nd FN					
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	82	72	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100	
2	PM _{2.5}	IS -5182(Part 24):2019	42	33	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	12	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80	
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	13	15	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80	

* LDL indicates Lower Detection Limit,

**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average,

[Signature]

ANALYSED BY

[Signature]

(Gaurav Kant)
CHECKED BY

[Signature]

(Amit Raj Mishra)
HOD's Signature

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



cmpdi
A Mini Ratna Company

CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED
Environment Laboratory, Regional Institute-II
Ambient Air Quality Test Report

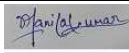
CMPDIL, RI-II
KOYLA BHAWAN COMPLEX
DHANBAD. -826005
Phone:0326-223-850
email: rdri2cmpdi@coalindia.in

Test Report for Ambient Air Samples

Month & Year		08/2022	Cluster	Cluster X			Report No.	RI-II/AIR/2022-23/05	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	26.10.2022	
Project				Sample Ref. No.	REM/BCCL/2022/08	Sampling Method	CMPDI/RI-II/LPM 13 , (IS 5182)		
Sampling Stations		i	Sudamdih Washery		Date of Sampling	10.08.22	18.08.22	Zone of Station:	Core Zone
Sl. No.	Parameter	Method Analysis	of	Observed Values (in µg/m³)		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		83	92	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100
2	PM _{2.5}	IS -5182(Part 24):2019		30	34	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60
3	SO ₂	IS-5182(Part-2): 2001 , R-2017		14	12	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017		16	15	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80

* LDL indicates Lower Detection Limit,

**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average,




ANALYSED BY



(Gaurav Kant)
CHECKED BY



(Amit Raj Mishra)
HOD's Signature

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

JOB NO. 200316028

Cluster – X, BCCL

Environmental Monitoring Report



cmpdi
A Mini Ratna Company

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		08/2022	Cluster	CLUSTER X			Report No.	RI-II/AIR/2022-23/05	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	26.10.2022	
Project				Sample Ref. No.	REM/BCCL/2022/08	Sampling Method	CMPDI/RI-II/LPM 13 , (IS 5182)		
Sampling Stations		i	Sudamdih Mine Shaft		Date of Sampling	10.08.22	18.08.22	Zone of Station:	Core Zone
Sl. No.	Parameter	Method Analysis	of	Observed Values (in µg/m³)		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		97	92	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100
2	PM _{2.5}	IS -5182(Part 24):2019		47	40	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60
3	SO ₂	IS-5182(Part-2): 2001 , R-2017		<10	11	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017		8	6	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80

****All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average * LDL indicates Lower Detection Limit,**

Anil Kumar
[Signature]

ANALYSED BY

Gaurav Kant

(Gaurav Kant)
CHECKED BY

[Signature]

(Amit Raj Mishra)
HOD's Signature

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



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	08/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/05	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)							Date of Issue	26.10.2022
Project		Sample Ref. No.	REM/BCCL/2022/08			Sampling Method	CMPDI/RI-II/LPM 13		
Sampling Stations	i	Bhowrah North		Date of Sampling	11.08.22	23.08.22	Zone Category of Station:	Core 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 Fortnight	Second Fortnight				Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	51.8	53.4	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	54.5	56.2					
3		08:00 - 09:00	57.4	58.8					
4		09:00 - 10:00	62.3	63.2					
5		10:00 - 11:00	65.3	66.9					
6		11:00 - 12:00	64.6	65.4					
7		12:00 - 13:00	67.6	69.3					
8		13:00 - 14:00	69.0	65.2					
9		14:00 - 15:00	63.0	63.8					
10		15:00 - 16:00	62.0	62.8					
11		16:00 - 17:00	61.4	62.2					
12		17:00 - 18:00	60.9	61.7					
13		18:00 - 19:00	60.0	60.8					
14		19:00 - 20:00	58.9	59.6					
15		20:00 - 21:00	58.9	59.6					
16		21:00 - 22:00	58.3	59.1					
		Leq DAY	63.0	63.4					
1	Noise Level dB(A)Leq -Night	22:00-23:00	46.1	45.6	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	45.4	44.1					
3		00:00- 01:00	44.3	43.9					
4		01:00-02:00	44.0	43.5					
5		02:00-03:00	41.9	43.1					
6		03:00-04:00	41.2	40.8					
7		04:00-05:00	40.0	40.2					
8		05:00-06:00	39.8	40.1					
		Leq NIGHT	43.4	43.1					
*LDL indicates Lower Detection Limit									
**All noise measurements are integrated for a 01 hour period, All units in dB(A)									
			 (Gaurav Kant) ANALYSED BY					 (Amit Raj Mishra) CHECKED BY HOD's Signature	
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									



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	08/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/05	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)							Date of Issue	26.10.2022
Project		Sample Ref. No.	REM/BCCL/2022/08			Sampling Method	CMPDI/RI-II/LPM 13		
Sampling Stations	i	Sudamdih Washery		Date of Sampling	10.08.22	18.08.22	Zone Category of Station:	Core 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 Fortnight	Second Fortnight				Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	51.4	52.7	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	54.8	55.4					
3		08:00 - 09:00	57.4	58.1					
4		09:00 - 10:00	63.8	64.5					
5		10:00 - 11:00	65.3	66.1					
6		11:00 - 12:00	64.5	64.5					
7		12:00 - 13:00	66.8	67.6					
8		13:00 - 14:00	68.3	67.2					
9		14:00 - 15:00	62.2	63.0					
10		15:00 - 16:00	61.3	62.0					
11		16:00 - 17:00	60.7	61.4					
12		17:00 - 18:00	64.2	60.9					
13		18:00 - 19:00	59.3	60.0					
14		19:00 - 20:00	58.2	58.9					
15		20:00 - 21:00	57.6	58.8					
16		21:00 - 22:00	57.6	58.3					
		Leq DAY	62.8	62.9					
1	Noise Level dB(A)Leq -Night	22:00-23:00	45.6	45.6	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	43.8	44.7					
3		00:00- 01:00	42.1	44.2					
4		01:00-02:00	42.3	43.1					
5		02:00-03:00	42.0	42.1					
6		03:00-04:00	41.2	40.8					
7		04:00-05:00	40.8	40.2					
8		05:00-06:00	39.7	38.9					
		Leq NIGHT	42.5	43.0					
**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			CHECKED BY			HOD's Signature			
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									



cmpdi
A Mini Ratna Company

CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED
Environment Laboratory, Regional Institute-II
Ambient Noise Level Test Report

Month & Year	08/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/05	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)							Date of Issue	26.10.2022
Project		Sample Ref. No.	REM/BCCL/2022/08			Sampling Method		CMPDI/RI-II/LPM 13	
Sampling Stations	i	Sudamdih Mine Shaft		Date of Sampling	10.08.22	18.08.22	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	46.5	46.1	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	48.9	48.6					
3		08:00 - 09:00	51.3	50.9					
4		09:00 - 10:00	56.9	56.5					
5		10:00 - 11:00	58.3	57.9					
6		11:00 - 12:00	56.9	57.8					
7		12:00 - 13:00	59.7	59.2					
8		13:00 - 14:00	60.9	60.5					
9		14:00 - 15:00	55.6	55.2					
10		15:00 - 16:00	54.7	62.2					
11		16:00 - 17:00	54.2	53.8					
12		17:00 - 18:00	53.7	53.3					
13		18:00 - 19:00	52.9	52.5					
14		19:00 - 20:00	52.0	51.6					
15		20:00 - 21:00	52.0	51.4					
16		21:00 - 22:00	51.5	51.1					
		Leq DAY	55.7	56.3					
1	Noise Level dB(A)Leq - Night	22:00-23:00	45.2	44.9	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	44.9	43.7					
3		00:00- 01:00	43.7	42.9					
4		01:00-02:00	42.8	43.1					
5		02:00-03:00	42.1	43.0					
6		03:00-04:00	41.9	42.7					
7		04:00-05:00	40.9	42.6					
8		05:00-06:00	39.9	42.1					
		LeqNIGHT	43.0	43.2					

*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) CHECKED BY	 (Amit Raj Mishra) HOD's Signature
---	--	---

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



cmpdi
A Mini Ratna Company

AL 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		09/2022	Cluster	Misc.			Report No.		RI-II/AIR/2022-23/09						
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)						Date of Issue		29.11.2022					
Project				Sample Ref. No.		REM/BCCL/2022/09/39		Sampling Method		CMPDI/RI-II/LPM 13 , (IS 5182)					
Sampling Stations		i	Pathadih Washery :Industrial Area			Date of Sampling		9/15/2022		9/29/2022		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)		NAAQS, 2009					
			1st FN	2nd FN											
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	97	98		10 µg/m³ - 1000 µg/m³	10 µg/m³	300		100					
2	PM _{2.5}	IS -5182(Part 24):2019	55	54		10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified		60					
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	12		10 µg/m³ - 1050 µg/m³	10 µg/m³	120		80					
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	23	26		06 µg/m³ - 420 µg/m³	06 µg/m³	120		80					

****All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average, * LDL indicates Lower Detection Limit,**

ANALYSED BY

(Gaurav Kant)
CHECKED BY

(Amit Raj Mishra)
HOD's Signature

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

  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									
Month & Year	09/2022	Cluster	Washeries	Report No.	RI-II/NOISE/2022-23/09				
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)				Date of Issue	29.11.2022			
Project		Sample Ref. No.	REM/BCCL/2022/09/39		Sampling Method	CMPDI/RI-II/LPM 13			
Sampling Stations	i	Pathardih Washery		Date of Sampling	15.09.22	29.09.22	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	46.9	45.8	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	49.4	49.6					
3		08:00 - 09:00	52.3	53.1					
4		09:00 - 10:00	57.5	57.4					
5		10:00 - 11:00	58.8	58.5					
6		11:00 - 12:00	57.5	58.1					
7		12:00 - 13:00	60.2	62.3					
8		13:00 - 14:00	61.5	60.9					
9		14:00 - 15:00	62.3	62.7					
10		15:00 - 16:00	55.2	56.4					
11		16:00 - 17:00	54.7	55.4					
12		17:00 - 18:00	54.2	55.1					
13		18:00 - 19:00	53.4	54.4					
14		19:00 - 20:00	52.4	49.2					
15		20:00 - 21:00	51.2	49.2					
16		21:00 - 22:00	50.6	48.7					
		Leq Day	56.9	57.3					
1	Noise Level dB(A)Leq -Night	22:00-23:00	60.0	61.2	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	59.5	59.6					
3		00:00- 01:00	61.2	60.4					
4		01:00-02:00	59.6	61.2					
5		02:00-03:00	60.4	60.2					
6		03:00-04:00	51.2	50.2					
7		04:00-05:00	50.7	50.0					
8		05:00-06:00	45.8	46.1					
		Leq Night	58.4	58.7					

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

Sampling Assistants
ANALYSED BY


 (Gaurav Kant)
CHECKED BY


 (Amit Raj Mishra)
HOD's Signature

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

AMBIENT AIR QUALITY DATA



cmpdi
A Mini Ratna Company

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		09/2022	Cluster	Cluster X			Report No.	RI-II/AIR/2022-23/09	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	29.11.2022	
Project				Sample Ref. No.	REM/BCCL/2022/09/14	Sampling Method	CMPDI/RI-II/LPM 13 , (IS 5182)		
Sampling Stations		i	Bhowrah North		Date of Sampling	15-09-2022	28-09-2022	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)	NAAQS, 2009	
			1st FN	2nd FN					
1	PM ₁₀	IS -5182(Part 23):2006, R-2017	84	131	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100	
2	PM _{2.5}	IS -5182(Part 24):2019	41	71	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001 , R-2017	<10	12	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80	
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017	23	26	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80	

* LDL indicates Lower Detection Limit,

**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average,

[Signature]

ANALYSED BY

[Signature]

(Gaurav Kant)
CHECKED BY

[Signature]

(Amit Raj Mishra)
HOD's Signature

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



cmpdi
A Mini Ratna Company

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		09/2022	Cluster	Cluster X			Report No.	RI-II/AIR/2022-23/09	
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)					Date of Issue	29.11.2022	
Project				Sample Ref. No.	REM/BCCL/2022/09/15	Sampling Method		CMPDI/RI-II/LPM 13 , (IS 5182)	
Sampling Stations		i	Sudamdih Washery		Date of Sampling	14-09-2022	29-09-2022	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	86	113	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	54	64	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	20	22	06 $\mu\text{g}/\text{m}^3$ - 420 $\mu\text{g}/\text{m}^3$	06 $\mu\text{g}/\text{m}^3$	120	80	

* LDL indicates Lower Detection Limit,

**All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average,


ANALYSED BY


(Gaurav Kant)
CHECKED BY


(Amit Raj Mishra)
HOD's Signature

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



cmpdi
A Mini Ratna Company

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		09/2022	Cluster	CLUSTER X			Report No.	RI-II/AIR/2022-23/09		
Customer		Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)						Date of Issue	29.11.2022	
Project				Sample Ref. No.	REM/BCCL/2022/09/41	Sampling Method		CMPDI/RI-II/LPM 13 , (IS 5182)		
Sampling Stations		i	Sudamdih Mine Shaft		Date of Sampling	02-09-2022	29-09-2022	Zone of Station:	Core Zone	
Sl. No.	Parameter	Method Analysis	of	Observed Values (in µg/m³)		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		128	71	10 µg/m³ - 1000 µg/m³	10 µg/m³	300	100	
2	PM _{2.5}	IS -5182(Part 24):2019		88	53	10 µg/m³ - 400 µg/m³	10 µg/m³	Not Specified	60	
3	SO ₂	IS-5182(Part-2): 2001 , R-2017		10	12	10 µg/m³ - 1050 µg/m³	10 µg/m³	120	80	
4	NO ₂	IS-5182 (Part-6): 2006 , R-2017		12	13	06 µg/m³ - 420 µg/m³	06 µg/m³	120	80	

****All units are in $\mu\text{g}/\text{m}^3$, 24 hourly Average * LDL indicates Lower Detection Limit,**

Anil Kumar
[Signature]

ANALYSED BY

Gaurav Kant

(Gaurav Kant)
CHECKED BY

[Signature]

(Amit Raj Mishra)
HOD's Signature

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



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	09/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/09	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)							Date of Issue	29.11.2022
Project		Sample Ref. No.	REM/BCCL/2022/09/14		Sampling Method		CMPDI/RI-II/LPM 13		
Sampling Stations	i	Bhowrah North		Date of Sampling	15-09-2022	28-09-2022	Zone Category of Station:	Core 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 Fortnight	Second Fortnight				Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	52.7	53.4	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	55.4	56.2					
3		08:00 - 09:00	58.1	58.8					
4		09:00 - 10:00	64.5	63.2					
5		10:00 - 11:00	66.1	66.9					
6		11:00 - 12:00	65.5	65.4					
7		12:00 - 13:00	67.6	69.3					
8		13:00 - 14:00	69.0	65.2					
9		14:00 - 15:00	63.0	63.8					
10		15:00 - 16:00	62.0	62.8					
11		16:00 - 17:00	61.4	62.2					
12		17:00 - 18:00	60.9	61.7					
13		18:00 - 19:00	60.0	60.8					
14		19:00 - 20:00	58.9	59.6					
15		20:00 - 21:00	58.9	59.6					
16		21:00 - 22:00	58.3	59.1					
		Leq DAY	63.4	63.4					
1	Noise Level dB(A)Leq -Night	22:00-23:00	38.6	38.1	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	38.9	38.6					
3		00:00- 01:00	37.9	39.1					
4		01:00-02:00	38.5	40.5					
5		02:00-03:00	38.6	39.8					
6		03:00-04:00	38.9	39.2					
7		04:00-05:00	40.0	40.1					
8		05:00-06:00	40.2	39.5					
		Leq NIGHT	39.0	39.4					
*LDL indicates Lower Detection Limit									
**All noise measurements are integrated for a 01 hour period, All units in dB(A)									
			 (Gaurav Kant) ANALYSED BY					 (Amit Raj Mishra) CHECKED BY HOD's Signature	
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									



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	09/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/09	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)						Date of Issue	29.11.2022	
Project		Sample Ref. No.	REM/BCCL/2022/09/15		Sampling Method	CMPDI/RI-II/LPM 13			
Sampling Stations	i	Sudamdih Washery		Date of Sampling	14-09-2022	29-09-2022	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	51.4	52.7	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	54.8	55.4					
3		08:00 - 09:00	57.4	58.1					
4		09:00 - 10:00	63.8	64.5					
5		10:00 - 11:00	65.3	66.1					
6		11:00 - 12:00	64.5	64.5					
7		12:00 - 13:00	66.8	67.6					
8		13:00 - 14:00	68.3	67.2					
9		14:00 - 15:00	62.2	63.0					
10		15:00 - 16:00	61.3	62.0					
11		16:00 - 17:00	59.9	57.2					
12		17:00 - 18:00	59.4	56.7					
13		18:00 - 19:00	58.5	55.9					
14		19:00 - 20:00	57.4	54.8					
15		20:00 - 21:00	56.3	54.1					
16		21:00 - 22:00	52.3	51.6					
		Leq DAY	62.4	62.4					
1	Noise Level dB(A)Leq -Night	22:00-23:00	63.1	62.4	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	58.5	59.8					
3		00:00- 01:00	55.6	56.4					
4		01:00-02:00	54.5	55.6					
5		02:00-03:00	69.9	68.5					
6		03:00-04:00	69.6	69.9					
7		04:00-05:00	69.7	62.6					
8		05:00-06:00	60.1	62.9					
		Leq NIGHT	66.1	64.8					
**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		CHECKED BY				HOD's Signature			
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									



cmpdi
A Mini Ratna Company

CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED
Environment Laboratory, Regional Institute-II
Ambient Noise Level Test Report

Month & Year	09/2022	Cluster	Cluster X				Report No.	RI-II/NOISE/2022-23/09	
Customer	Environment Department, Bharat Coking Coal Limited (BCCL), Koyla Bhawan, Dhanbad (E-mail: gmenv.bccl@coalindia.in)							Date of Issue	29.11.2022
Project		Sample Ref. No.	REM/BCCL/2022/09/42			Sampling Method	CMPDI/RI-II/LPM 13		
Sampling Stations	i	Sudamdih Mine Shaft		Date of Sampling	02-09-2022	29-09-2022	Zone Category of Station:	Core 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 Fortnight	Second Fortnight				Zones	Limits in dB
1	Noise Level dB(A)Leq - Day	06:00 - 07:00	62.9	61.8	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	64.5	64.0					
3		08:00 - 09:00	68.9	69.1					
4		09:00 - 10:00	71.4	70.5					
5		10:00 - 11:00	70.6	69.8					
6		11:00 - 12:00	76.7	75.4					
7		12:00 - 13:00	64.5	66.0					
8		13:00 - 14:00	60.9	60.5					
9		14:00 - 15:00	71.0	73.6					
10		15:00 - 16:00	48.5	52.1					
11		16:00 - 17:00	49.4	51.2					
12		17:00 - 18:00	62.4	66.0					
13		18:00 - 19:00	63.2	61.8					
14		19:00 - 20:00	62.9	61.8					
15		20:00 - 21:00	63.1	62.5					
16		21:00 - 22:00	62.7	63.0					
		Leq DAY	68.4	68.2					
1	Noise Level dB(A)Leq - Night	22:00-23:00	69.8	69.5	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	69.8	69.9					
3		00:00- 01:00	69.6	69.6					
4		01:00-02:00	68.7	69.7					
5		02:00-03:00	67.8	69.7					
6		03:00-04:00	69.8	70.4					
7		04:00-05:00	61.8	62.6					
8		05:00-06:00	56.1	55.5					
		LeqNIGHT	68.2	68.7					

*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) CHECKED BY	 (Amit Raj Mishra) HOD's Signature
---	--	---

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

AMBIENT AIR QUALITY DATA

Name of the Company: **Bharat Coking Coal Limited** Year : **2022-23**

Name of the Cluster : **Cluster –MISC.** PERIOD: **Q. E. JUNE- 2022.**

Heavy Metal Analysis report of Ambient Air Quality

SAMPLE	Cadmium(Cd) (µg/m3)	Mercury(Hg) (µg/m3)	Arsenic(As) (ng/m3)	Chromium(Cr) (µg/m3)	Nickel (Ni) (ng/m3)	Lead (Pb) (µg/m3)
Bhojudih Washery (A34):	<0.001	0.012	<0.005	0.04	<0.1	0.135
Dugda Washery (A35):	<0.001	<0.001	<0.005	0.01	<0.1	0.044
Mahuda Washery (A36):	<0.001	<0.001	<0.005	0.04	<0.1	0.061
Sinidih Workshop (A38):	<0.001	<0.001	<0.005	0.03	<0.1	0.09
Patherdih (A39):	<0.001	<0.001	<0.005	<0.01	<0.1	0.03
Koyla Nagar(A40)	<0.001	<0.001	<0.005	<0.01	<0.1	0.022
Santaldih Basti (Bhojudih wahery buffer)(A45	<0.001	<0.001	<0.005	<0.01	<0.1	0.045
Central Hospital Dhanbad (A46):	<0.001	<0.001	<0.005	<0.01	<0.1	0.056


 Analysed By
 JSA/SA/SSA


 Checked By
 Lab In Charge
 RI-2, CMPDI, Dhanbad


 Approved By
 HOD(In-charge) Environment
 RI-2, CMPDI, Dhanbad

SHIFT WISE ANALYSIS RESULTS OF SAMPLES of RAW COAL (TRUCK Mode) RECEIVED IN PATHARDHI DRAWN BY GEOCHEM (Thrd Party) DURING THE PERIOD OF AUGUST, 2022

Certificate Reference No. &

: CRT NO.: MUM-CRT-22-23-02890/RawCoalRecd./PEH/August, 2022

Date 14.09.2022

Date

: JOB NO.: MUM-JB2223-001926

NAME OF COAL COMPANY

: BCCL (BHARAT COKING COAL LIMITED)

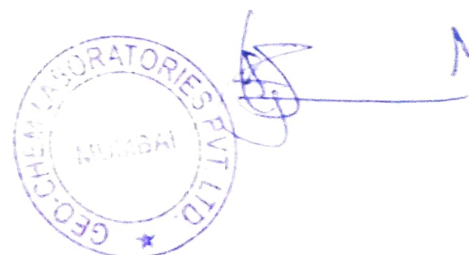
WASHERY

: PATHARDHI WASHERY

ANALYSIS LABORATORY

: M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/Unit No.	Date of Sampling	Shift (A,B,C)	Quantity In MT	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Raw COAL/ At BC-1	Geo/PEH/08/01	B.C - 1	Raw Coal Received	01.08.2022	A	3657.000	2.80	0.72	48.22	13.92	37.14	3980	3897
2	Raw COAL/ At BC-1	Geo/PEH/08/08	B.C - 1	Raw Coal Received	01.08.2022	B		2.43	0.61	47.74	14.16	37.49	4051	3977
3	Raw COAL/ At BC-1	Geo/PEH/08/09	B.C - 1	Raw Coal Received	01.08.2022	C		3.38	1	47.28	13.88	37.84	4080	3982
4	Raw COAL/ At BC-1	Geo/PEH/08/10	B.C - 1	Raw Coal Received	02.08.2022	A	2512.520	2.89	0.73	48.76	13.54	36.97	3919	3834
5	Raw COAL/ At BC-1	Geo/PEH/08/13	B.C - 1	Raw Coal Received	02.08.2022	B		2.42	0.68	49.25	13.48	36.59	3867	3799
6	Raw COAL/ At BC-1	Geo/PEH/08/14	B.C - 1	Raw Coal Received	02.08.2022	C		3.54	0.94	49.67	13.34	36.05	3823	3723
7	Raw COAL/ At BC-1	Geo/PEH/08/21	B.C - 1	Raw Coal Received	03.08.2022	A	5698.880	2.60	0.71	47.56	14.71	37.02	4041	3964
8	Raw COAL/ At BC-1	Geo/PEH/08/26	B.C - 1	Raw Coal Received	03.08.2022	B		3.46	0.99	47.82	14.59	36.6	3995	3895
9	Raw COAL/ At BC-1	Geo/PEH/08/28	B.C - 1	Raw Coal Received	03.08.2022	C		2.93	0.82	48.31	14.41	36.46	3936	3852
10	Raw COAL/ At BC-1	Geo/PEH/08/32	B.C - 1	Raw Coal Received	04.08.2022	A	5518.410	3.15	0.79	47.88	14.72	36.61	3973	3878
11	Raw COAL/ At BC-1	Geo/PEH/08/36	B.C - 1	Raw Coal Received	04.08.2022	B		4.02	0.94	48.09	14.45	36.52	3948	3825
12	Raw COAL/ At BC-1	Geo/PEH/08/38	B.C - 1	Raw Coal Received	04.08.2022	C		3.54	1.05	47.76	14.29	36.9	4005	3904
13	Raw COAL/ At BC-1	Geo/PEH/08/45	B.C - 1	Raw Coal Received	05.08.2022	A	6404.650	4.93	1.16	48.17	14.34	36.33	3914	3765
14	Raw COAL/ At BC-1	Geo/PEH/08/50	B.C - 1	Raw Coal Received	05.08.2022	B		4.82	0.82	47.92	14.5	36.76	3987	3826
15	Raw COAL/ At BC-1	Geo/PEH/08/52	B.C - 1	Raw Coal Received	05.08.2022	C		3.85	0.77	47.61	14.61	37.01	4016	3891





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of RAW COAL (TRUCK Mode) RECEIVED IN PATHARDHI W.
DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF JULY, 2022 (01-11.07.2022)

Dated.01.09.2022

Certificate Reference No. & Date : CRT NO.: MUM-CRT-22-23-03003/RawCoalRecd./PEH/July, 2022
: JOB NO.: MUM-JB2223-002037
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/Unit No.	Date of Sampling	Shift (A,B,C)	Quantity In MT	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Raw COAL/ At BC-1	Geo/PEH/07/01	B.C - 1	Raw Coal Received	01.07.2022	A		2.87	0.65	49.41	12.99	36.95	3880	3793
2	Raw COAL/ At BC-1	Geo/PEH/07/03	B.C - 1	Raw Coal Received	01.07.2022	B		4.42	1.01	48.77	13.02	37.20	3949	3813
3	Raw COAL/ At BC-1	Geo/PEH/07/11	B.C - 1	Raw Coal Received	01.07.2022	C		4.06	0.81	49.02	13.18	36.99	3916	3788
4	Raw COAL/ At BC-1	Geo/PEH/07/12	B.C - 1	Raw Coal Received	02.07.2022	A		3.81	0.89	49.64	12.74	36.73	3797	3685
5	Raw COAL/ At BC-1	Geo/PEH/07/13	B.C - 1	Raw Coal Received	02.07.2022	B		3.56	0.76	49.29	13.09	36.86	3852	3743
6	Raw COAL/ At BC-1	Geo/PEH/07/17	B.C - 1	Raw Coal Received	02.07.2022	C		3.83	0.90	48.73	13.31	37.06	3906	3791
7	Raw COAL/ At BC-1	Geo/PEH/07/18	B.C - 1	Raw Coal Received	03.07.2022	A		4.37	0.97	48.86	13.06	37.11	3936	3801
8	Raw COAL/ At BC-1	Geo/PEH/07/20	B.C - 1	Raw Coal Received	03.07.2022	B		4.66	1.03	47.97	13.38	37.62	4003	3856
9	Raw COAL/ At BC-1	Geo/PEH/07/25	B.C - 1	Raw Coal Received	03.07.2022	C		3.87	0.88	49.20	12.94	36.98	3899	3781
10	Raw COAL/ At BC-1	Geo/PEH/07/29	B.C - 1	Raw Coal Received	04.07.2022	A		3.21	0.91	46.81	14.03	38.25	4103	4008
11	Raw COAL/ At BC-1	Geo/PEH/07/30	B.C - 1	Raw Coal Received	04.07.2022	B		3.25	0.85	47.18	13.84	38.13	4062	3964
12	Raw COAL/ At BC-1	Geo/PEH/07/35	B.C - 1	Raw Coal Received	04.07.2022	C		3.24	0.77	47.63	13.65	37.95	3998	3898
13	Raw COAL/ At BC-1	Geo/PEH/07/39	B.C - 1	Raw Coal Received	05.07.2022	A		3.13	0.81	46.79	14.03	38.37	4135	4038
14	Raw COAL/ At BC-1	Geo/PEH/07/40	B.C - 1	Raw Coal Received	05.07.2022	B		2.91	0.71	47.08	13.97	38.24	4082	3992
15	Raw COAL/ At BC-1	Geo/PEH/07/45	B.C - 1	Raw Coal Received	05.07.2022	C		3.74	1.02	47.39	13.61	37.98	4069	3957



SHIFT WISE ANALYSIS RESULTS OF SAMPLES of RAW COAL (TRUCK Mode) RECEIVED IN PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF JUNE, 2022 (01-15.06.2022)

Dated.07.07.2022

Certificate Reference No. &
Date

: CRT NO.: MUM-CRT-22-23-01412/RawCoalRecd./PEH/June, 2022

: JOB NO.: MUM-JB2223-000991

NAME OF COAL COMPANY

: BCCL (BHARAT COKING COAL LIMITED)

WASHERY

: PATHARDHI WASHERY

ANALYSIS LABORATORY

: M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/Unit No.	Date of Sampling	Shift (A,B,C)	Quantity In MT	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Raw COAL/ At BC-1	Geo/PEH/06/02	B.C - 1	Raw Coal Received	01.06.2022	B	3063.140	3.12	0.84	49.24	13.97	35.95	3876	3787
2	Raw COAL/ At BC-1	Geo/PEH/06/09	B.C - 1	Raw Coal Received	02.06.2022	A	4261.480	3.45	0.73	50.03	13.81	35.43	3719	3617
3	Raw COAL/ At BC-1	Geo/PEH/06/10	B.C - 1	Raw Coal Received	02.06.2022	B		4.42	1.19	48.86	14.23	35.72	3781	3657
4	Raw COAL/ At BC-1	Geo/PEH/06/17	B.C - 1	Raw Coal Received	02.06.2022	C		3.94	1.06	49.33	13.97	35.64	3743	3634
5	Raw COAL/ At BC-1	Geo/PEH/06/18	B.C - 1	Raw Coal Received	03.06.2022	A	3659.520	3.45	0.82	49.71	13.88	35.59	3694	3596
6	Raw COAL/ At BC-1	Geo/PEH/06/19	B.C - 1	Raw Coal Received	03.06.2022	B		4.03	0.98	50.19	13.51	35.32	3662	3549
7	Raw COAL/ At BC-1	Geo/PEH/06/26	B.C - 1	Raw Coal Received	03.06.2022	C		4.27	1.04	52.06	11.98	34.92	3587	3470
8	Raw COAL/ At BC-1	Geo/PEH/06/27	B.C - 1	Raw Coal Received	04.06.2022	A	2962.480	3.35	0.77	48.83	14.13	36.27	3849	3749
9	Raw COAL/ At BC-1	Geo/PEH/06/28	B.C - 1	Raw Coal Received	04.06.2022	B		3.11	0.69	49.16	13.96	36.19	3786	3694
10	Raw COAL/ At BC-1	Geo/PEH/06/32	B.C - 1	Raw Coal Received	04.06.2022	C		3.43	0.86	47.91	14.51	36.72	3994	3890
11	Raw COAL/ At BC-1	Geo/PEH/06/36	B.C - 1	Raw Coal Received	05.06.2022	A	2030.210	3.41	0.73	47.19	14.39	37.69	4066	3956
12	Raw COAL/ At BC-1	Geo/PEH/06/37	B.C - 1	Raw Coal Received	05.06.2022	B		3.23	0.87	47.08	14.68	37.37	4049	3953
13	Raw COAL/ At BC-1	Geo/PEH/06/44	B.C - 1	Raw Coal Received	05.06.2022	C		4.14	1.1	48.13	13.91	36.86	3944	3823
14	Raw COAL/ At BC-1	Geo/PEH/06/45	B.C - 1	Raw Coal Received	06.06.2022	A	3043.080	3.11	0.83	48.57	13.88	36.72	3931	3841
15	Raw COAL/ At BC-1	Geo/PEH/06/46	B.C - 1	Raw Coal Received	06.06.2022	B		2.91	0.75	49.19	13.53	36.53	3872	3788
16	Raw COAL/ At BC-1	Geo/PEH/06/50	B.C - 1	Raw Coal Received	06.06.2022	C		2.88	0.68	48.71	13.47	37.14	3946	3859



SHIFT WISE ANALYSIS RESULTS OF SAMPLES of RAW COAL (TRUCK Mode) RECEIVED IN PATHARDHI WASHERY, DRA. GEOCHEM (Third Party) DURING THE PERIOD OF MAY, 2022

Dated.07.06.2022

Certificate Reference No. & Date : CRT NO.: MUM-CRT-22-23-00921/RawCoalRecd./PEH/May, 2022
 : JOB NO.: MUM-JB2223-000657
 NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
 WASHERY : PATHARDHI WASHERY
 ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/Unit No.	Date of Sampling	Shift (A,B,C)	Quantity In MT	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Raw COAL/ At Hopper	Geo/PEH/05/01	HOPPER	NORTH TISRS (GROUND)	02.05.2022	A	52.420	3.13	0.44	47.68	13.41	38.47	4082	3972
2	Raw COAL/ At Hopper	Geo/PEH/05/07	HOPPER	NORTH TISRS (GROUND)	03.05.2022	B	70.580	3.22	0.93	49.28	12.73	37.06	3852	3763
3	Raw COAL/ At Hopper	Geo/PEH/05/10	HOPPER	NORTH TISRS (GROUND)	04.05.2022	A	564.310	3.54	0.81	47.7	13.15	38.34	4048	3937
4	Raw COAL/ At Hopper	Geo/PEH/05/12	HOPPER	NORTH TISRS (GROUND)	04.05.2022	B		3.05	0.69	48.25	12.98	38.08	3991	3896
5	Raw COAL/ At Hopper	Geo/PEH/05/20	HOPPER	NORTH TISRS (GROUND)	05.05.2022	A	630.000	3.48	0.81	49.26	13.01	36.92	3864	3760
6	Raw COAL/ At Hopper	Geo/PEH/05/22	HOPPER	NORTH TISRS (GROUND)	05.05.2022	B		3.13	0.72	49.78	12.73	36.77	3838	3745
7	Raw COAL/ At Hopper	Geo/PEH/05/24	HOPPER	NORTH TISRS (GROUND)	06.05.2022	A	331.760	3.39	0.51	49.59	13.09	36.81	3856	3744
8	Raw COAL/ At Hopper	Geo/PEH/05/26	HOPPER	NORTH TISRS (GROUND)	06.05.2022	B		3.73	0.79	50.36	12.69	36.16	3829	3716
9	Raw COAL/ At Hopper	Geo/PEH/05/32	HOPPER	NORTH TISRS (GROUND)	07.05.2022	B	279.850	3.64	0.86	49.05	13.09	37.00	3846	3738
10	Raw COAL/ At Hopper	Geo/PEH/05/41	HOPPER	NORTH TISRS (GROUND)	08.05.2022	A	415.980	3.88	0.81	50.13	13.46	35.6	3689	3575
11	Raw COAL/ At Hopper	Geo/PEH/05/46	HOPPER	NORTH TISRS (GROUND)	08.05.2022	B		3.73	0.75	48.98	13.83	36.44	3750	3637
12	Raw COAL/ At Hopper	Geo/PEH/05/51	HOPPER	NORTH TISRS (GROUND)	09.05.2022	A	331.930	3.22	0.61	50.14	12.87	36.38	3713	3615
13	Raw COAL/ At Hopper	Geo/PEH/05/54	HOPPER	NORTH TISRS (GROUND)	09.05.2022	B		2.97	0.47	49.71	13.12	36.7	3771	3676
14	Raw COAL/ At Hopper	Geo/PEH/05/75	HOPPER	NORTH TISRS (GROUND)	12.05.2022	B	230.130	3.85	0.66	49.27	13.78	36.29	3825	3702
15	Raw COAL/ At Hopper	Geo/PEH/05/81	HOPPER	NORTH TISRS (GROUND)	13.05.2022	A	559.460	3.39	0.48	51.21	12.59	35.72	3752	3642
16	Raw COAL/ At Hopper	Geo/PEH/05/85	HOPPER	NORTH TISRS (GROUND)	13.05.2022	B		3.33	0.57	50.75	12.78	35.9	3779	3674
17	Raw COAL/ At Hopper	Geo/PEH/05/92	HOPPER	NORTH TISRS (GROUND)	14.05.2022	A	284.020	3.29	0.57	50.24	13.41	35.78	3756	3653
18	Raw COAL/ At Hopper	Geo/PEH/05/97	HOPPER	NORTH TISRS (GROUND)	14.05.2022	B		3.32	0.61	48.82	14.05	36.52	3921	3814
19	Raw COAL/ At Hopper	Geo/PEH/05/105	HOPPER	NORTH TISRS (GROUND)	16.05.2022	A	53.500	3.65	0.75	49.54	13.8	35.91	3846	3734
20	Raw COAL/ At Hopper	Geo/PEH/05/106	HOPPER	NORTH TISRS (GROUND)	16.05.2022	B		3.46	0.69	49.17	14	36.14	3892	3783
21	Raw COAL/ At Hopper	Geo/PEH/05/115	HOPPER	NORTH TISRS (GROUND)	17.05.2022	B	33.690	3.53	0.43	50.1	13.86	35.61	3827	3708
Number of Samples Analyzed for RAW COAL RECEIVED (MAY, 2022)/ Average							3837.630	3.43	0.66	49.48	13.26	36.60	3844	3737



for GEO-CHEM LABORATORIES PVT LTD.

[Signature]

AUTHORISED SIGNATORY



SHIFT WISE ANALYSIS RESULTS OF SAMPLES of RAW COAL (TRUCK Mode) RECEIVED IN PATHARDHI DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF APRIL, 2022

Dated: 07/05/2022

Certificate Reference No. &
Date

NAME OF COAL COMPANY
WASHERY

ANALYSIS LABORATORY

: CRT NO.: MUM-CRT-22-23-00801/RawCoalRecd./PEH/April, 2022

: JOB NO.: MUM-JB2223-000585

: BCCL (BHARAT COKING COAL LIMITED)

: PATHARDHI WASHERY

: M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/Unit No.	Date of Sampling	Shift (A,B,C)	Quantity in MT	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Raw COAL/ At BC-1	Geo/PEH/04/01	B.C - 1	Raw Coal Received	01.04.2022	A	4871.070	3.41	0.62	48.51	12.34	38.53	3934	3824
2	Raw COAL/ At BC-1	Geo/PEH/04/02	B.C - 1	Raw Coal Received	01.04.2022	B		3.92	0.81	48.97	12.17	38.05	3861	3740
3	Raw COAL/ At BC-1	Geo/PEH/04/06	B.C - 1	Raw Coal Received	01.04.2022	C		3.45	0.56	49.23	12.39	37.82	3817	3706
4	Raw COAL/ At BC-1	Geo/PEH/04/10	B.C - 1	Raw Coal Received	02.04.2022	A	4562.440	4.03	0.94	49.56	12.03	37.47	3786	3668
5	Raw COAL/ At BC-1	Geo/PEH/04/11	B.C - 1	Raw Coal Received	02.04.2022	B		3.86	0.72	50.44	11.86	36.98	3760	3641
6	Raw COAL/ At BC-1	Geo/PEH/04/15	B.C - 1	Raw Coal Received	02.04.2022	C		4.15	0.85	48.75	12.25	38.15	3881	3752
7	Raw COAL/ At BC-1	Geo/PEH/04/19	B.C - 1	Raw Coal Received	04.04.2022	A	2686.110	4.23	0.65	49.04	12.84	37.47	3900	3759
8	Raw COAL/ At BC-1	Geo/PEH/04/20	B.C - 1	Raw Coal Received	04.04.2022	B		3.74	0.77	48.73	12.39	38.11	3948	3830
9	Raw COAL/ At BC-1	Geo/PEH/04/24	B.C - 1	Raw Coal Received	04.04.2022	C		3.64	0.43	49.56	12.76	37.25	3863	3738
10	Raw COAL/ At BC-1	Geo/PEH/04/28	B.C - 1	Raw Coal Received	05.04.2022	A	3764.600	4.04	0.48	48.32	12.55	38.65	3973	3831
11	Raw COAL/ At BC-1	Geo/PEH/04/30	B.C - 1	Raw Coal Received	05.04.2022	B		4.13	0.66	49.01	13.01	37.32	3884	3748
12	Raw COAL/ At BC-1	Geo/PEH/04/34	B.C - 1	Raw Coal Received	05.04.2022	C		4.31	0.83	48.73	12.41	38.03	3906	3769
13	Raw COAL/ At BC-1	Geo/PEH/04/38	B.C - 1	Raw Coal Received	06.04.2022	A	3147.300	3.64	0.60	49.27	12.99	37.14	3876	3757
14	Raw COAL/ At BC-1	Geo/PEH/04/40	B.C - 1	Raw Coal Received	06.04.2022	B		3.83	0.46	48.82	13.47	37.25	3942	3809
15	Raw COAL/ At BC-1	Geo/PEH/04/49	B.C - 1	Raw Coal Received	06.04.2022	C		3.88	0.71	49.56	12.94	36.79	3843	3720





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL) PRODUCED IN
PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF August'2022

Date: 14.09.2022

Certificate Reference

No. & Date

NAME OF COAL COMPANY

WASHERY

ANALYSIS LABORATORY

CRT NO.: MUM-CRT-22-23-02890/RawCoal.WASHED/PEH/August, 2022

JOB NO.: MUM-JB2223-001926

BCCL (BHARAT COKING COAL LIMITED)

PATHARDHI WASHERY

M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery / Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL	Geo/PEH/08/02	B.C - 15D	--	01.08.2022	A	255.000	8.23	0.87	20.26	17.91	60.96	6587	6098
2	Washed COAL	Geo/PEH/08/05	B.C - 15D	--	01.08.2022	B		8.99	1.08	19.43	18.33	61.16	6652	6120
3	Washed COAL	Geo/PEH/08/15	B.C - 15D	--	02.08.2022	C	220.000	6.75	0.79	18.62	18.47	62.12	6773	6366
4	Washed COAL	Geo/PEH/08/18	B.C - 15D	--	03.08.2022	A	665.000	8.34	0.88	18.47	18.5	62.15	6802	6290
5	Washed COAL	Geo/PEH/08/23	B.C - 15D	--	03.08.2022	B		8.81	1.05	19.45	18.17	61.33	6669	6146
6	Washed COAL	Geo/PEH/08/29	B.C - 15D	--	03.08.2022	C		7.31	0.87	20.13	17.85	61.15	6628	6197
7	Washed COAL	Geo/PEH/08/33	B.C - 15D	--	04.08.2022	B	660.000	8.08	0.88	21.07	17.47	60.58	6539	6064
8	Washed COAL	Geo/PEH/08/39	B.C - 15D	--	04.08.2022	C		7.25	0.85	20.62	17.51	61.02	6582	6157
9	Washed COAL	Geo/PEH/08/42	B.C - 15D	--	05.08.2022	A		8.76	1.04	20.47	17.28	61.21	6610	6094
10	Washed COAL	Geo/PEH/08/47	B.C - 15D	--	05.08.2022	B	630.000	6.94	0.72	21.25	17.60	60.43	6518	6110
11	Washed COAL	Geo/PEH/08/53	B.C - 15D	--	05.08.2022	C		7.73	0.74	20.61	17.55	61.10	6600	6135
12	Washed COAL	Geo/PEH/08/56	B.C - 15D	--	06.08.2022	A		8.39	1.25	19.17	17.97	61.61	6691	6207
13	Washed COAL	Geo/PEH/08/61	B.C - 15D	--	06.08.2022	B	310.000	8.82	1.33	18.56	18.13	61.98	6734	6223
14	Washed COAL	Geo/PEH/08/67	B.C - 15D	--	06.08.2022	C		7.55	0.96	17.88	18.62	62.54	6855	6399
15	Washed COAL	Geo/PEH/08/74	B.C - 15D	--	07.08.2022	B	395.000	6.56	0.72	21.12	17.91	60.25	6496	6114
16	Washed COAL	Geo/PEH/08/78	B.C - 15D	--	07.08.2022	C		8.35	1.01	20.37	18.02	60.60	6559	6073





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL) PRODUCE PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF JULY, 2022 (01-11.07.2022)

Dated.01.09.2022

Certificate Reference

: CRT NO.: MUM-CRT-22-23-03003/RawCoal.WASHED/PEH/July, 2022

No. & Date

: JOB NO.: MUM-JB2223-002037

NAME OF COAL COMPANY

: BCCL (BHARAT COKING COAL LIMITED)

WASHERY

: PATHARDHI WASHERY

ANALYSIS LABORATORY

: M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery / Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL	Geo/PEH/07/04	B.C - 15D	--	01.07.2022	B		8.72	1.24	18.71	18.54	61.51	6751	6240
2	Washed COAL	Geo/PEH/07/08	B.C - 15D	--	01.07.2022	C		8.67	1.06	19.14	18.42	61.38	6729	6211
3	Washed COAL	Geo/PEH/07/14	B.C - 15D	--	02.07.2022	C		8.35	0.97	18.99	17.91	62.13	6736	6234
4	Washed COAL	Geo/PEH/07/22	B.C - 15D	--	03.07.2022	B		8.43	1	19.51	17.87	61.62	6672	6171
5	Washed COAL	Geo/PEH/07/26	B.C - 15D	--	03.07.2022	C		8.94	1.24	18.77	18.06	61.93	6718	6194
6	Washed COAL	Geo/PEH/07/31	B.C - 15D	--	04.07.2022	B		8.31	1.19	18.59	17.89	62.33	6723	6239
7	Washed COAL	Geo/PEH/07/36	B.C - 15D	--	04.07.2022	C		7.37	0.87	18.11	18.19	62.83	6812	6365
8	Washed COAL	Geo/PEH/07/41	B.C - 15D	--	05.07.2022	B		8.76	1.09	19.54	17.47	61.90	6705	6185
9	Washed COAL	Geo/PEH/07/46	B.C - 15D	--	05.07.2022	C		8.55	0.86	20.07	17.33	61.74	6674	6156
10	Washed COAL	Geo/PEH/07/51	B.C - 15D	--	06.07.2022	B		9.41	1.09	19.58	18.16	61.17	6619	6062
11	Washed COAL	Geo/PEH/07/56	B.C - 15D	--	06.07.2022	C		8.35	0.85	20.15	17.98	61.02	6586	6088
12	Washed COAL	Geo/PEH/07/60	B.C - 15D	--	07.07.2022	A		8.97	0.97	20.87	17.43	60.73	6538	6010
13	Washed COAL	Geo/PEH/07/64	B.C - 15D	--	07.07.2022	B		8.54	0.78	19.66	18.19	61.37	6641	6122
14	Washed COAL	Geo/PEH/07/69	B.C - 15D	--	07.07.2022	C		8.64	0.82	18.02	19.1	62.06	6822	6284
15	Washed COAL	Geo/PEH/07/75	B.C - 15D	--	08.07.2022	A		9.45	1.03	18.52	18.78	61.67	6770	6194
16	Washed COAL	Geo/PEH/07/78	B.C - 15D	--	08.07.2022	B		8.93	0.92	18.9	18.67	61.51	6752	6206
17	Washed COAL	Geo/PEH/07/84	B.C - 15D	--	08.07.2022	C		8.73	0.87	19.27	18.49	61.37	6726	6193





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL) PRODUCED IN
PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF JUNE, 2022 (01-
15.06.2022)

Dated.07.07.2022

Certificate Reference : CRT NO.: MUM-CRT-22-23-01412/RawCoal.WASHED/PEH/June, 2022
No. & Date : JOB NO.: MUM-JB2223-000991
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL	Geo/PEH/06/03	B.C - 15D	--	01.06.2022	B	430.000	8.76	0.83	19.12	17.89	62.16	6715	6178
2	Washed COAL	Geo/PEH/06/06	B.C - 15D	--	01.06.2022	C		8.15	0.76	19.53	17.51	62.20	6660	6164
3	Washed COAL	Geo/PEH/06/11	B.C - 15D	--	02.06.2022	B	455.000	8.63	1.02	20.04	17.44	61.50	6488	5989
4	Washed COAL	Geo/PEH/06/14	B.C - 15D	--	02.06.2022	C		8.48	0.86	19.69	17.64	61.81	6564	6059
5	Washed COAL	Geo/PEH/06/20	B.C - 15D	--	03.06.2022	B	405.000	8.83	1.08	17.32	18.13	63.47	6863	6325
6	Washed COAL	Geo/PEH/06/23	B.C - 15D	--	03.06.2022	C		8.40	1.17	18.84	17.81	62.18	6639	6153
7	Washed COAL	Geo/PEH/06/29	B.C - 15D	--	04.06.2022	B	405.000	8.59	0.97	17.94	18.07	63.02	6817	6292
8	Washed COAL	Geo/PEH/06/33	B.C - 15D	--	04.06.2022	C		8.79	1.14	18.76	17.64	62.46	6704	6185
9	Washed COAL	Geo/PEH/06/38	B.C - 15D	--	05.06.2022	B	290.000	8.75	1.22	19.05	18.16	61.57	6625	6120
10	Washed COAL	Geo/PEH/06/41	B.C - 15D	--	05.06.2022	C		8.29	1.00	20.45	17.59	60.96	6548	6066
11	Washed COAL	Geo/PEH/06/47	B.C - 15D	--	06.06.2022	B	485.000	8.92	1.14	18.34	19.17	61.35	6746	6215
12	Washed COAL	Geo/PEH/06/51	B.C - 15D	--	06.06.2022	C		8.86	1.05	19.17	18.72	61.06	6682	6155
13	Washed COAL	Geo/PEH/06/55	B.C - 15D	--	07.06.2022	B	510.000	8.24	0.94	18.10	18.56	62.40	6753	6255
14	Washed COAL	Geo/PEH/06/59	B.C - 15D	--	07.06.2022	C		8.94	1.09	16.98	18.89	63.04	6897	6350
15	Washed COAL	Geo/PEH/06/65	B.C - 15D	--	08.06.2022	B	600.000	8.57	1.14	17.87	18.46	62.53	6742	6235
16	Washed COAL	Geo/PEH/06/69	B.C - 15D	--	08.06.2022	C		8.66	0.96	18.53	17.94	62.57	6695	6174





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL) PRODUCED
PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF MAY, 2022

Dated.07.06.2022

Certificate Reference : CRT NO.: MUM-CRT-22-23-00821/RawCoal.WASHED/PEH/May, 2022
No. & Date : JOB NO.: MUM-JB2223-000657
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL	Geo/PEH/05/02	B.C - 15D	--	02.05.2022	B	--	8.43	1.01	20.54	18.2	60.25	6563	6071
2	Washed COAL	Geo/PEH/05/13	B.C - 15D	--	04.05.2022	B	488.000	8.56	1.19	20.27	17.96	60.58	6548	6060
3	Washed COAL	Geo/PEH/05/16	B.C - 15D	--	04.05.2022	C		8.34	0.86	19.38	18.59	61.17	6719	6212
4	Washed COAL	Geo/PEH/05/28	B.C - 15D	--	06.05.2022	C	325.000	8.52	0.57	23.23	16.44	59.76	6388	5877
5	Washed COAL	Geo/PEH/05/33	B.C - 15D	--	07.05.2022	B	435.000	8.69	0.75	19.06	18.62	61.57	6721	6183
6	Washed COAL	Geo/PEH/05/36	B.C - 15D	--	07.05.2022	C		8.58	0.81	20.37	18.33	60.49	6584	6068
7	Washed COAL	Geo/PEH/05/42	B.C - 15D	--	08.05.2022	B	727.000	8.92	1.03	19.23	18.13	61.61	6677	6145
8	Washed COAL	Geo/PEH/05/47	B.C - 15D	--	08.05.2022	C		8.66	0.8	18.39	18.71	62.1	6781	6244
9	Washed COAL	Geo/PEH/05/68	B.C - 15D	--	10.05.2022	C	405.000	8.52	0.74	19.28	17.99	61.99	6705	6179
10	Washed COAL	Geo/PEH/05/60	B.C - 15D	--	11.05.2022	B	255.000	8.73	0.6	18.93	18.25	62.22	6771	6217
11	Washed COAL	Geo/PEH/05/64	B.C - 15D	--	11.05.2022	C		8.46	0.83	20.14	17.68	61.35	6623	6113
12	Washed COAL	Geo/PEH/05/71	B.C - 15D	--	12.05.2022	B	560.000	8.62	0.91	19.26	17.87	61.96	6691	6170
13	Washed COAL	Geo/PEH/05/76	B.C - 15D	--	12.05.2022	C		8.85	1.09	18.03	18.07	62.81	6807	6273
14	Washed COAL	Geo/PEH/05/82	B.C - 15D	--	13.05.2022	B	680.000	8.45	0.88	18.36	18	62.76	6795	6276
15	Washed COAL	Geo/PEH/05/88	B.C - 15D	--	13.05.2022	C		8.57	0.84	19.58	17.75	61.83	6654	6135
16	Washed COAL	Geo/PEH/05/94	B.C - 15D	--	14.05.2022	B	410.000	8.29	0.72	18.92	17.81	62.55	6736	6222
17	Washed COAL	Geo/PEH/05/99	B.C - 15D	--	14.05.2022	C		8.51	0.66	17.56	18.05	63.73	6893	6348





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL) PRODUCED IN
PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF APRIL, 2022

Dated.07.05.2022

Certificate Reference : CRT NO.: MUM-CRT-22-23-00801/RawCoal.WASHED/PEH/April,2022
No. & Date : JOB NO.: MUM-JB2223-000585
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL	Geo/PEH/04/03	B.C - 15D	--	01.04.2022	B	960.000	8.41	0.71	19.82	15.91	63.56	6626	6112
2	Washed COAL	Geo/PEH/04/07	B.C - 15D	--	01.04.2022	C		8.61	0.48	19.46	16.21	63.85	6672	6127
3	Washed COAL	Geo/PEH/04/12	B.C - 15D	--	02.04.2022	B	505.000	8.59	0.56	20.27	16.76	62.41	6573	6042
4	Washed COAL	Geo/PEH/04/16	B.C - 15D	--	02.04.2022	C		8.47	0.66	20.51	16.58	62.25	6550	6035
5	Washed COAL	Geo/PEH/04/21	B.C - 15D	--	04.04.2022	B	320.000	8.72	0.67	19.81	16.55	62.97	6690	6148
6	Washed COAL	Geo/PEH/04/25	B.C - 15D	--	04.04.2022	C		8.62	0.34	19.09	16.82	63.75	6813	6247
7	Washed COAL	Geo/PEH/04/31	B.C - 15D	--	05.04.2022	B	595.000	8.83	0.49	18.48	17.00	64.03	6883	6306
8	Washed COAL	Geo/PEH/04/35	B.C - 15D	--	05.04.2022	C		8.29	0.56	19.19	16.81	63.44	6774	6247
9	Washed COAL	Geo/PEH/04/42	B.C - 15D	--	06.04.2022	B	660.000	8.39	0.64	19.62	16.59	63.15	6691	6169
10	Washed COAL	Geo/PEH/04/45	B.C - 15D	--	06.04.2022	C		8.81	0.89	18.37	17.04	63.70	6803	6259
11	Washed COAL	Geo/PEH/04/52	B.C - 15D	--	07.04.2022	B	625.000	8.51	0.65	18.51	17.68	63.16	6814	6275
12	Washed COAL	Geo/PEH/04/58	B.C - 15D	--	07.04.2022	C		8.29	0.57	19.13	17.39	62.91	6751	6227
13	Washed COAL	Geo/PEH/04/66	B.C - 15D	--	08.04.2022	B	810.000	8.24	0.70	18.46	17.60	63.24	6829	6310
14	Washed COAL	Geo/PEH/04/70	B.C - 15D	--	08.04.2022	C		8.65	0.48	18.87	17.52	63.13	6774	6218
15	Washed COAL	Geo/PEH/04/78	B.C - 15D	--	09.04.2022	B	630.000	8.66	0.61	18.38	16.94	64.07	6823	6270
16	Washed COAL	Geo/PEH/04/81	B.C - 15D	--	09.04.2022	C		8.34	0.70	18.91	16.81	63.58	6755	6235





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL POWER) PRODUCTION PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF AUGUST'2022

Certificate Reference No.
& Date

: CRT NO.: MUM-CRT-22-23-02890/RawCoal.W.Power/PEH/August, 2022

Date.14.09.2022

NAME OF COAL COMPANY

: JOB NO.: MUM-JB2223-001926

WASHERY

: BCCL (BHARAT COKING COAL LIMITED)

ANALYSIS LABORATORY

: PATHARDHI WASHERY

: M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Power	Geo/PEH/08/03	B.C - 16C	-	01.08.2022	A	1255.000	7.26	0.79	43.66	15.57	39.98	4420	4132
2	Washed COAL Power	Geo/PEH/08/06	B.C - 16C	-	01.08.2022	B		7.88	0.94	43.12	15.36	40.58	4493	4178
3	Washed COAL Power	Geo/PEH/08/16	B.C - 16C	-	02.08.2022	C	1120.000	5.97	0.69	43.5	15.82	39.99	4448	4212
4	Washed COAL Power	Geo/PEH/08/19	B.C - 16C	-	03.08.2022	A	3340.250	7.65	1.01	42.79	16	40.20	4479	4179
5	Washed COAL Power	Geo/PEH/08/24	B.C - 16C	-	03.08.2022	B		6.51	0.92	43.06	15.94	40.08	4436	4186
6	Washed COAL Power	Geo/PEH/08/30	B.C - 16C	-	03.08.2022	C		6.19	0.83	42.50	16.18	40.49	4536	4291
7	Washed COAL Power	Geo/PEH/08/34	B.C - 16C	-	04.08.2022	B	3210.800	6.52	0.95	42.18	16.56	40.31	4484	4232
8	Washed COAL Power	Geo/PEH/08/40	B.C - 16C	-	04.08.2022	C		6.75	1.13	42.63	16.39	39.85	4429	4177
9	Washed COAL Power	Geo/PEH/08/43	B.C - 16C	-	05.08.2022	A	3483.360	5.55	0.84	43.52	15.94	39.70	4381	4173
10	Washed COAL Power	Geo/PEH/08/48	B.C - 16C	-	05.08.2022	B		6.65	0.96	43.38	15.82	39.84	4397	4144
11	Washed COAL Power	Geo/PEH/08/54	B.C - 16C	-	05.08.2022	C		7.46	1.17	42.81	16.26	39.76	4418	4137
12	Washed COAL Power	Geo/PEH/08/57	B.C - 16C	-	06.08.2022	A	2640.220	7.32	0.89	43.06	15.71	40.34	4458	4169
13	Washed COAL Power	Geo/PEH/08/62	B.C - 16C	-	06.08.2022	B		7.27	0.94	41.78	16.23	41.05	4568	4276
14	Washed COAL Power	Geo/PEH/08/68	B.C - 16C	-	06.08.2022	C		5.95	0.75	42.61	15.94	40.70	4497	4261
15	Washed COAL Power	Geo/PEH/08/75	B.C - 16C	-	07.08.2022	B	2450.000	6.35	0.81	42.77	15.61	40.81	4529	4276
16	Washed COAL Power	Geo/PEH/08/79	B.C - 16C	-	07.08.2022	C		6.93	0.90	43.63	15.49	39.98	4443	4173



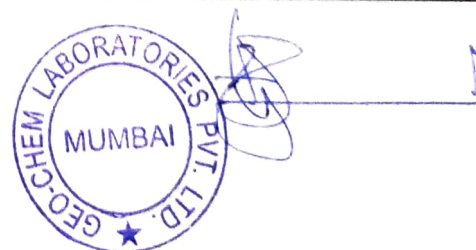


SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL POWER) PRODUCT PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF JULY, 2022 (12-31.07.2022)

Dated.01.09.2022

Certificate Reference No. : CRT NO.: MUM-CRT-22-23-03014/RawCoal.W.Power/PEH/July, 2022
& Date : JOB NO.: MUM-JB2223-002037
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Power	Geo/PEH/07/126	B.C - 16C	-	12.07.2022	A		7.82	0.84	41.00	15.01	43.15	4661	4333
2	Washed COAL Power	Geo/PEH/07/129	B.C - 16C	-	12.07.2022	B		5.67	0.67	42.41	14.83	42.09	4529	4301
3	Washed COAL Power	Geo/PEH/07/134	B.C - 16C	-	12.07.2022	C		7.89	0.85	41.90	15.02	42.23	4552	4229
4	Washed COAL Power	Geo/PEH/07/140	B.C - 16C	-	13.07.2022	A		7.18	1.06	42.24	14.70	42	4512	4233
5	Washed COAL Power	Geo/PEH/07/145	B.C - 16C	-	13.07.2022	B		5.29	0.78	42.81	14.63	41.78	4490	4286
6	Washed COAL Power	Geo/PEH/07/149	B.C - 16C	-	13.07.2022	C		5.96	0.83	41.86	15.11	42.2	4563	4327
7	Washed COAL Power	Geo/PEH/07/154	B.C - 16C	-	14.07.2022	B		7.79	1.11	41.77	14.11	43.01	4559	4251
8	Washed COAL Power	Geo/PEH/07/159	B.C - 16C	-	14.07.2022	C		6.88	0.85	42.39	13.90	42.86	4484	4211
9	Washed COAL Power	Geo/PEH/07/164	B.C - 16C	-	15.07.2022	A		7.60	0.83	42.12	14.08	42.97	4523	4214
10	Washed COAL Power	Geo/PEH/07/168	B.C - 16C	-	15.07.2022	B		6.99	0.78	42.27	14.37	42.58	4496	4215
11	Washed COAL Power	Geo/PEH/07/174	B.C - 16C	-	15.07.2022	C		6.94	0.73	42.06	14.19	43.02	4532	4248
12	Washed COAL Power	Geo/PEH/07/179	B.C - 16C	-	16.07.2022	A		7.61	0.94	41.86	14.41	42.79	4553	4246
13	Washed COAL Power	Geo/PEH/07/183	B.C - 16C	-	16.07.2022	B		6.64	0.69	42.32	14.8	42.19	4481	4213
14	Washed COAL Power	Geo/PEH/07/189	B.C - 16C	-	16.07.2022	C		6.84	0.88	41.83	14.47	42.82	4519	4247
15	Washed COAL Power	Geo/PEH/07/194	B.C - 16C	-	17.07.2022	B		7.19	1.01	42.06	14.96	41.97	4538	4255
16	Washed COAL Power	Geo/PEH/07/200	B.C - 16C	-	17.07.2022	C		6.53	0.71	41.71	15.34	42.24	4603	4333



SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL POWER) PRODUCE PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF JUNE, 2022 (G.C.) 15.06.2022)

Dated.07.07.2022

Certificate Reference No. : CRT NO.: MUM-CRT-22-23-01412/RawCoal.W.Power/PEH/June, 2022
& Date : JOB NO.: MUM-JB2223-000991
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Power	Geo/PEH/06/04	B.C - 16C	-	01.06.2022	B	1814.740	7.42	0.97	43.29	14.49	41.25	4361	4077
2	Washed COAL Power	Geo/PEH/06/07	B.C - 16C	-	01.06.2022	C		7.59	1.09	42.68	14.66	41.57	4443	4151
3	Washed COAL Power	Geo/PEH/06/12	B.C - 16C	-	02.06.2022	B	2298.180	7.34	0.92	43.21	14.15	41.72	4430	4143
4	Washed COAL Power	Geo/PEH/06/15	B.C - 16C	-	02.06.2022	C		7.65	1.1	42.5	14.47	41.93	4500	4202
5	Washed COAL Power	Geo/PEH/06/21	B.C - 16C	-	03.06.2022	B	1918.260	7.47	0.83	43.1	14.29	41.78	4456	4158
6	Washed COAL Power	Geo/PEH/06/24	B.C - 16C	-	03.06.2022	C		7.61	0.89	42.06	15.03	42.02	4517	4211
7	Washed COAL Power	Geo/PEH/06/30	B.C - 16C	-	04.06.2022	B	1841.050	7.48	0.83	43.87	14.76	40.54	4363	4070
8	Washed COAL Power	Geo/PEH/06/34	B.C - 16C	-	04.06.2022	C		7.88	1.04	43.34	14.51	41.11	4405	4101
9	Washed COAL Power	Geo/PEH/06/39	B.C - 16C	-	05.06.2022	B	1217.720	7.44	0.9	44.56	14.37	40.17	4210	3932
10	Washed COAL Power	Geo/PEH/06/42	B.C - 16C	-	05.06.2022	C		7.42	0.91	43.51	14.93	40.65	4284	4003
11	Washed COAL Power	Geo/PEH/06/48	B.C - 16C	-	06.06.2022	B	2474.130	7.73	1.06	42.76	15.56	40.62	4452	4152
12	Washed COAL Power	Geo/PEH/06/52	B.C - 16C	-	06.06.2022	C		7.39	0.95	43.01	16.24	39.8	4439	4150
13	Washed COAL Power	Geo/PEH/06/56	B.C - 16C	-	07.06.2022	B	2296.360	7.52	1.04	43.45	15.21	40.3	4372	4086
14	Washed COAL Power	Geo/PEH/06/62	B.C - 16C	-	07.06.2022	C		7.41	0.83	42.93	15.54	40.7	4439	4144
15	Washed COAL Power	Geo/PEH/06/66	B.C - 16C	-	08.06.2022	B	2722.060	7.67	1.1	42.67	16.17	40.06	4416	4123
16	Washed COAL Power	Geo/PEH/06/70	B.C - 16C	-	08.06.2022	C		6.18	0.76	43.29	15.98	39.97	4393	4153



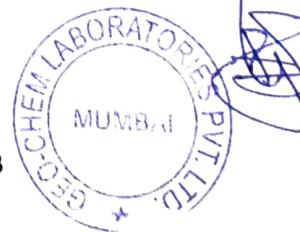


SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL POWER) PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF MAY, 2022

Dated.07.06.2022

Certificate Reference No. : CRT NO.: MUM-CRT-22-23-00921/RawCoal.W.Power/PEH/May, 2022
 & Date : JOB NO.: MUM-JB2223-000657
 NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
 WASHERY : PATHARDHI WASHERY
 ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Power	Geo/PEH/05/03	B.C - 16C	-	02.05.2022	B	--	6.22	0.81	43.94	14.30	40.95	4354	4117
2	Washed COAL Power	Geo/PEH/05/14	B.C - 16C	-	04.05.2022	B	2469.700	7.25	0.90	45.09	14.21	39.80	4259	3986
3	Washed COAL Power	Geo/PEH/05/17	B.C - 16C	-	04.05.2022	C		7.64	1.13	44.61	14.34	39.92	4271	3990
4	Washed COAL Power	Geo/PEH/05/29	B.C - 16C	-	06.05.2022	C	1767.350	7.47	0.32	43.49	15.12	41.07	4464	4144
5	Washed COAL Power	Geo/PEH/05/34	B.C - 16C	-	07.05.2022	B	2264.810	9.54	0.68	42.98	15.16	41.18	4471	4072
6	Washed COAL Power	Geo/PEH/05/37	B.C - 16C	-	07.05.2022	C		7.89	0.56	43.56	14.93	40.95	4435	4108
7	Washed COAL Power	Geo/PEH/05/43	B.C - 16C	-	08.05.2022	B	3141.920	7.75	0.90	43.19	15.52	40.39	4418	4113
8	Washed COAL Power	Geo/PEH/05/48	B.C - 16C	-	08.05.2022	C		7.03	0.76	42.75	15.73	40.76	4503	4218
9	Washed COAL Power	Geo/PEH/05/69	B.C - 16C	-	10.05.2022	C	2028.200	7.53	0.89	42.21	14.96	41.94	4526	4223
10	Washed COAL Power	Geo/PEH/05/61	B.C - 16C	-	11.05.2022	B	1302.800	7.74	0.96	42.73	15.03	41.28	4453	4148
11	Washed COAL Power	Geo/PEH/05/65	B.C - 16C	-	11.05.2022	C		7.18	0.58	43.52	15.29	40.61	4416	4123
12	Washed COAL Power	Geo/PEH/05/72	B.C - 16C	-	12.05.2022	B	3004.760	7.99	0.82	43.13	15.24	40.81	4432	4112
13	Washed COAL Power	Geo/PEH/05/77	B.C - 16C	-	12.05.2022	C		7.63	0.73	42.69	15.39	41.19	4492	4180
14	Washed COAL Power	Geo/PEH/05/83	B.C - 16C	-	13.05.2022	B	3278.160	7.83	0.86	42.38	14.51	42.25	4516	4199
15	Washed COAL Power	Geo/PEH/05/89	B.C - 16C	-	13.05.2022	C		7.47	0.67	42.85	15.39	41.09	4471	4165
16	Washed COAL Power	Geo/PEH/05/95	B.C - 16C	-	14.05.2022	B	1848.940	7.25	0.52	42.54	15.65	41.29	4535	4228
17	Washed COAL Power	Geo/PEH/05/100	B.C - 16C	-	14.05.2022	C		7.47	0.44	43.06	15.37	41.13	4481	4165





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Product (WASHED COAL POWER) PRODUCTION
PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF APRIL, 2022

Dated.07.05.2022

Certificate Reference No. : CRT NO.: MUM-CRT-22-23-00801/RawCoal.W.Power/PEH/April, 2022
& Date : JOB NO.: MUM-JB2223-000585
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling/ Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Power	Geo/PEH/04/04	B.C - 16C	-	01.04.2022	B	4822.310	7.55	0.67	42.97	13.39	42.97	4441	4133
2	Washed COAL Power	Geo/PEH/04/08	B.C - 16C	-	01.04.2022	C		7.65	0.72	42.36	13.70	43.22	4502	4188
3	Washed COAL Power	Geo/PEH/04/13	B.C - 16C	-	02.04.2022	B	2478.780	7.58	0.81	43.24	13.16	42.79	4379	4080
4	Washed COAL Power	Geo/PEH/04/17	B.C - 16C	-	02.04.2022	C		7.72	0.59	41.95	14.08	43.38	4547	4221
5	Washed COAL Power	Geo/PEH/04/22	B.C - 16C	-	04.04.2022	B	1326.590	7.12	0.56	42.63	13.68	43.13	4523	4225
6	Washed COAL Power	Geo/PEH/04/26	B.C - 16C	-	04.04.2022	C		7.26	0.62	42.91	13.55	42.92	4460	4162
7	Washed COAL Power	Geo/PEH/04/32	B.C - 16C	-	05.04.2022	B	2854.800	7.81	0.77	42.29	13.91	43.03	4497	4178
8	Washed COAL Power	Geo/PEH/04/36	B.C - 16C	-	05.04.2022	C		7.69	0.63	41.50	14.10	43.77	4583	4257
9	Washed COAL Power	Geo/PEH/04/43	B.C - 16C	-	06.04.2022	B	2963.920	7.65	0.51	42.15	13.94	43.40	4541	4215
10	Washed COAL Power	Geo/PEH/04/46	B.C - 16C	-	06.04.2022	C		7.71	0.74	42.89	13.46	42.91	4459	4146
11	Washed COAL Power	Geo/PEH/04/53	B.C - 16C	-	07.04.2022	B	3414.920	7.47	0.83	40.38	14.90	43.89	4681	4368
12	Washed COAL Power	Geo/PEH/04/59	B.C - 16C	-	07.04.2022	C		7.23	0.78	39.76	15.29	44.17	4749	4440
13	Washed COAL Power	Geo/PEH/04/67	B.C - 16C	-	08.04.2022	B	3738.780	7.42	0.79	41.04	14.65	43.52	4627	4318
14	Washed COAL Power	Geo/PEH/04/71	B.C - 16C	-	08.04.2022	C		7.60	0.86	41.51	14.39	43.24	4544	4235





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Products (WASHED COAL REJECTS) PRODUCED IN PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF AUGUST, 2022

Certificate Reference No.

: CRT NO.: MUM-CRT-22-23-02890/RawCoal. Reject /PEH/August, 2022

Date: 14.09.2022

& Date

: JOB NO.: MUM-JB2223-001926

NAME OF COAL COMPANY

: BCCL (BHARAT COKING COAL LIMITED)

WASHERY

: PATHARDHI WASHERY

ANALYSIS LABORATORY

: M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Rejects	Geo/PEH/08/04	B.C - 14	-	01.08.2022	A	668.440	7.52	0.91	68.71	10.75	19.63	1818	1697
2	Washed COAL Rejects	Geo/PEH/08/07	B.C - 14	-	01.08.2022	B		7.95	0.80	67.76	11.14	20.30	1903	1766
3	Washed COAL Rejects	Geo/PEH/08/17	B.C - 14	-	02.08.2022	C	585.670	6.52	0.84	68.4	12.06	18.70	1789	1687
4	Washed COAL Rejects	Geo/PEH/08/20	B.C - 14	-	03.08.2022	A	1780.720	7.74	1.16	69.13	11.49	18.22	1710	1596
5	Washed COAL Rejects	Geo/PEH/08/25	B.C - 14	-	03.08.2022	B		7.15	1.01	69.58	11.36	18.05	1678	1574
6	Washed COAL Rejects	Geo/PEH/08/31	B.C - 14	-	03.08.2022	C		6.78	0.76	70.14	11.24	17.86	1651	1551
7	Washed COAL Rejects	Geo/PEH/08/35	B.C - 14	-	04.08.2022	B	1497.280	7.89	1.09	67.28	12.29	19.34	1945	1811
8	Washed COAL Rejects	Geo/PEH/08/41	B.C - 14	-	04.08.2022	C		6.23	0.77	66.93	12.46	19.84	1982	1873
9	Washed COAL Rejects	Geo/PEH/08/44	B.C - 14	-	05.08.2022	A	1556.640	6.67	0.94	68.04	11.79	19.23	1860	1752
10	Washed COAL Rejects	Geo/PEH/08/49	B.C - 14	-	05.08.2022	B		9.87	1.26	66.87	12.50	19.37	1956	1785
11	Washed COAL Rejects	Geo/PEH/08/55	B.C - 14	-	05.08.2022	C		7.87	1.03	67.66	11.63	19.68	1885	1755
12	Washed COAL Rejects	Geo/PEH/08/58	B.C - 14	-	06.08.2022	A	1002.280	9.76	1.23	69.1	10.92	18.75	1683	1538
13	Washed COAL Rejects	Geo/PEH/08/63	B.C - 14	-	06.08.2022	B		8.97	1.34	68.52	11.27	18.87	1726	1593
14	Washed COAL Rejects	Geo/PEH/08/69	B.C - 14	-	06.08.2022	C		6.55	0.81	67.18	12.34	19.67	1898	1788
15	Washed COAL Rejects	Geo/PEH/08/76	B.C - 14	-	07.08.2022	B	994.500	6.12	0.88	69.85	11.20	18.07	1631	1545
16	Washed COAL Rejects	Geo/PEH/08/80	B.C - 14	-	07.08.2022	C		7.28	1.13	68.61	11.54	18.72	1724	1617





**SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Products (WASHED COAL REJECTS) PRODUCED
IN PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF JULY, 2022 (01-
11.07.2022)**

Dated.01.09.2022

Certificate Reference No. : CRT NO.: MUM-CRT-22-23-03003/RawCoal. Reject /PEH/July, 2022
& Date : JOB NO.: MUM-JB2223-002037
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Rejects	Geo/PEH/06/06	B.C - 14	-	01.07.2022	B		8.95	1.06	69.49	13.14	16.31	1654	1522
2	Washed COAL Rejects	Geo/PEH/06/10	B.C - 14	-	01.07.2022	C		8.42	0.92	70.68	12.62	15.78	1561	1443
3	Washed COAL Rejects	Geo/PEH/07/16	B.C - 14	-	02.07.2022	C		7.94	0.88	71.34	12.41	15.37	1543	1433
4	Washed COAL Rejects	Geo/PEH/07/24	B.C - 14	-	03.07.2022	B		8.38	0.93	65.31	14.23	19.53	2160	1998
5	Washed COAL Rejects	Geo/PEH/07/28	B.C - 14	-	03.07.2022	C		6.32	0.61	69.55	13.18	16.66	1794	1691
6	Washed COAL Rejects	Geo/PEH/07/33	B.C - 14	-	04.07.2022	B		8.33	1.05	68.94	13.56	16.45	1708	1582
7	Washed COAL Rejects	Geo/PEH/07/38	B.C - 14	-	04.07.2022	C		7.91	0.89	70.18	12.94	15.99	1610	1496
8	Washed COAL Rejects	Geo/PEH/07/43	B.C - 14	-	05.07.2022	B		8.33	1.07	65.5	14.05	19.38	2178	2018
9	Washed COAL Rejects	Geo/PEH/07/48	B.C - 14	-	05.07.2022	C		7.12	0.76	67.81	13.18	18.25	1986	1859
10	Washed COAL Rejects	Geo/PEH/07/53	B.C - 14	-	06.07.2022	B		8.88	1.14	69.86	13.46	15.54	1650	1521
11	Washed COAL Rejects	Geo/PEH/07/58	B.C - 14	-	06.07.2022	C		6.76	0.68	71.91	12.9	14.51	1538	1444
12	Washed COAL Rejects	Geo/PEH/07/62	B.C - 14	-	07.07.2022	A		7.86	0.88	71.08	12.44	15.60	1607	1494
13	Washed COAL Rejects	Geo/PEH/07/66	B.C - 14	-	07.07.2022	B		7.68	0.81	66.93	13.51	18.75	1940	1806
14	Washed COAL Rejects	Geo/PEH/07/71	B.C - 14	-	07.07.2022	C		7.28	0.67	70.14	12.9	16.29	1639	1530
15	Washed COAL Rejects	Geo/PEH/07/77	B.C - 14	-	08.07.2022	A		7.53	0.79	69.4	13.16	16.65	1692	1577
16	Washed COAL Rejects	Geo/PEH/07/80	B.C - 14	-	08.07.2022	B		8.56	0.9	67.23	13.41	18.46	1923	1774
17	Washed COAL Rejects	Geo/PEH/07/86	B.C - 14	-	08.07.2022	C		7.93	0.86	68.75	13.34	17.05	1745	1621





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Products (WASHED COAL REJECTS) PRODUCED
IN PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF JUNE, 2022 (01-
15.06.2022)

Dated.07.07.2022

Certificate Reference No. : CRT NO.: MUM-CRT-22-23-01412/RawCoal. Reject /PEH/June, 2022
& Date : JOB NO.: MUM-JB2223-000991
NAME OF COAL COMPANY : BCCL (BHARAT COKING COAL LIMITED)
WASHERY : PATHARDHI WASHERY
ANALYSIS LABORATORY : M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Rejects	Geo/PEH/06/05	B.C - 14	-	01.06.2022	B	915.760	8.47	1.28	69.80	11.38	17.54	1531	1419
2	Washed COAL Rejects	Geo/PEH/06/08	B.C - 14	-	01.06.2022	C		7.82	1.13	70.93	10.97	16.97	1465	1366
3	Washed COAL Rejects	Geo/PEH/06/13	B.C - 14	-	02.06.2022	B	995.500	7.81	0.84	71.68	10.83	16.65	1375	1278
4	Washed COAL Rejects	Geo/PEH/06/16	B.C - 14	-	02.06.2022	C		8.26	0.97	69.13	12.24	17.66	1514	1403
5	Washed COAL Rejects	Geo/PEH/06/22	B.C - 14	-	03.06.2022	B	958.980	8.66	1.09	68.56	12.54	17.81	1609	1486
6	Washed COAL Rejects	Geo/PEH/06/25	B.C - 14	-	03.06.2022	C		8.38	1.05	70.82	11.19	16.94	1411	1306
7	Washed COAL Rejects	Geo/PEH/06/31	B.C - 14	-	04.06.2022	B	1026.290	8.73	1.14	66.92	13.02	18.92	1746	1612
8	Washed COAL Rejects	Geo/PEH/06/35	B.C - 14	-	04.06.2022	C		8.09	0.91	69.73	12.11	17.25	1511	1402
9	Washed COAL Rejects	Geo/PEH/06/40	B.C - 14	-	05.06.2022	B	806.900	7.78	1.17	70.74	11.87	16.22	1437	1341
10	Washed COAL Rejects	Geo/PEH/06/43	B.C - 14	-	05.06.2022	C		7.69	0.84	69.66	12.92	16.58	1516	1411
11	Washed COAL Rejects	Geo/PEH/06/49	B.C - 14	-	06.06.2022	B	946.820	8.03	1.09	69.27	13.24	16.40	1485	1381
12	Washed COAL Rejects	Geo/PEH/06/53	B.C - 14	-	06.06.2022	C		7.63	0.91	70.46	12.7	15.93	1396	1301
13	Washed COAL Rejects	Geo/PEH/06/57	B.C - 14	-	07.06.2022	B	1312.040	8.79	1.17	68.73	13.41	16.69	1709	1577
14	Washed COAL Rejects	Geo/PEH/06/61	B.C - 14	-	07.06.2022	C		8.47	0.94	69.19	13.33	16.54	1674	1547
15	Washed COAL Rejects	Geo/PEH/06/67	B.C - 14	-	08.06.2022	B	1493.350	6.60	0.88	70.24	12.94	15.94	1619	1526
16	Washed COAL Rejects	Geo/PEH/06/71	B.C - 14	-	08.06.2022	C		7.66	1.16	68.67	13.62	16.55	1745	1630





SHEET WISE ANALYSIS RESULTS OF SAMPLES of Washery Products (WASHED COAL REJECTS) PRODUCED IN PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party), DURING THE MONTH OF MAY, 2022

Certificate Reference No.

: CRT NO.: MUM-CRT-22-23-00921/RawCoal. Reject /PEH/May, 2022

Dated.07.06.2022

& Date

: JOB NO.: MUM-JB2223-000657

NAME OF COAL COMPANY

: BCCL (BHARAT COKING COAL LIMITED)

WASHERY

: PATHARDHI WASHERY

ANALYSIS LABORATORY

: M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery/ Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Rejects	Geo/PEH/05/04	B.C - 14	-	02.05.2022	B	1046.300	7.74	0.87	69.16	10.85	19.12	1649	1535
2	Washed COAL Rejects	Geo/PEH/05/15	B.C - 14	-	04.05.2022	B		8.38	1.09	73.25	9.93	15.73	1370	1269
3	Washed COAL Rejects	Geo/PEH/05/18	B.C - 14	-	04.05.2022	C		8.21	0.95	71.06	10.79	17.2	1598	1481
4	Washed COAL Rejects	Geo/PEH/05/30	B.C - 14	-	06.05.2022	C	616.850	7.92	0.49	70.82	11.62	17.07	1541	1426
5	Washed COAL Rejects	Geo/PEH/05/35	B.C - 14	-	07.05.2022	B	898.590	9.54	1.03	69.85	11.25	17.87	1605	1467
6	Washed COAL Rejects	Geo/PEH/05/38	B.C - 14	-	07.05.2022	C		8.76	0.86	72.41	10.13	16.6	1347	1240
7	Washed COAL Rejects	Geo/PEH/05/44	B.C - 14	-	08.05.2022	B	2111.080	8.28	0.73	74.05	9.86	15.36	1197	1106
8	Washed COAL Rejects	Geo/PEH/05/49	B.C - 14	-	08.05.2022	C		8.87	1.06	71.36	10.21	17.37	1562	1439
9	Washed COAL Rejects	Geo/PEH/05/70	B.C - 14	-	10.05.2022	C	915.600	8.36	0.78	71.46	10.36	17.40	1521	1405
10	Washed COAL Rejects	Geo/PEH/05/62	B.C - 14	-	11.05.2022	B	532.600	8.90	0.93	70.91	10.5	17.66	1585	1457
11	Washed COAL Rejects	Geo/PEH/05/66	B.C - 14	-	11.05.2022	C		9.46	1.12	72.86	9.57	16.45	1366	1251
12	Washed COAL Rejects	Geo/PEH/05/73	B.C - 14	-	12.05.2022	B	1125.640	9.14	1.03	71.46	10.58	16.93	1430	1313
13	Washed COAL Rejects	Geo/PEH/05/78	B.C - 14	-	12.05.2022	C		9.13	0.84	70.85	10.93	17.38	1557	1427
14	Washed COAL Rejects	Geo/PEH/05/84	B.C - 14	-	13.05.2022	B	1605.840	8.95	0.68	68.94	12.10	18.28	1768	1621
15	Washed COAL Rejects	Geo/PEH/05/90	B.C - 14	-	13.05.2022	C		8.87	0.71	71.14	11.02	17.13	1482	1360
16	Washed COAL Rejects	Geo/PEH/05/96	B.C - 14	-	14.05.2022	B	1079.460	7.69	0.63	73.10	11.29	14.98	1395	1296
17	Washed COAL Rejects	Geo/PEH/05/101	B.C - 14	-	14.05.2022	C		7.92	0.72	67.39	12.25	19.64	1904	1766





SHIFT WISE ANALYSIS RESULTS OF SAMPLES of Washery Products (WASHED COAL REJECTS) PRODUCED IN
PATHARDHI WASHERY, DRAWN BY GEOCHEM (Third Party) DURING THE PERIOD OF APRIL, 2022

Dated: 07.05.2022

Certificate Reference No.

: CRT NO.: MUM-CRT-22-23-00801/RawCoal. Reject /PEH/April,2022

& Date

: JOB NO.: MUM-JB2223-000585

NAME OF COAL COMPANY

: BCCL (BHARAT COKING COAL LIMITED)

WASHERY

: PATHARDHI WASHERY

ANALYSIS LABORATORY

: M/s. GeoChem Laboratories Pvt Ltd.

Sl. No.	Coal Type	Sample Code	Sampling / Washery Point	Source / Colliery / Unit No.	Date of Sampling	Shift (A,B,C)	Quantity (MT)	Analysis Result						
								TM% (ARB)	Moisture % (ADB)	ASH % (ADB)	VM % (ADB)	FC % (ADB)	GCV (ADB) / (Kcal.Kg.)	GCV (ARB) / (Kcal.Kg.)
1	Washed COAL Rejects	Geo/PEH/04/05	B.C - 14	-	01.04.2022	B	2051.980	8.64	0.77	71.24	11.84	16.15	1607	1480
2	Washed COAL Rejects	Geo/PEH/04/09	B.C - 14	-	01.04.2022	C		8.34	0.68	68.00	10.86	20.46	1905	1758
3	Washed COAL Rejects	Geo/PEH/04/14	B.C - 14	-	02.04.2022	B	1237.670	8.39	0.64	69.02	10.50	19.84	1834	1691
4	Washed COAL Rejects	Geo/PEH/04/18	B.C - 14	-	02.04.2022	C		9.09	0.95	70.53	12.09	16.43	1651	1515
5	Washed COAL Rejects	Geo/PEH/04/23	B.C - 14	-	04.04.2022	B	694.260	8.84	1.13	72.41	9.83	16.63	1504	1387
6	Washed COAL Rejects	Geo/PEH/04/27	B.C - 14	-	04.04.2022	C		8.15	0.41	70.87	10.58	18.14	1752	1616
7	Washed COAL Rejects	Geo/PEH/04/33	B.C - 14	-	05.04.2022	B	1168.430	8.21	0.69	72.41	10.86	16.04	1581	1461
8	Washed COAL Rejects	Geo/PEH/04/37	B.C - 14	-	05.04.2022	C		8.73	0.56	70.78	10.59	18.07	1784	1637
9	Washed COAL Rejects	Geo/PEH/04/44	B.C - 14	-	06.04.2022	B	1617.480	8.12	0.81	69.53	11.04	18.62	1849	1713
10	Washed COAL Rejects	Geo/PEH/04/47	B.C - 14	-	06.04.2022	C		7.96	0.65	67.24	11.48	20.63	1972	1827
11	Washed COAL Rejects	Geo/PEH/04/54	B.C - 14	-	07.04.2022	B	1670.140	7.92	0.73	69.83	11.93	17.51	1752	1625
12	Washed COAL Rejects	Geo/PEH/04/60	B.C - 14	-	07.04.2022	C		7.69	0.81	71.19	11.24	16.76	1436	1336
13	Washed COAL Rejects	Geo/PEH/04/68	B.C - 14	-	08.04.2022	B	1904.670	7.63	0.73	72.26	10.93	16.08	1359	1265
14	Washed COAL Rejects	Geo/PEH/04/72	B.C - 14	-	08.04.2022	C		8.03	0.69	70.81	11.60	16.90	1492	1382
15	Washed COAL Rejects	Geo/PEH/04/80	B.C - 14	-	09.04.2022	B	1663.920	8.21	0.70	70.70	11.43	17.17	1534	1418
16	Washed COAL Rejects	Geo/PEH/04/83	B.C - 14	-	09.04.2022	C		7.88	0.65	72.03	10.96	16.36	1417	1314



ENVIRONMENTAL STATEMENT (FORM-V)

Environmental Statement for the financial year 2021-22 ended on 31st March 2022.

PART-A

i. Name and address of the owner/occupier of the industry Operation or process

Name: Sri Sanjay Kumar Singh

Designation: Director (Technical) / Operations

Address: Koyla Bhawan, Koyla Nagar, BCCL Township, Dhanbad- 826005

Industry Category - Primary (ORANGE Category)

ii. **Production Capacity** – 5.0 MTPA (Peak Production Capacity) as per EC
Granted to 5.0- MTPA Patherdih NLW Coal Washery by MoEF&CC.

iii. **Year of establishment** – 2020 (Year of Commissioning)

iv. **Date of the last Environmental Statement submitted**- 10.09.2021

PART –B

Water and Raw Material Consumption

I (A) Water Consumption (In m³/d): 235.33 m³/day

Name of Products	Water Consumption (M ³ /day)	
	Washing Operation	Domestic Supply
Washed Coal	28.24 m ³ /day	NIL
Washed Power Coal	140.2 m ³ /day	
Rejects	67.6 m ³ /day	

I (B) Process Water Consumption per unit of Product Output:

Name of Products	During the previous financial year (2020-21)	During the current financial year (2021-22)
Washed Coal	48 m ³ /te	48 m ³ /te
Washed Power Coal	9.6 m ³ /te	9.6 m ³ /te
Rejects	22.4 m ³ /te	22.4 m ³ /te

II Raw Material Consumption:

Name of Raw Materials	Name of Products	Consumption of raw material per unit of output	
		During the previous financial year	During the current financial year

ENVIRONMENTAL STATEMENT (FORM-V)Environmental Statement for the financial year 2021-22 ended on 31st March 20

Raw Coal	Washed Coal	120 Tonnes/Te	120 Tonnes/Te
Raw Coal	Washed Power Coal	620 Tonnes/Te	620 Tonnes/Te
Raw Coal	Rejects	280 Tonnes/Te	280 Tonnes/Te

PART-C**Pollution Discharged to Environment/Unit of Output**
(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.
(a) Water	Washery operates under Zero Liquid Discharge.		
(b) Air	Monitoring Reports attached.		
(c) Noise	Monitoring Reports attached.		

Note: Routine Environmental Monitoring is being done by Central Mine Planning and Design Institute Limited.**PART-D****HAZARDOUS WASTES**

As specified under Hazardous Wastes (Management & Handling Rules, 2016).

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year (2020-21)	During the current financial year (2021-22)
I. From Process:		
Burnt Oil (Used/Spent Oil)	NIL	900 Ltr
2. From Pollution Control Facilities	NIL	NIL

**PART-E
SOLID WASTES**

Solid Wastes	Total Quantity (Kg)	
	During the previous financial year (2020-21)	During the current financial year (2021-22)
a. From process	NIL	NIL
b. From Pollution Control Facility	NIL	NIL
c. Quantity recycled or re-utilized within the unit.	NIL	NIL

PART – F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

As already mentioned in Part D of this statement, Burnt Oil (Spent Oil/Used Oil) is being generated from Operation and Maintenance of Washery. Burnt oil is disposed off to a Disposal Facility through E- auction on MSTC Portal, a Govt. Of India Undertaking.

PART-G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

In order to carry out washery operations in ecofriendly manner the following pollution control measures have been adopted:

- Water sprinkling is being done on coal transportation road by mobile water tanker.
- Regular sprinkling of water at coal transfer and loading points as well as other dusty areas.
- Regular maintenance of plant machinery engaged in coal washing and other machines at washery is done.
- Safety equipment such as safety helmets, ear muffs, etc. are to be provided to operators and others who are exposed to high level noise.
- In addition to that, plantation is being done in undisturbed area/ transportation roads etc.

ENVIRONMENTAL STATEMENT (FORM-V)

Environmental Statement for the financial year 2021-22 ended on 31st March 20

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution.

- Ambient Environmental Monitoring will be continued as per the guidelines of MoEF&CC and Jharkhand State Pollution Control Board.
- Application for consent for emission/continuation of emission under section 21 of the Air (prevention and control of pollution) Act, 1981 and Application for consent for discharge Continuation of discharge under section 25/26 of Water (Prevention and Control of Pollution) Act, 1974 will be regularly done and Conditions laid down in Consent to Operate granted by JSPCB will be strictly followed.
- Continuous Monitoring online PM₁₀ analyzer has been installed in the washery and also linked to the JSPCB Servers.
- The Conveyor Belts carrying the Raw Coal are installed with fixed sprinkling arrangements.

PART –I

MISCELLANEOUS:

Any other particulars in respect of environmental protection and abatement of pollution.

- Water sprinkling is being done on coal transportation road by mobile sprinkler or truck mounted fog cannon.
- Avenue plantation has been done along the approach roads and internal roads of the washery.
- Plantation has been done along the boundary of the Slurry Ponds of the washery.
- A Sneh Smriti Upvan has also been developed in the washery with native species.


13/09/2022
Project Officer
5.0 MTPA Patherdih NLW Washery


STRICTLY RESTRICTED**FOR COMPANY USE ONLY RESTRICTED**

The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL /GOVERNMENT.

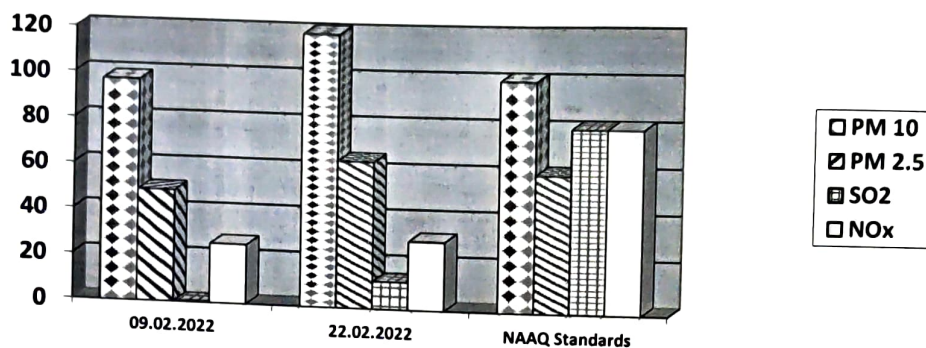
**ENVIRONMENTAL MONITORING REPORT
OF
BHARAT COKING COAL LIMITED,
FOR MISCELLANEOUS UNITS/WASHERIES
(FOR THE MONTH FEBRUARY, 2022)**



CMPDI

ISO 9001 Company
Regional Institute-II
Dhanbad, Jharkhand

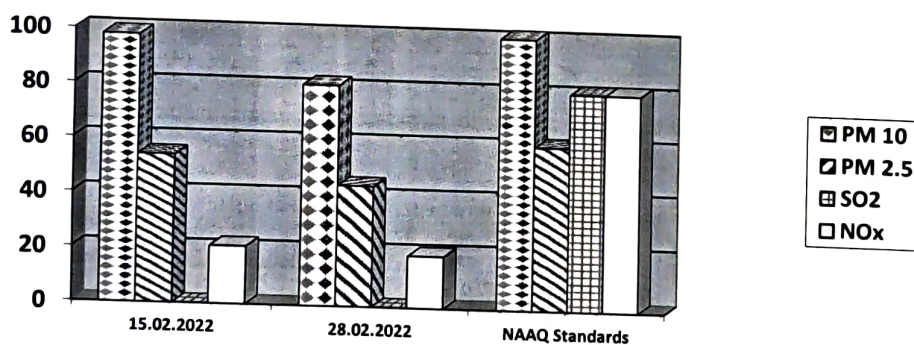
Station Name: A39Patherdih		Zone: Core		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO ₂	NO _x
1	09.02.2022	97	49	<10	26
2	22.02.2022	119	64	12	30
	NAAQ Standards	100	60	80	80



All values are expressed in microgram per cubic meter.

Station Name: A40 Koylanagar		Zone: Buffer		Category: Residential	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO ₂	NO _x
1	15.02.2022	98	54	<10	21
2	28.02.2022	81	44	<10	19
	NAAQ Standards	100	60	80	80

➤ 24 hours duration



All values are expressed in microgram per cubic meter.
➤ 24 hours duration

अनुमति राखुन
Analysed By
JSA/SA/SSA

✓
Checked By
Lab In Charge
RI-2, CMPDI, Dhanbad

Approved By
HOD(In-charge) Environment
RI-2, CMPDI, Dhanbad

JOB NO. 200316028

Miscellaneous, BCCL Environmental Monitoring Report

Handwritten signature

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 (N39)
- vi) Koylanagar Hospital (N40)

4.2 Methodology of sampling and analysis

Noise level measurements in form of 'L_{EQ}' were taken using Integrated Data Logging Sound Level Meter (NL-52 OF RION CO. Ltd. Make) during day time. Noise levels were measured for about one hour time in day time. 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 and the observed values were compared with standards prescribed by MoEFCC. The results of Noise levels recorded during day 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.

NOISE LEVEL DATA

Name of the Project : Miscellaneous			Month: FEB, 2022		
Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Bhojudih Washery (N34)	Industrial area	08.02.22	57.3	75
2	Bhojudih Washery	Industrial area	22.02.22	58.2	75
3	Dugda Washery (N35)	Industrial area	07.02.22	63.6	75
4	Dugda Washery	Industrial area	21.02.22	62.6	75
5	Mahuda Washery (N36)	Industrial area	01.02.22	62.8	75
6	Mahuda Washery	Industrial area	16.02.22	61.9	75
7	Sinidih Workshop (N38)	Industrial area	11.02.22	62.9	75
8	Sinidih Workshop	Industrial area	25.02.22	61.7	75
9	Patherdih (N39)	Industrial area	22.02.22	57.3	75
10	Patherdih	Industrial area	22.02.22	57.3	75
11	Koylanagar Hospital	Residential area	14.02.22	52.1	55
12	Koylanagar Hospital	Residential area	26.02.22	53.4	55

*Permissible limits of Noise Level as per MOEF Gazette Notification No. GSR 742(E) dt. 25.09.2000 Standards for Coal Mines and Noise Pollution (Regulation and Control) Rules, 2000.

* Day Time: 6.00 AM to 10.00 PM,

Analysed By
JSA/SA/SSA

Checked By
Lab in Charge
RI-2, CMPDI, Dhanbad

Approved By
HOD (in-charge) Environment
RI-2, CMPDI, Dhanbad

Dr. M. K. Singh