



एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)

NTPC Limited
(A Govt. of India Enterprise)

केरेडारी कोयला खनन परियोजना
Kerandari Coal Mining Project

Date: 29/05/2024

Ref: NTPC/KDCMP/Mining/2024/33

To,
The Additional Principal Chief Conservator of Forest (Central),
Ministry of Environment, Forest and Climate Change,
2nd Floor, Headquarter- Jharkhand State Housing Board,
Harmu Chowk, Ranchi, Jharkhand - 834002
Mail: ro.ranchi-mef@gov.in

Sub: Submission of six-monthly progress report for Kerandari Coal Mining Project (6 MTPA) area of 1173 Ha located in North-Karanpura Coalfields in Hazaribagh Dist., Jharkhand, for the period **October'2023 to March'2024.**

Ref: EC letter no: J-11015/133/2007-IA. II(M) dated 31st March'2010.

Dear Sir,

With reference to the above-mentioned subject in respect of Environment Clearance, please find enclosed with the six-monthly progress report in compliance to general condition(xvi) of Environment Clearance letter for Kerandari Coal Mining Project (6 MTPA), NTPC Ltd., for the period **October'2023 to March'2024.**

This is for your kind information please.
Thanking you,

Yours faithfully


Ramesh Kumar D.
Dy. General Manager (P&S)
KDCMP NTPC Ltd.

Encl.: A/a

CC:

1. Regional Director, Kolkata, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Floors, Rajdhanga Main Road, Kolkata-700107 (W B).
Email: mkbiswas.cpcb@nic.in
2. Regional Officer, JSPCB, Hazaribagh-825301, mail: jspcb_hazaribagh@rediffmail.com
3. Member Secretary, Jharkhand State Pollution Control Board, Ranchi-834004 (Jharkhand),
e-mail: ranchijspcb@gmail.com

केरेडारी कोयला खनन परियोजना, सिकरी साईट कार्यालय, बड़कागाँव, हजारीबाग - 825311
Kerandari Coal Mining Project, Sikri Site Office, Barkagaon, Hazaribag - 825311

पंजीकृत कार्यालय : एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 7, इंस्टिट्यूशनल एरिया, लोदी रोड, नई दिल्ली - 110 003. टेलीफोन नं./Tel: 011-24387333, फैक्स नं./Fax: 01124361018
Registered Office : NTPC Bhawan, Scope Complex, 7, Institutional Area, Lodi Road, New Delhi - 110003. E-mail : ntpccc@ntpc.co.in, Website : www.ntpc.co.in

COMPLIANCE STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS
EC Letter No. J-11015/133/2007-IA. II (M) Dated 31st March 2010

Sl. No.	CONDITIONS	COMPLIANCE STATUS AS ON 31.03.2024
2.	The Ministry of Environment & Forests hereby accords Environmental Clearance for the above-mentioned Kerandari Opencast Coal Mine Project of M/s National Thermal Power Corporation Ltd. for production of Coal at 6 MTPA annual rated capacity in a total project area of 1173 ha under the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and circulars thereto subject to the compliance of the terms and conditions mentioned below:	Noted and agreed to comply.
A.	Specific Conditions	
(i)	Mining shall not be carried out in 169.35 ha of forestland until prior forestry clearance is obtained under FC Act 1980.	MOEF&CC, New Delhi vide letter no. F. No. 8-53/2011 FC dated 28.08.2019 has accorded Stage-II Forest Clearance (Attached Annexure-I) for Kerandari 'A' Coal Mining Project for diversion of 243.32 Ha forest land in ML area. Forest land has been transferred in the name of NTPC by Govt. of Jharkhand vide letter No: vanbhoomi- 103/2010-3574, dated- 17/12/2021.
(ii)	Prior approval of the Flood & Irrigation Department shall be obtained for the proposed route for diversion of Baldeori nala, design of the embankment and realignment of the diverted nala along the fault lines. A minimum safe distance of 60 m distance shall be maintained between the realigned nala and embankment. The embankment shall be a minimum 3 m higher than the HFL and 30 m wide at the bottom the slope of the embankment shall at least 2:1 towards the ML, compacted and stone pitching done towards the river and shall be stabilized with plantation. Materials such as OB shall be tested for strength before using for construction of embankment.	<ul style="list-style-type: none"> - A study for diversion of nala was conducted through CWPRS, Pune for diversion proposal of Baldeori Nala. - Approvals from Water Resources Dept accorded for diversion of Baldeori nala vide Memo no: 2/PMC- 55/2009-223 dated 19.03.2013 (Attached Annexure-II) as per the specified design of CWPRS. - The conditions as stipulated by WRD shall be complied. - All the provisions of this condition have been incorporated in the Mine Closure Plan and approved by Ministry of Coal. (Attached Annexure III). - It shall be complied with the progress of mine.
(iii)	Topsoil shall be stacked properly within the earmarked area for one topsoil dump of a maximum height of 15 m height with proper slope at earmarked site(s) and shall be used concurrently for reclamation and development of green belt.	<ul style="list-style-type: none"> - Area for stacking of the top soil has been earmarked in Mining and Mine closure plan and it has been approved by Ministry of Coal. All Efforts are being made for stacking the topsoil within the earmarked area. As per stipulation the stacked topsoil will be further used for reclamation & development of green belt.



		Photographs of topsoil dump attached as Annexure-IV
(iv)	Of the total 621.22 Mm ³ of OB generated to be stored in external OB dumps, 84.14 Mm ³ of OB shall be stacked at earmarked external OB dumpsite of an area of 130 ha and shall not exceed a height of 120 m consisting of 4 benches of 30 m each. The ultimate slope of the dump shall not exceed 28°. Reclamation of the external OB dump shall be done using native species and species of economic importance. Monitoring and management of reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on yearly basis. The balance 210 Mm ³ of OB to be temporarily stored in an external OB dump of an area of 250 ha in the mineralized area of the adjoining Chhatti- Bariatu (South) Coal Mine Block of M/s NTPC shall be entirely re-handled at the end of mine life into the de-coaled voids of the Kerandari Coalmine and the backfilled area biologically reclaimed.	<ul style="list-style-type: none"> - The mining operation has started on 5th April 2023. At present only 85000m³ of top soil and 2240166m³ of OB has been excavated and kept at designated location, ultimate slope angle shall be maintained to 28°. - OB Dump Stability study has been carried out by CIMFR, Dhanbad and the recommendations is being followed. - All the provisions have been incorporated in the approved mine closure plan and it is being complied. - Plantation of native species and species of economic importance shall be done after completion of the OB dump as at present OB dump is in active stage. - Images of OB dump is attached as Annexure V
(v)	The design of the dumps shall be done incorporating the specific recommendations of the slope Stability study for the internal and external dumps keeping in view the rainfall (peak), Soil characteristics, proposed dump stabilization measures, etc. Regular monitoring of dump slope stability shall be also carried out. These modifications shall also be appropriately reflected in the Mining Plan.	<ul style="list-style-type: none"> - The design of dumps has been studied by CIMFR, Dhanbad and the recommendations have been incorporated in Mine Closure plan which was approved by MOC incorporating necessary changes vide letter number 34011-10-2011-CPAM dated 11- 11-2013. - Latest dump slope stability study was done on August 2023.
(vi)	A thick 3-tier plantation shall be developed between quarry, external OB dump and habitation using native species and species of economic importance.	<ul style="list-style-type: none"> - It is being complied progressively with operation. Almost 3644 plantation of native species has been done in the last monsoon season. Images attached as Annexure VI
(vii)	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, road, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above	<ul style="list-style-type: none"> - Garland drains has been constructed along OB and top soil dump. sumps have been designed and are being provided progressively along the periphery of the initial excavation area to arrest silts. - Catch drains and siltation ponds is designed taking into consideration of stipulated criteria. Catch drains will be also provided at external dumps, workshop, offices etc. to direct the rain water to siltation pond at sump area to arrest silt and further to direct water to main sump of adequate capacity

	the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper setting of silt material.	with 50% safety margin. Current Sump is of 50000m3 capacity. Water collected will be utilized for water spraying for dust suppression for the mine area roads, green belt development etc. The drains will be regularly de- silted and maintained properly. The main sump is proposed in the de-coaled area at dip most side so as to provide adequate retention period to allow proper settling of silt material. As per approved Area Drainage Study, drains are designed considering 50% safety margin over and above the peak sudden rainfall and maximum Discharge. Photographs of garland drain attached as Annexure VII.
(VIII)	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run off and siltation shall be based on the rainfall data.	- All the dumps are in active stage, retaining wall and toe wall shall be constructed.
(IX)	Drills shall be wet operated	- Drilling is being use wet operated. Images attached Annexure-VIII.
(X)	Controlled blasting shall be practiced only during daytime with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	- Agreed and being comply - Controlled Blasting is practiced in daytime only. Report attached as Annexure-IX. - The mitigative measures to arrest the fly rocks and boulders is being taken accordingly.
(XI)	Raw coal from CHP shall be transported by closed conveyors to the railway siding proposed at village Khadamdari and thereafter by rail to the linked Tanda/Barh STPP. The conveyor-cum-rail corridor consisting of a stretch of 13.1 km of rail and 10.5 km of overhead closed conveyors and extend up-to unloading part at the Railway Siding with Silo Loading facilities and from there to linked Barh/Tanda STPP by rail. There shall be no road transportation of coal.	- Transportation of coal from mine will be carried out in elevated closed conveyor system to Urda, and thereafter by rail to the linked Tanda/Barh STPP. EC amendment for transportation of Coal via road is taken and attached herewith as Annexure-X.
(XII)	All approach roads shall be black topped and 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 mine and at railway siding. Green belt shall be developed using local species all along the periphery of the site, along the areas such as infrastructure, and at Railway Siding.	- Mine approach road from SH-25 via Kodway- Loachar widening and strengthening including black topping completed. A3-tier avenue plantation using local species along the mine approach road/main roads shall be provided. - Green belt shall be developed using local species all along the periphery of the site, along the areas such as infrastructure, and at Railway Siding after Construction.
(XIII)	Crushers at the CHP shall be operated with high efficiency bag filters, water	- CHP is designed taking into consideration of all the provisions as per stipulations

	sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc. Hoppers of the coal crushing 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 operation transfer points of and from transportation roads and at Railway Siding.	during operation phase. All measures to check fugitive emission & dust control is incorporated in the design of CHP. - CHP is under construction.
(xiv)	Company's Railway Siding at village Khadambari shall be established within 3 years from date of grant of Environmental Clearance.	- There is a change in location of railway siding as alignment of connecting rail line (Shivpur-Hazaribagh) has been changed by railway. The DPR for connecting rail line is under preparation by Railways. Application for change in railway siding location shall be submitted to MOEF after alignment finalization by Railways.
(xv)	No fly ash from the TPP shall be used in backfilling of the void without undertaking an Environmental Feasibility study and without prior approval of this ministry.	-Not Applicable.
(xvi)	Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be carried out four times a year in pre- monsoon (May), monsoon (August), post-monsoon, (November), and winter (January), seasons and for quality in May and in monsoon in the villages in core and buffer zone. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.	- The ground water quality is being monitored regularly as per stipulations. The monitored data is being submitted to Regional MOEF & CC and CPCB offices regularly. - Piezometers has been installed for monitoring of ground water level. - Piezometer is installed. Photographs attached as Annexure-XI . - Quality Monitoring data attached as Annexure-XII .
(xvii)	The levels of fluoride and TDS in drinking water shall be regularly monitored and records thereon maintained. In case the levels are found to be higher than the prescribed limits in the groundwater and mine discharge water, the project authorities shall provide drinking water to the affected villages in the impact zone.	- Regular monitoring of fluoride and TDS is being done to determine their level - Monitoring report attached as Annexure-XII . - Safe drinking water will be provided to affected villages, if required.
(xviii)	The company shall put up artificial groundwater recharge measures including rainwater harvesting structures for augmentation of groundwater resource in case monitoring indicates decline in water	Rain water harvesting has been planned and shall be constructed before monsoon. - In case of need, water will be made available to the villagers.

[Signature]

	table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	
(xix)	ETP shall also be provided for workshop, and CHP. Effluents shall be treated to confirm to prescribed standards, particularly for pH and TSS in case of discharge into any watercourse within or outside the lease. Mine water discharge and run off from external dumps shall be treated to prescribed norms and monitored at all the outlet points before discharge into natural water courses or onto land.	All effluents of workshop and CHP will be treated in dedicated ETP to confirm prescribed standard before its final discharge into any watercourse. Separate ETP has been installed at Workshop, treated water is being reused for washing and ZLD is being maintained. Photograph of ETP is attached as Annexure-XIII .
(xx)	An STP shall be provided for the township/colony to treat the domestic effluents to prescribed standards and for green belt development or reuse in project activities.	- A dedicated STP will be installed for treating domestic effluents emanating from township/colony within the prescribed standards. The treated sewage shall be used in plantation and horticulture purpose.
(xxi)	Any additional water requirement envisaged shall be obtained by recycle/reuse to the maximum extent and from rainwater harvesting measures. Recycled water shall be used for development and maintenance of green belt and in the Plant Operations.	- The rainwater harvesting is planned and will be construct before monsoon. - Recycled water will be used for development and maintenance of green belt and in the plant operations.
(xxii)	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th may 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed for treatment of workshop effluents.	- Dedicated ETP including oil and grease traps has at workshop been installed for effective treatment of the effluents conforming to the prescribed statutory standard, and treated water is being reused for washing and zero discharge is being maintained. Photographs of ETP is attached as Annexure-XIII .
(xxiii)	Area brought under afforestation shall not be less than 472.29 Ha. which includes reclaimed external OB dump (130 Ha), backfilled area (332.71 Ha), along ML boundary (7.58 Ha) along roads, infrastructure (2Ha), in undisturbed areas infrastructure and in colony by planting native species in consultation with the local DFO/ Agriculture Department. The density of the trees shall be around 2500 plants per Ha.	- The afforestation shall be done to an extent of 473 Ha in consultation with the local DFO/State Forest Department for effective implementation as the mine progresses. Almost 3644 plantations are done in safety zone area.
(xxiv)	A Progressive Closure Plan shall be implemented by reclamation of quarry area of 470.18 ha of which 332.17 ha shall be backfilled and afforested by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha, the balance 137.47 ha of de-coaled area being converted into a	- Progressive Mine closure plan was approved by MOC vide letter number 34011-10-2011-CPAM dated 11-11-2013. Progressive mine closure plan shall be implemented as per stipulation. Mine activities at KDCMP started on 05.04.2023 and as of now reclamation is not started. Planation on the reclaimed area shall be done as mine progresses.

	water reservoir and gently sloped along the upper benches and stabilized and reclaimed with plantation.	
(xxv)	A Conservation Plan (in-situ and ex-situ) for endangered Schedule-I and II faunal species reported in the study area and for the medicinal plants found in and around the project area shall be prepared and implemented in consultation with the State Forest and Wildlife Departments. The implementation of the various activities there under and the status thereof shall be regularly reported to this ministry and the MOEF Regional Office, Bhubaneswar and uploaded on the company's website. The proponent shall also participate in the Regional Wildlife Conservation Plan to be prepared by the State Wildlife Department and shall also contribute financially for implementation of the RAP.	<ul style="list-style-type: none"> - An integrated wild life conservation plan has been prepared and submitted to Chief Wildlife Warden, Govt. of Jharkhand and MOEF&CC and approved by NBWL. - An amount of Rs 24.76 Crs has been paid on 16.12.2020 towards implementation of wildlife management plan as per the direction of State Forest Department. - Site specific wild life management plan has been submitted to State Forest Department on 17.05.2021 and the same is approved vide office order No. 40, dated-11/10/2021 by PCCF (WL), GoJH.
(xxvi)	An amount not less than a capital expenditure of Rs 2102.62 lakhs and a revenue expenditure of Rs 497.85 lakhs (which shall be up scaled after adjusting for depreciation of the rupee) shall be earmarked and utilized for environmental protection measures, the status of which shall be uploaded regularly on the company website and also furnished as part of the monitoring report.	<ul style="list-style-type: none"> - An amount of Rs 2102.62 lakhs has been earmarked for implementing environmental measures. - The details of action will be displayed on company's website.
(xxvii)	A detailed project specific R&R plan shall be prepared for the 7 villages –Tarhesa, Pandu, Pagar, Kabed, Balediori, Basaria, and Lochar comprising about 1453 PAF's and land losers and implemented in consultation with the stakeholders. R&R shall be based on norms laid down/approval by the State Government and shall not be inferior than that in the National R&R policy and shall be completed within a specified time-frame. R&R shall include specific income generation schemes. A Corpus fund of Rs 5 crores shall be created for maintenance of the R&R colony. Annuities shall be provided for the vulnerable sections of the displace population. Alternate livelihood schemes shall be implemented for the persons not being absorbed for employment.	<ul style="list-style-type: none"> - R&R plan for Kerandari Coal Mining Project is approved by GoJh vide sankalp dated 26.07.2013. The plan is under implementation under the direction of State Govt. Sankalp is attached as Annexure- XIV. - Various community development activities such as income generation schemes, woman empowerment, promotion of education, infrastructure and health etc. are undertaken in project affected villages. - Financial year (2020-2021): 84.42 Lakh - Financial year (2021-2022): 65.77 Lakh - Financial year (2022-2023): 157.71 Lakh - Financial year (2023-2024): 421.52 Lakh
(xxviii)	The proponent shall provide a minimum Rs.5 per tonne of coal as supporting	- Agreed, defined amount will be provided.

	revenue expenditure (which shall be up scaled after adjusting for depreciation of the rupee) towards activities undertaken under CSR. The details of the activities and expenditure made thereon shall be displayed on the company's website and updated at least once in six months.	
(xxix)	For monitoring land use pattern and for post mining land use, a time series of land- use maps, based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years for any one particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhubaneswar.	<ul style="list-style-type: none"> - Post mining land use maps based on Satellite imagery of the core zone and buffer zone, from the start of the project until end of mine life will be prepared at regular interval and the report will be submitted to MOEF&CC and its Regional Office. - Latest Drone survey Image of Dec'2022 (before starting excavation activity) is attached as Annexure-XV.
(xxx)	A Final Mine Closure Plan along with details of corpus fund shall be submitted to the Ministry of Environment & Forests for approval 5 years in advance of final mine closure for approval and for Habitat Restoration by using a mix of native species found during per-mining stage.	<ul style="list-style-type: none"> - A Final Mine Closure Plan with corpus fund details will be submitted to MOEF&CC for approval well in advance as per stipulation.

B. General conditions		
(i)	No change in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	<ul style="list-style-type: none"> - Permission of MOEF&CC will be taken well in advance in case of change in technology and scope of work.
(ii)	No change in the calendar plan including quantum of mineral coal and waste being produced shall be made.	<ul style="list-style-type: none"> - Noted and agreed.
(iii)	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring PM10, PM2.5, SO2 and NOx. Location 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 in particulates shall be carried out at least once in six months.	<ul style="list-style-type: none"> - Four nos. of ambient air quality monitoring stations have been established in consultation with the Jharkhand State Pollution Control Board (JSPCB) at different locations in the core zone as well as in the buffer zone for monitoring of air quality parameters, and thus data is being submitted to JSPCB at regular interval. - Toposheet attached as Annexure XVI. - Monitoring report of PM10, PM2.5, SO2, NOx is attached as Annexure XVII. - Monitoring report of heavy metals for the month of March 2024 is attached as annexure XVIII.
(iv)	Data on ambient air quality (PM10, PM2.5, SO2 and NOx and heavy metals such as Hg,	<ul style="list-style-type: none"> - Monitored data for air quality and heavy metals will be submitted six monthly to the

	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.	concerned statutory authorities i.e. Regional Office of MOEF&CC at Ranchi/JSPCB/CPCB throughout the operation phase of the Mine block. - Latest lab report is being attached as Annexure XVII & XVIII.
(v)	Adequate measures shall be taken for control of noise levels below 85 dB (A) in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	- Effective measures will be taken to minimize the noise level below 85 dB (A) in the work zone. Workers in high noise environment area will be provided with ear plugs/muffs. - All the equipment's/machines at mine site will be provided with acoustic enclosure cabins. - Noise levels will be also being monitored at regular intervals. - Monitoring report of noise level is being attached as Annexure XIX.
(vi)	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, and treated so as to conform to the standards including for heavy metals before discharge prescribed under GSR 422(E) dated 19th May 1993 and 31st December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.	- Separate ETP with oil and grease trap has been installed at Workshop, treated water is being reused for washing and ZLD is being maintained. Photographs of ETP attached as Annexure-XIII.
(vii)	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.	- Vehicles are being maintained in good working condition. Regular monitoring of vehicular emission is being done. - Vehicles used for mineral transportation are optimally loaded and covered with tarpaulin. Photographs of vehicle covered with tarpaulin is Annexure-XX.
(viii)	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.	- Monitoring of environmental quality parameters is being carried out in consultation with State pollution control board by JSPCB and NABL accredited laboratory. Monitoring report attached Annexure-XII, XVII, XVIII and XIX.
(ix)	Personnel working in dusty areas 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	- Personal protective respiratory devices be made available to personnel working in dusty areas & adequate training on safety & health is also imparted. - Photographs of training is attached as Annexure-XXI.

	take corrective measures, if needed.	
(x)	A separate environment management cell with suitable qualified personnel shall be set up under the control of a senior executive, who will report directly to the head of the company.	<ul style="list-style-type: none"> - At the corporate office, a separate Environmental Management Cell is already functioning under supervision of senior executive who is reporting to Head of the company to look after the implementation of the various pollution control measures and other Environment Management System requirements. Organization chart of EMG cell is attached as Annexure-XXII.
(xi)	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional office at Bhubaneswar.	<ul style="list-style-type: none"> - The requisite funds for environmental mitigation measures have been included in the project cost. - Financial provision stipulated towards environmental mitigative measures will not be diverted for other proposes. - Further, year-wise expenses detail for environmental protection measure will be submitted to the Regional Office of MoEF&CC at Ranchi.
(xii)	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 & Forests at http://envfor.nic.in	<ul style="list-style-type: none"> - The copy of Environmental Clearance accorded by MOEF & CC was published in two local newspapers widely circulated around the ML area, namely; - Prabhat Khabur daily newspaper in Hindi on 06.04.2010 and Times of India in English paper on 07.04.2010.
(xiii)	A copy of the Environmental Clearance letter shall be marked to concerned Panchayat/Zila Parishad, Municipal Corporation or Urban Local Body and 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.	<ul style="list-style-type: none"> - Copy of EC letter has been submitted to the office of Zila Parishad, Municipal Corporation, Urban Local Body and local NGOs. - Copy of EC letter has been also posted on company's website (https://www.ntpc.co.in/en/environment/environment-policy-and-management)
(xiv)	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 days.	<ul style="list-style-type: none"> - Copy of EC letter was sent to office of District Industry Centre, District Collector for display. - A copy of the EC was marked to JSPCB for display at the Regional office for a period of 30 days.
(xv)	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	<ul style="list-style-type: none"> - The clearance letter has been uploaded on the company website. - Six monthly EC Compliance status is being regularly submitted and uploaded on company website.

	the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM10, PM2.5, SO2 and NOx (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.	- The monitored data is being displayed at the entrance of project premises and on the company website. Latest Photographs of display is attached Annexure-XXIII .
(xvi)	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.	- Six monthly progress reports on the status of compliance being submitted to Regional Office of the MOEF & CC at Ranchi, the Respective Zonal offices of CPCB and the JSPCB.
(xvii)	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.	- Full co-operation will be extended by the project authorities to the officers of Ministry/RO during their inspection/visit.
(xviii)	The environmental statement for each financial year ending 31st 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 by E-mail.	- The environmental statement of the project for each financial year is being submitted to the State Pollution Control Board and Regional Office of MOEF & CC in the prescribed Form V. Last report submitted vide letter no. NTPC/KDCMP/Mining/2023/214 dated 11.09.2023. It shall also be uploaded on NTPC website.

EC Amendment Compliance

1.1	As proposed, PP shall complete the work of conveyor and CHP by October, 2024 and railway siding by March, 2025.	Shall be complied.
1.2	PP shall submit the approved revised Mine Plan with progressive reclamation for changes in land use/ area of forest land as per approvals obtained to IRO, MoEF&CC.	Shall be complied.
1.3	PP shall avoid transporting coal by road through forest land without permission from concerned Forest Department.	Transportation of coal by road through forest land shall not be done without permission from forest department.
1.4	PP shall not use any village road and road along sensitive locations such as schools, hospitals etc. for transportation of coal by dumpers/ trucks.	Noted and agreed.



1.5	PP shall use the road having width more than 7 mts with tarpaulin covered 40-50 (payload) dumpers/ trucks. Further, State Pollution Control Board shall ensure the emissions of trucks by regular inspections.	As per traffic study all the roads which be used for coal transportation is not less than 7 mts and transportation trucks is being covered with tarpaulin. Photographs attached as Annexure XX
1.6	M/s NTPC shall write to Ministry of Power to co-ordinate with Ministry of Railways for expeditious construction of Railway siding near to the proposal location.	The letter is already written to Ministry of Railways vide letter no. REDCM Sectt/2024/CB&KD/543 dated 23.02.2024
1.7	PP shall maximum use the nearest location of railway siding (Shivpur and Bachra) for transporting the coal instead of using road for long distance.	First preference for transportation of coal will be nearest sidings. (i.e. Shivpur and Bachra).
1.8	As proposed, construction of road for enroute Shivpur siding shall be immediately completed with water sprinkler and tree plantation along the road.	Noted and Agreed.
1.9	PP shall install at least 10 nos of fog cannon in mine lease, overburden dump and transportation route within 6 months.	Fog cannon are under procurement and shall be installed.
1.10	PP shall establish Environmental laboratory at project site by March 2024 and create Environmental Management Cell to monitor the issues related environmental degradation.	The Environment laboratory is established at project site & also Environmental Cell is created.
1.11	PP shall explore at least 20% of overall fleet size of dumpers/ trucks as electrical or CNG/ LNG based dumpers/ trucks for transportation of coal/ OB etc and deploy e-vehicles for workers/ staff in/ out of the mine.	Noted and agreed.
1.12	PP shall ensure the compliance of expenditure to be incurred for wildlife conservation plan submitted to the State Govt. and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. Also, PP shall engage State Biodiversity Authority and local biodiversity committee for implementation of CSR activity for developing the local market.	Letters to DFO Hazaribagh and Chatra is submitted for utilization certificate.
1.13	PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on "Public Grievance Redressal and Monitoring System."	Noted and agreed.
1.14	PP shall submit certified compliance report of EC vide letter No. J-11015/120/2007-IA.II(M) dated 31st March, 2010 and later re-validated	Being complied.

	letter dated 28.10.2015.	
1.15	PP shall commission a study for evaluating the impact of air pollution generated by its activities on the forests upto a distance of about 10 kms through an institution of MoEF&CC.	Air pollution monitoring is developed and monthly monitoring being done every month within 10Kms radius of mine lease area in core as well as in the buffer zone.

Yours faithfully


Ramesh Kumar D.
Dy. General Manager (P&S)
KDCMP NTPC Ltd.

F. No. 8-53/2011-FC
Government of India
Ministry of Environment, Forests and Climate Change
(Forest Conservation Division)

Indira Paryavaran Bhawan,
Aliganj, Jor Bag Road,
New Delhi - 110003.

Dated: 28th August, 2019

To

The Principal Secretary (Forests),
Government of Jharkhand,
Ranchi.

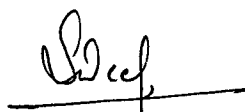
Sub: Diversion of 243.32 ha of forest land for North Karanpura Coal Keredari Coal Mining Project in favour of M/s NTPC Ltd. in Chatra South and Hazaribagh West Forest Division of Districts Chatra and Hazaribagh, respectively in the State of Jharkhand – regarding.

Sir,

I am directed to refer to the State Government's letter no. 3/Vanbhumi-103/2010-1643 dated 4.05.2011 on the above subject seeking prior approval of the Central Government, in accordance with Section-2 of the Forest (Conservation) Act, 1980. After careful examination of the proposal by the Forest Advisory Committee, constituted under Section-3 of the said Act, 'in-principle' approval to the proposal under the Forest (Conservation) Act, 1980 was granted vide this Ministry's letter of even number dated 1st February, 2012 read with letter dated 17th July, 2019 subject to fulfillment of certain conditions prescribed therein. The State Government has furnished compliance report in respect of the conditions stipulated in the in-principle approval and has requested the Central Government to grant final approval.

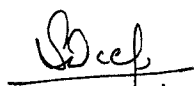
In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government vide letter No. 22 P 2 (2) 22/2010/575 dated 10.02.2014, 3/VanBhumi-103/2010/68-VP dated 06.01.2017, 3/VanBhumi-103/2010/1825-VP dated 08.05.2018, VanBhumi-103/2010/3956-VP dated 19.09.2018, Van Bhumi-103/2010-1301-VP dated 05.04.2019 and Van Bhumi-103/2010-2657-VP dated 16.07.2019, final approval of the Central Government is hereby granted under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 243.32 ha of forest land for North Karanpura Coal Keredari Coal Mining Project in favour of M/s NTPC Ltd in Chatra South and Hazaribagh West Forest Division of Districts Chatra and Hazaribagh, respectively in the State of Jharkhand subject to following conditions:

1. Legal status of the diverted forest land shall remain unchanged;
2. (i) Compensatory Afforestation (CA) shall be raised and maintained by the State Forest Department over double degraded forest land (323.505 ha) equal in extent to the forest land being diverted, from the funds already provided by the User Agency;
(ii) Approved site-specific CA schemes, in lieu of diversion of forest land of 243.32 ha shall be implemented by the State Forest Department from the funds already provided by the User Agency;
3. The State Government has realized the Net Present Value of the forest area diverted under this proposal from the User Agency as per the Judgment of the Hon'ble Supreme Court of India dated 28.03.2008 & 09.05.2008 in IA No. 566 in WP (C) No. 202/1995 and as per the guidelines issued by this Ministry vide letter No. 5-3/2007-FC dated 05.02.2009 in this regard, additional NPV if becomes due as per final order of Hon'ble Supreme Court, shall be paid by the User Agency;
4. The User Agency shall furnish an undertaking to pay the additional NPV, if so determined, as per


28.08.19

the final decision of Hon'ble Supreme Court of India;

5. Fencing, protection and regeneration of the safety zone area (7.5 metre strip all along the outer boundary of the mining lease area), wherever feasible, shall be done at the project cost. Besides this, afforestation on degraded forest land, to be selected elsewhere, measuring one and a half times the area under safety zone shall also be done at the project cost;
6. Funds, if any to be received from the User Agency under the project in future, shall be transferred, through e-challan, to the account of State CAMPA concerned;
7. In view of displacement of people the User Agency shall implement a welfare plan for displaced people, which can track individual displaced facilities and establish an appropriate welfare unit to monitor the welfare.
8. The User Agency shall implement the approved R&R Plan as submitted along with the compliance of Stage-I approval;
9. The period of diversion under this approval shall be twenty (20) years or coterminous with the valid mining lease subject to possession of valid mining lease under the MMDR Act, 1957;
10. The forest land shall not be used for any purpose other than that specified in the proposal;
11. The following activities shall be undertaken by the User Agency under supervision of the State Forest Department at the project cost:
 - i. Proper mitigative measures to minimize soil erosion and choking of streams shall be implemented;
 - ii. Planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion;
 - iii. Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour;
12. Ample care shall be taken while reclaiming the mined area by employing suitable top soil management scheme and ensuring plantation of native species of the area;
13. The user agency shall provide fuel wood preferably alternate fuel such as kerosene oil and LPG to the labourers working at the site to avoid damage to adjoining forests;
14. No labour camps shall be set up inside the forest area;
15. The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government;
16. The user agency shall pay the cost of implementation of Wildlife Management Plan, on pro rata basis, prepared by the State Government for the entire North Karanpura Field, as per the undertaking submitted by them and accepted by State Government along with the Stage-I compliance. Forest land shall be handed over to the user Agency, after realizing the proportionate cost from the User Agency. A copy of the approved Wildlife Life Management Plan, along with detail of proportionate cost shall be submitted to the Ministry and its Regional Office;
17. Any tree felling shall be done only when it is unavoidable under strict supervision of the State Forest Department. User Agency shall translocate the trees, marked for felling, wherever possible, in consultation with the State Forest Department;
18. No damage to the flora and fauna of the adjoining area shall be caused;
19. The user agency will obtain Environmental clearance and any other clearances required for such project, if required;
20. The user agency shall take up the de-silting of the village tanks within five km area from the mine


28/08/15

lease boundary as a Corporate's social responsibility so as to mitigate the impact of siltation of such tanks, if any;

21. The User Agency will ensure the dumping of over burden (OB) as per the approved phased Reclamation plan;
22. The State Government shall ensure that compliance of Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has been completed in accordance with the relevant Rules and Guidelines issued by the MoEF&CC in this regard;
23. Any other condition that the Dy. Director General of Forests (Central), Regional Office, Ranchi, may impose from time to time, with the approval of competent authority, for protection and improvement of flora and fauna in the forest area, shall also be applicable.
24. Compliance of any legal matters, in any court of law, shall be the responsibility of the user agency / and the State Government; and
25. The user agency shall submit the annual compliance report in respect of the above conditions to the State Government and to the Regional Office, Ranchi regularly.

Yours faithfully,


(Sandeep Sharma) 28/08/19

Assistant Inspector General of Forests (FC)

Copy to:-

1. The Principal Chief Conservator of Forest, Government of Jharkhand, Ranchi.
2. The Deputy Director General (Central), Regional Office, Ranchi.
3. The Nodal Officer (FCA), Office of the PCCF, Government of Jharkhand, Ranchi.
4. User Agency.
5. Monitoring Cell of FC Division.
6. Guard File.


(Sandeep Sharma) 28/08/19

Assistant Inspector General of Forests (FC)

**Office of the Chief Engineer
Project Monitoring & Planning
Water Resources Department,
Govt. of Jharkhand, Ranchi**

Letter No.: 2/PMC-55/2009-

Ranchi, dated -

From: Er. Ashok Kumar
Chief Engineer (Mon)

To: Sri B.K.Roy
AGM (Projects),
NTPC Ltd.
Chatthibariatu Coal Mining Projects,
Ujjwal Complex, Pugmil Road,
Hazaribag-825301
(Fax: 06546 270744)

Sub:- Proposal for clearance for diversion of Baldeori Nala flowing within
Keredari-A Coal Block of NTPC Limited as per CWPRS report.

Ref: Letter No.7010/NTPC-PB/CB & KD:2009:5341, dated 30.07.2009 and
CBCMP/Project/2012/PO8/16, dated 24.09.2012

Sir,

With reference to the letter on the subject, I am directed to convey the clearance of the department for diversion of Baldeori Nala flowing within Keredari-A Coal Block of NTPC Ltd. on the following conditions:

- (i). Clearance by Ministry of Environment and Forests, Government of India for non-forest use of the forest area be obtained under Forest Conservation Act 1980;
- (ii). Environmental clearance be obtained from Ministry of Environment and Forests, Government of India;
- (iii). The excavated mined area should be replenished as per the approved mining closure plan and to the extent in reference to the existing natural ground profile. This is required to ensure for non-reduction in water availability and no adverse impact on the environment.
- (iv). The diversion of Baldeori nala should be done as per the recommendation/suggestion given by Central Water and Power Research Station (CWPRS), Pune given in its technical report.

Yours faithfully,

Sd/-
(Ashok Kumar)
Chief Engineer (Mon)

S.K. Sinha
संयोजक प्रमुख सिन्हा / S.K. SINHA
प्रशासकीय / General Manager
परिचालन प्रमुख / HOP
प्रमुख / NTPC Limited
कैलाश कोयला ब्लॉक / Keredari Coal Block.docx
हजारिबाग / Hazaribag

Memo No.: 2/PMC-55/2009- 223

Ranchi, dated 19/3/2013

Copy to :

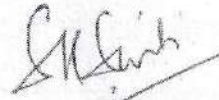
1. Principal Secretary, Department of Power & Geology, Govt. of Jharkhand, Nepal House, Doranda, Ranchi for information
2. Chief Engineer, Water Resources Department, Hazaribag for information and needful.

351

19.3.2013

(Ashok Kumar)

Chief Engineer (Mow)



संजय कुमार सिन्हा / S.K. SINHA
महानिर्देशक / General Manager
परियोजना प्रमुख / HOP
एनटीपीसी लिमिटेड / NTPC Limited
कोरारी कोयला खनन परियोजना / KOCMP
हजारीबाग / Hazaribag

No.34011-10-2011-CPAM
Government of India
Ministry of Coal
CPAM Section

Shastri Bhavan, New Delhi.
Dated : 11-11-2013

To

Shri A K Dash
Additional General Manager (PE-Mech-MPD)
5th Floor, Engineering Office Complex, Sector-24,
NTPC Limited, Noida -201301.
Fax No.0120-2410136, 37, Tele : 0120-2410102.

Subject :	Mine Closure Plan (September 2013) for Kerendari 'A' Coal Block of North-Karanpura coalfield, District Hazaribagh, Jharkhand of M/s NTPC Ltd – Approval of Standing Committee.
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Sir,

I am directed to refer to M/s NTPC's letter No. NTPC:PEM:7012:MP:06 dated 6th September 2013 on the subject mentioned above and to say that the Mine Closure Plan (September 2013) has been considered by the Standing Committee and the approval of the Central Government is hereby conveyed subject to the following conditions:

- (i) The mining company shall take all necessary precautions regarding safety of mine workings, persons deployed therein during the implementation of the Mine Closure Plan;
- (ii) Mining lease to be acquired shall not encroach into any other coal block.
- (iii) The approval of the mine closure plan is without prejudice to the requirement of approvals from competent/prescribed authority under the relevant rules/regulations, etc.

Two copies of the approved Mine Closure Plan duly signed by the competent authority are returned herewith with the request that a copy of the approved Mine Closure Plan may be submitted to concerned State Government for necessary action and also a photocopy of the approved Mine Closure plan may be sent to the Coal Controller for the purpose of monitoring.


(V S Rana)
Under Secretary (CPAM)
Tele : 011 23073937
Fax : 011 23387738

Encls : as above

Copy to : (i) The Under Secretary (CA-I). One copy of the approved Mine Closure Plan (September 2013) is forwarded herewith.

(ii) The Director, Coal Controller, 1-Council House Street, Kolkata.

TOP SOIL DUMP



OB DUMP



PLANTATION





New Leafs coming can be seen



Babool Plants



GARLAND DRAIN





WET DRILLING



CONTROL BLASTING





File No.: J-11015/120/2007-IA-II(M)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Dated **05/02/2024**



To,

Shri Birendra Kumar
NTPC LIMITED
NTPC Limited, NTPC Bhawan, SCOPE Complex, Institutional Area, Lodhi Road, New Delhi – 110003
, New Delhi, NEW DELHI, DELHI, , 110003
environment.ntpc@gmail.com

Subject: **Kerendari 'A' Coal Mine Block (6 MTPA in project area of 1173 ha (ML area 654 Ha) of M/s National Thermal Power Corporation Ltd., located in North Karanpura Coalfields in District Hazaribagh (Jharkhand) – For Amendment of EC dated 31.03.2010 read with subsequent EC transfer on 28.10.2105-regarding**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/JH/CMIN/443765/2023 dated 14/12/2023 for grant of an amendment in prior Environmental Clearance (EC) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC23A0101JH5909189A
(ii) File No.	J-11015/120/2007-IA-II(M)
(iii) Clearance Type	Amendment in EC
(iv) Category	A
(v) Schedule No./ Project Activity	1(a) Mining of minerals
(vi) Sector	Coal Mining
(vii) Name of Project	Kerandari Coal Mining Project
(viii) Location of Project (District, State)	HAZARIBAGH, JHARKHAND
(ix) Issuing Authority	MoEF&CC
(x) EC Date	
(xii) Applicability of General Conditions	NO
(xiii) Status of implementation of the project	

3. Environment Clearance (EC) to the project Kerendari 'A' Coal Mining Project of 6 MTPA peak capacity in mine lease area of 654 ha was accorded by Ministry's vide letter No.: J11015/133/2007-IA. II (M) dated 31.03.2010 to M/s NTPC

Limited.

4. Hon'ble Supreme Court of India vide Judgement dated 25th August, 2014 read with orders dated 24th September, 2014 has cancelled the allocation of 204 coal blocks which include the North Karanpura Coal Fields. In pursuance of the order of Hon'ble Supreme Court, the said coal mine was allocated again to M/s NTPC Limited vide vesting order No. 103/29/2015/NA dated 8th September, 2015 issued by the Nominated Authority in the Ministry of Coal. Pursuant to the said Notification, Ministry has transferred/revalidated EC to M/s NTPC Limited on 28.10.2015 with certain terms & conditions therein.

5. Project Proponent (M/s NTPC Limited) vide proposal number **IA/JH/CMIN/443765/2023** dated 14/12/2023 has requested for a following amendment in specific conditions no. 2A (xi) and 2A (xiv) of Environment Clearance (EC) 31.03.2010 with respect to the permission for transportation of coal by road:

Sr No	As per EC dated 31.03.2010	Amendment Sought
(i)	2A (xi) Raw coal from CHP shall be transported by closed conveyors to the railway siding proposed at village Khadamdari and thereafter by rail to the linked Tanda/Barh STPP. The conveyor cum rail corridor consisting of a stretch of 13.1 km of rail and 10.5 km of overhead closed conveyors and extend upto unloading part at the Railway Siding with Silo Loading facilities and from there to linked Barh STPS/Tanda by rail. There will be no road transportation of coal.	Change in mode for transportation of coal by road through covered tippers/dumpers from mine to Shivpur, Bachra, Kusmahi, Bira Toli, Tori & Katkamsandi railway sidings (over a distance of 27 km, 38 km, 84 km, 95 km, 96 km, & 96 km respectively) for a period of three (03) years or till the associated railway siding become operational, whichever is earlier, for supply to Tanda/Barh STPP and transport of coal by road to NKSTPP (over a distance of 24 km).
(ii)	2A (xiv) Company's Railway siding at village Khadambari shall be established within 3 years from date of grant of environmental clearance.	

6. Above proposal for an amendment was considered in the 5th EAC meeting held on 22.12.2023, EAC during the meeting noted that the contract was signed with M/s L&T on 27.09.2019 for construction of conveyor belt and approximately 50% of the closed conveyor work has been completed and balance work is expected to complete by October 2024. PP committed that M/s NTPC will pursue with Ministry of Power to coordinate with Ministry of Railways for expeditious construction of Railway siding, which is in their domain to ensure railway transportation to respective linkage.

7. EAC after detailed deliberation on the information submitted and presented, **recommended** the proposal for grant of amendment in Environment Clearance to Kerendari 'A' Coal Mine Block (6 MTPA in project area of 1173 ha) of M/s National Thermal Power Corporation Ltd., located in North Karanpura Coalfields in District Hazaribagh (Jharkhand) by extending timeline for construction of closed belt conveyor upto October, 2024 & construction of railway siding by March, 2025 w.e.f 31st January 2024.

8. The MoEF&CC has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the EAC hereby accords amendment in Environment Clearance to M/s NTPC Limited for Kerendari 'A' Coal Mining Project of 6 MTPA peak capacity in mine lease area of 654 ha (project area 1173 ha) by extending timeline for construction of closed belt conveyor upto October, 2024 & construction of railway siding by March, 2025 w.e.f 31st January 2024.

9. This issues with the approval of the Competent Authority.

Copy To

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional

Office, 2nd Floor, Headquarter- Jharkhand State Housing Board, Harmu Chowk, Ranchi, Jharkhand – 834002, Ranchi.

3. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
4. The Regional Director, Central Ground Water Board, Mid Eastern Region, 6th& 7th Floor, Lok Nayak Jai Prakash Bhawan, Frazer Road, Dak Banglow, Patna- 800011, Bihar.
5. The Chairman, Jharkhand State Pollution Control Board, TA building, HEC complex, PO Dhurwa, Ranchi
6. The District Collector, **Hazaribagh**, Government of (Jharkhand)
7. PARIVESH Portal

Annexure 1

Specific EC Conditions for (Mining Of Minerals)

1. Specific Conditions :

S. No	EC Conditions
1.1	<i>As proposed, PP shall complete the work of conveyor and CHP by October, 2024 and railway siding by March, 2025.</i>
1.2	<i>PP shall submit the approved revised Mine Plan with progressive reclamation for change in land use / area of forest land as per approvals obtained to IRO, MoEF&CC.</i>
1.3	<i>PP shall avoid transporting coal by road through forest land without permission from concerned Forest Department.</i>
1.4	<i>PP shall not use any village road and road along sensitive locations such as schools, hospitals etc. for transportation of coal by dumpers/trucks.</i>
1.5	<i>PP shall use the road having width more than 7 mts with tarpaulin covered 40-50 (payload) dumpers/trucks. Further, State Pollution Control Board shall ensure the emissions of trucks by regular inspections.</i>
1.6	<i>M/s NTPC shall write to Ministry of Power to co-ordinate with Ministry of Railways for expeditious construction of Railway siding near to the proposed location.</i>
1.7	<i>PP shall maximum use the nearest location of railway siding (Shivpur & Bachra) for transporting the coal instead of using road for long distance.</i>
1.8	<i>As proposed, construction of road for enroute shivpur siding shall be immediately completed with water sprinkler and tree plantation along the road.</i>
1.9	<i>PP shall install atleast 10 nos of fog cannon in mine lease, overburden dump and transportation route within 6 months.</i>
1.10	<i>PP shall establish Environmental laboratory at project site by March 2024 and create Environmental Management Cell to monitor the issues related environmental degradation.</i>

S. No	EC Conditions
1.11	<i>PP shall explore at least 20% of overall fleet size of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc and deploy e-vehicles for workers/staff in/out of the mine.</i>
1.12	<i>PP shall ensure the compliance of expenditure to be incurred for wildlife conservation plan submitted to the State Govt. and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. Also, PP shall engage State Biodiversity Authority and local biodiversity committee for implementation of CSR activity for developing the local market.</i>
1.13	<i>PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on "Public Grievance Redressal and Monitoring System."</i>
1.14	<i>PP shall submit certified compliance report of EC vide letter No. J-11015/120/2007-IA. II (M) dated 31st March, 2010 and later re-validated letter dated 28.10.2015.</i>
1.15	<i>PP shall commission a study for evaluating the impact of air pollution generated by its activities on the forests upto a distance of about 10 kms through an institution of MoEFCC.</i>

Additional EC Conditions

All conditions mentioned in EC letter dated 31.03.2010 read with subsequent EC transfer on 28.10.2015 shall remain unchanged.

PIEZOMETER





BIOCRAT ENVIRONMENTAL SERVICES

(BIOCRAT ENVIRONMENTAL LAB)

Accredited by NABL & Registered by
Jharkhand State Pollution Control Board (JSPCB)
Certified by: ISO 9001:2015(QMS) & ISO 45001:2018(OHSAS)



TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (JORDAG VILLAGE) ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS

Unique Lab Report No : TC1203923000000577F	Report Issue Date : 07/12/2023
Job Card No : BES/0000798	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/07	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095	
Sampling Date : 10/11/2023	Sample Receiving & Registration Date : 11/11/2023	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/11/2023	Test End Date : 27/11/2023
Sampling Location : Jordag Village	Sampling point : Near Primary School
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	6.41
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	1.37
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	198
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	29.4
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	100
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	105
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	7.88
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	4.86
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	8.76
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.15

Ankita Kumari
Tested by



(Signature)
Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (JORDAG VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000577-A	Report Issue Date : 07/12/2023
Job Card No : BES/0000798	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/07	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	10.32
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.49
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita Kumari
Tested by




Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (KERANDARI VILLAGE) **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Unique Lab Report No : TC1203923000000572F	Report Issue Date : 07/12/2023
Job Card No : BES/0000793	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/02	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.
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General Information		
Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Hand Pump	
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095	
Sampling Date : 10/11/2023	Sample Receiving & Registration Date : 11/11/2023	
Sample Condition : OK, Preserved & Sealed		

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/11/2023	Test End Date : 27/11/2023
Sampling Location : Kerandari Block Office	Sampling point : Near Block Office
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.23
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	< 5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	455
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	52.7
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	264
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	326
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	41.3
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	29.5
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	49.6
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.23

Ankita Kumari
Tested by



[Signature]
Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (KERANDARI VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000572-A	Report Issue Date : 07/12/2023
Job Card No : BES/0000793	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/02	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	17.9
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.41
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

- 01 .Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita kumari
Tested by




Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (MANATU VILLAGE) ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS

Unique Lab Report No : TC1203923000000573F	Report Issue Date : 07/12/2023
Job Card No : BES/0000794	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/03	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.
--

General Information		
Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Hand Pump	
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095	
Sampling Date : 10/11/2023	Sample Receiving & Registration Date : 11/11/2023	
Sample Condition : OK, Preserved & Sealed		

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/11/2023	Test End Date : 27/11/2023
Sampling Location : Manatu Village	Sampling point : Near Manatu Post Office
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.14
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	< 5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	438
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	45.1
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	220
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	244
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	65
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	25.3
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	34.1
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	<0.1

Ankita kumar
Tested by



Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (MANATU VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000573-A	Report Issue Date : 07/12/2023
Job Card No : BES/0000794	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/03	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.
--

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	21.5
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.51
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ^{VI})	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

—END OF REPORT—

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita Kuman
Tested by




Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (PAHRA VILLAGE)

ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS

Unique Lab Report No : TC1203923000000578F	Report Issue Date : 07/12/2023
Job Card No : BES/0000799	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/08	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information		
Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095	
Sampling Date : 10/11/2023	Sample Receiving & Registration Date : 11/11/2023	
Sample Condition : OK, Preserved & Sealed		

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/11/2023	Test End Date : 27/11/2023
Sampling Location : Pahra Village	Sampling point : Near Canteen
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	6.42
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	458
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	32.5
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	188
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	155
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	49.2
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	39.8
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	19.4
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	<0.1

Ankita Kumari
Tested by



(Signature)
Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (PAHRA VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000578-A	Report Issue Date : 07/12/2023
Job Card No : BES/0000799	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/08	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	13.8
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.51
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita Kumari
Tested by




Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (PANDU VILLAGE) ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS

Unique Lab Report No : TC1203923000000575F	Report Issue Date : 07/12/2023
Job Card No : BES/0000796	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/05	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095	
Sampling Date : 10/11/2023	Sample Receiving & Registration Date : 11/11/2023	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/11/2023	Test End Date : 27/11/2023
Sampling Location : Pandu Village	Sampling point : Near Pandu School
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

SI No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	6.98
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	1.6
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	612
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	54.3
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	160
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	283
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	78.8
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	68
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	38
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.13

Ankita Kumari
Tested by



Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (PANDU VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000575-A	Report Issue Date : 07/12/2023
Job Card No : BES/0000796	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/05	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	5.11
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.31
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita Kumari
Tested by




Authorized Signatory
Technical Manager



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TEST REPORT OF **GROUND WATER QUALITY (BASERIA VILLAGE)** **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Format No : 7-BF-02

Unique Lab Report No : TC1203923000000574F	Report Issue Date : 07/12/2023
Job Card No : BES/0000795	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/04	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information		
Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095	
Sampling Date : 10/11/2023	Sample Receiving & Registration Date : 11/11/2023	
Sample Condition : OK, Preserved & Sealed		

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/11/2023	Test End Date : 27/11/2023
Sampling Location : Baseria Village	Sampling point : Near Grocery Shop
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	6.98
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	1.65
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	295
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	46.3
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	176
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	140
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	11.8
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	7.65
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	6.81
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.16

Antika Kumari
Tested by



(Signature)
Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (BASERIA VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000574-A	Report Issue Date : 07/12/2023
Job Card No : BES/0000795	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/04	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/NO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	15.6
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.45
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita Kumari
Tested by




Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No.: 7.BF-Q2

GROUND WATER QUALITY (BENGWARI NADI TOLA) **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Unique Lab Report No : TC1203923000000576F	Report Issue Date : 07/12/2023
Job Card No : BES/0000797	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/06	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095	
Sampling Date : 10/11/2023	Sample Receiving & Registration Date : 11/11/2023	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/11/2023	Test End Date : 27/11/2023
Sampling Location : Bengwari Nadi Tola	Sampling point : Near Primary School
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.16
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	1.12
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	269
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	35.6
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	152
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	132
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	9.85
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec I)	200	400	15.8
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	11.6
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	<0.1

Ankita Kumari
Tested by



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Technical Manager



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TEST REPORT OF

GROUND WATER QUALITY (BENGWARI NADI TOLA)

GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000576-A	Report Issue Date : 07/12/2023
Job Card No : BES/0000797	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/06	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address:- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	8.22
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.39
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

—END OF REPORT—

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita Kumari
Tested by




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Technical Manager



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TEST REPORT OF **GROUND WATER QUALITY (BGR CAMP)** **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Format No: 7.8F-02

Unique Lab Report No : TC1203923000000571F	Report Issue Date : 07/12/2023
Job Card No : BES/0000792	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/01	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information		
Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Borewell	
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095	
Sampling Date : 10/11/2023	Sample Receiving & Registration Date : 11/11/2023	
Sample Condition : OK, Preserved & Sealed		

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/11/2023	Test End Date : 27/11/2023
Sampling Location : BGR Camp	Sampling point : Borewell, Near Canteen
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.83
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	< 5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	1235
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	23.2
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	896
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	66
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	23.6
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	1.62
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	2.62
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.18

Ankita kumari
Tested by



[Signature]
Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (BGR CAMP) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000571-A	Report Issue Date : 07/12/2023
Job Card No : BES/0000792	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/WATER/01	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	7.45
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.35
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita Kumari
Tested by




Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (BASERIA VILLAGE) **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Unique Lab Report No : TC1203923000000870F	Report Issue Date : 07/02/2024
Job Card No : BES/0001274	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/04	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0170	
Sampling Date : 12/01/2024	Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Baseria Village	Sampling point : Near Grocery Shop
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.55
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	328
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	50.7
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	184
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	150
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	15.7
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	9.27
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	5.84
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.15

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Technical Manager



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TEST REPORT OF

GROUND WATER QUALITY (BASERIA VILLAGE)

GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000870-A	Report Issue Date : 07/02/2024
Job Card No : BES/0001274	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/04	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	17.2
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.51
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

—END OF REPORT—

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

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Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (BENGWARI NADI TOLA) **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Unique Lab Report No : TC1203923000000872F	Report Issue Date : 07/02/2024
Job Card No : BES/0001276	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/06	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0170	
Sampling Date : 12/01/2024	Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Bengwari Nadi Tola	Sampling point : Near Primary School
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.69
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	1.62
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	264
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	35.3
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	156
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	135
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	9.85
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/sec 1)	200	400	15.3
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	11.7
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	<0.1

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Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (BENGWARI NADI TOLA) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000872-A	Report Issue Date : 07/02/2024
Job Card No : BES/0001276	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/06	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	8.92
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.46
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

- 01 .Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

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Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (BGR CAMP) ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS

Format No : 7.8F-02

Unique Lab Report No : TC1203923000000867F	Report Issue Date : 07/02/2024
Job Card No : BES/0001271	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/01	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Borewell	
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0170	
Sampling Date : 12/01/2024	Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : BGR Camp	Sampling point : Borewell, Near Canteen
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.64
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	< 5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	225
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	23
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	196
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	63
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	23.6
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	2.18
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	1.94
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.17

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TEST REPORT OF

GROUND WATER QUALITY (BGR CAMP)

GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000867-A	Report Issue Date : 07/02/2024
Job Card No : BES/0001271	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/01	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	8.67
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.49
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.


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Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (JORDAG VILLAGE) **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Unique Lab Report No : TC1203923000000873F	Report Issue Date : 07/02/2024
Job Card No : BES/0001277	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/07	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0170	
Sampling Date : 12/01/2024	Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Jordag Village	Sampling point : Near Primary School
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	6.75
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	1.23
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	173
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	24.5
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	80
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	87
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	7.88
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	4.72
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	6.81
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.13

Arkit

Tested by



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Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (JORDAG VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000873-A	Report Issue Date : 07/02/2024
Job Card No : BES/0001277	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/07	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	10.1
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.49
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

- 01 .Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita

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Technical Manager



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TEST REPORT OF

Format No : 7.BF-02

GROUND WATER QUALITY (KERANDARI VILLAGE) **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Unique Lab Report No : TC1203923000000868F	Report Issue Date : 07/02/2024
Job Card No : BES/0001272	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/02	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information		
Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Hand Pump	
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0170	
Sampling Date : 12/01/2024	Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Kerandari Block Office	Sampling point : Near Block Office
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.45
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	< 5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	436
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	53.4
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	280
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	333
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	41.4
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	31.1
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	48.7
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	<0.1

Arshita

Tested by



[Signature]

Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (KERANDARI VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000868-A	Report Issue Date : 07/02/2024
Job Card No : BES/0001272	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/02	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	19.5
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.52
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

- 01 .Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita
Tested by



[Signature]
Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (MANATU VILLAGE) ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS

Unique Lab Report No : TC1203923000000869F	Report Issue Date : 07/02/2024
Job Card No : BES/0001273	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/03	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Hand Pump	
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0170	
Sampling Date : 12/01/2024	Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/01/2024	Test End Date 27/01/2024
Sampling Location : Manatu Village	Sampling point : Near Manatu Post Office
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	6.88
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	< 5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	368
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	38.4
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	200
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	214
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	59.1
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	24.6
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	29.2
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	<0.1

Ankita
Tested by



Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (MANATU VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000869-A	Report Issue Date : 07/02/2024
Job Card No : BES/0001273	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/03	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address:- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	19.6
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.53
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

—END OF REPORT—

Declaration :-

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita
Tested by



[Signature]
Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (PAHRA VILLAGE) **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Unique Lab Report No : TC1203923000000874F	Report Issue Date : 07/02/2024
Job Card No : BES/0001278	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/08	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0170	
Sampling Date : 12/01/2024	Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Pahra Village	Sampling point : Near Canteen
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	6.96
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	<1
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	413
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	36.8
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	196
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	170
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	53.2
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	42.1
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	19.5
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	<0.1

Ankita

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Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (PAHRA VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000874-A	Report Issue Date : 07/02/2024
Job Card No : BES/0001278	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/08	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	15.2
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.54
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

- 01 .Reported results are related only to the item tested.
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03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Ankita
Tested by



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Authorized Signatory
Technical Manager



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TEST REPORT OF

Format No : 7.8F-02

GROUND WATER QUALITY (PANDU VILLAGE) **ORGANOLEPTIC, PHYSICAL & GENERAL PARAMETERS**

Unique Lab Report No : TC1203923000000871F	Report Issue Date : 07/02/2024
Job Card No : BES/0001275	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/05	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

General Information

Environmental Condition of Laboratory	Avg. Temp : 25 ± 2°C	Avg. Relative Humidity: 50 ± 5 %
Protocol : Water	Source of Sample : Bore Well	
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0170	
Sampling Date : 12/01/2024	Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed.		

Sample Description

Sample Temperature at the time of receiving : 5 °C	Avg. Temperature at the time of Analysis : 25±2°C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Pandu Village	Sampling point : Near Pandu School
Customer Representative Name : Mr. Prakash Kumar (Environmental Engineer)	

Analysis Result

Sl No	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
01.	pH	---	IS 3025 (Part-11)	6.5-8.5	No relaxation	7.60
02.	Turbidity	NTU	IS 3025 (Part-10)	1	5	1.85
03.	Colour	Hazen	IS 3025 (Part-04)	5	15	<5
04.	Odour	---	IS 3025 (Part-05)	Agreeable	Agreeable	Agreeable
05.	Total Dissolved Solids	mg/l	IS 3025 (Part-16)	500	2000	621
06.	Calcium (as Ca ²⁺)	mg/l	IS 3025 (Part-40)	75	200	56.8
07.	Total Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part-23)	200	600	168
08.	Total Hardness (as CaCO ₃)	mg/l	IS 3025 (Part-21)	200	600	289
09.	Chloride (as Cl)	mg/l	IS 3025 (Part-32)	250	1000	78.8
10.	Sulphate (as SO ₄)	mg/l	IS 3025 (Part-24/ sec 1)	200	400	69.4
11.	Magnesium (as Mg)	mg/l	IS 3025 (Part-46)	30	100	36.0
12.	Iron (as Fe)	mg/l	IS 3025 (Part-53)	0.3	No relaxation	0.17

Antika

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[Signature]

Authorized Signatory
Technical Manager



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TEST REPORT OF GROUND WATER QUALITY (PANDU VILLAGE) GENERAL PARAMETERS & TOXIC SUBSTANCE

Unique Lab Report No : BES/BGR/KRD/23000000871-A	Report Issue Date : 07/02/2024
Job Card No : BES/0001275	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/WATER/05	Group : Water
Type of Industry : Coal Mines	Product / Material of Test : Ground Water
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311.

Analysis Result

Sl No.	Specific Test Performed	Unit	Method No	Limits as per IS 10500 :2012		Results
				Acceptable	Permissible	
13.	Taste	---	IS 3025 (Part-07)	Agreeable	Agreeable	Agreeable
14.	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	0.2	1	<0.2
15.	Nitrate (as NO ₃)	mg/l	IS 3025 (Part-34)	45	No relaxation	5.72
16.	Fluoride (as F)	mg/l	IS 3025 (Part- 60)	1.0	1.5	0.31
17.	Aluminum (as Al)	mg/l	IS 3025 (Part-55)	0.03	0.2	<0.03
18.	Boron (as B)	mg/l	IS 3025 (Part-57)	0.5	1.0	<0.5
19.	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part-43)	0.001	0.002	<0.001
20.	Copper (as Cu)	mg/l	IS 3025 (Part-42)	0.05	1.5	<0.05
21.	Selenium (as S)	mg/l	IS 3025 (Part-56)	0.01	No relaxation	<0.01
22.	Zinc (as Zn)	mg/l	IS 3025 (Part-49)	5	15	<2
23.	Manganese (as Mn)	Mg/l	IS 3025 (part- 59)	0.1	0.3	<0.1
24.	Cyanide	mg/l	IS 3025 (Part-27)	0.05	No relaxation	<0.05
25.	Hexavalent Chromium (as Cr ⁶⁺)	mg/l	IS 3025 (Part-52)	0.05	No relaxation	<0.05
26.	Lead (as Pb)	mg/l	IS 3025 (Part-47)	0.01	No relaxation	<0.01
27.	Arsenic (as As)	mg/l	IS 3025 (Part-37)	0.01	0.05	<0.01
28.	Cadmium (as Cd)	mg/l	IS 3025 (Part-41)	0.003	No relaxation	<0.003
29.	Mercury (as Hg)	Mg/l	IS 3025 (part- 48)	0.001	No relaxation	<0.001

---END OF REPORT---

Declaration :-

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02. This report is the property of laboratory & should not be used unless advised.
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Tested by




Authorized Signatory
Technical Manager

EFFLUENT TREATMENT PLANT



1105

23-813

उपायुक्त का कार्यालय, हजारीबाग

(जिला राजस्व शाखा)

पत्रांक 1575 / रा0

प्रेषक,

अपर समाहर्ता,
हजारीबाग।

सेवा में,

महाप्रबन्धक,
एन0टी0पी0सी0 चट्टी बरियातु कोल माईनिंग प्रोजेक्ट /
कैरेडारी (करनदारी) कोल माईनिंग प्रोजेक्ट,
हजारीबाग।

हजारीबाग, दिनांक 20-8-2013

विषय :-

हजारीबाग जिलान्तर्गत चट्टी बरियातु कोल माईनिंग प्रोजेक्ट / कैरेडारी (करनदारी) कोल माईनिंग प्रोजेक्ट में भू-अर्जन से प्रभावित परिवारों के पुनर्वास हेतु एन0टी0पी0सी0 लि0 द्वारा समर्पित पुर्स्थापन एवं पुनर्वास योजना की स्वीकृति के संबंध में।

प्रसंग :-

प्रधान सचिव, राजस्व एवं भूमि सुधार विभाग, झारखण्ड, राँची के पत्रांक 471/रा0 दिनांक 26.07.2013 एवं पत्रांक 472/रा0 दिनांक 26.07.2013

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र संलग्न कर आवश्यक कार्रवाई हेतु भेजा जा रहा है।

अतः अनुरोध है कि उक्त पत्र में वर्णित निदेशों का अनुपालन सुनिश्चित करने की कृपा

की जाय।

अनुलग्नक :- यथोक्त।

विश्वासभाजन

[Signature]

अपर समाहर्ता, हजारीबाग।

प्रेषक,

जे० बी० तुविद

प्रधान सचिव

सेवा में,

उपायुक्त-सह-प्रशासक,
पुनर्स्थापन एवं पुनर्वास, हजारीबाग।

राँची, दिनांक- 26-07-13

विषय :- हजारीबाग जिलान्तर्गत केरेडारी (करनदारी) कोल माईनिंग प्रोजेक्ट में भू-अर्जन से प्रभावित परिवारों के पुनर्वास हेतु एन.टी.पी.सी.लि. द्वारा समर्पित 'पुनर्स्थापन एवं पुनर्वास योजना' की स्वीकृति के संबंध में।

प्रसंग:- आपका पत्रांक-1242/रा. दिनांक-10.07.12

महाशय,

निदेशानुसार उपर्युक्त विषयक प्रसंगाधीन पत्र से प्राप्त हजारीबाग जिलान्तर्गत केरेडारी (करनदारी) कोल माईनिंग प्रोजेक्ट में भू-अर्जन से प्रभावित परिवारों के पुनर्वास हेतु आपके अनुशासना रो एन.टी.पी.सी.लि. के 'पुनर्स्थापन एवं पुनर्वास योजना' पूर्व में पकरी बरवाडीह कोल माईन्स परियोजना हेतु परामर्शी परिषद की दिनांक-12.02.13 की मद संख्या-12 के क्रम में संकल्प सं०-116/रा. दिनांक-27.02.13 द्वारा दी गयी स्वीकृति के अनुरूप ही हजारीबाग जिलान्तर्गत केरेडारी (करनदारी) कोल माईन्स से विस्थापित परिवारों के पुनर्स्थापन एवं पुनर्वास हेतु स्वीकृति प्रदान की जाती है।

सुलभ प्रसंग हेतु परामर्शी परिषद की दिनांक-12.02.13 को मद सं०-12 द्वारा दी गयी स्वीकृति संबंधी संकल्प सं०-116/रा. दिनांक-27.02.13 की छायाप्रति संलग्न है।

2. उपायुक्त यह जाँच कर सुनिश्चित कर लेंगे कि NTPC के उक्त परियोजना में कोई भी विस्थापित परिवार R & R नीति के लाभ से वंचित न रह जाए।

3. इस प्रस्ताव में प्रभासी परामर्शी, राजस्व एवं भूमि सुधार विभाग का अनुमोदन प्राप्त है।

विश्वासभाजन

(जे० बी० तुविद)
प्रधान सचिव

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पत्रांक-10/डी.एल.ए./NTPC (को.) पुन.-70/13 - 472/रा.0.
झारखण्ड सरकार
राजस्व एवं भूमि सुधार विभाग।

प्रेषक.

जे० बी० तुबिद
प्रधान सचिव

उपायुक्त-सह-प्रशासक,
पुनर्स्थापन एवं पुनर्वास, हजारीबाग।

राँची, दिनांक-26-07-13

30 JUL 2013

विषय :-

गोपनीय शाखा

प्रसंग:-
महाशय,

हजारीबाग जिलान्तर्गत चट्टी बरियातु कोल माईनिंग प्रोजेक्ट में भू-अर्जन से प्रभावित परिवारों के पुनर्वास हेतु एन.टी.पी.सी.लि. द्वारा समर्पित 'पुनर्स्थापन एवं पुनर्वास योजना' की स्वीकृति के संबंध में।

आपका पत्रांक-1242/रा. दिनांक-10.07.12

निदेशानुसार उपर्युक्त विषयक प्रसंगाधीन पत्र से प्राप्त हजारीबाग जिलान्तर्गत चट्टी बरियातु कोल माईनिंग प्रोजेक्ट में भू-अर्जन से प्रभावित परिवारों के पुनर्वास हेतु आपके अनुशंसा से एन.टी.पी.सी.लि. के 'पुनर्स्थापन एवं पुनर्वास योजना' पूर्व में पकरी बरवाडीह कोल माईन्स परियोजना हेतु परामर्शी परिषद की दिनांक-12.02.13 की मद संख्या-12 के क्रम में संकल्प सं०-116/रा. दिनांक-27.02.13 द्वारा दी गयी स्वीकृति के अनुरूप ही हजारीबाग जिलान्तर्गत चट्टी बरियातु कोल माईन्स से विस्थापित परिवारों के पुनर्स्थापन एवं पुनर्वास हेतु स्वीकृति प्रदान की जाती है। सुलभ प्रसंग हेतु परामर्शी परिषद की दिनांक-12.02.13 को मद सं०-12 द्वारा दी गयी स्वीकृति संबंधी संकल्प सं०-116/रा. दिनांक-27.02.13 की छायाप्रति संलग्न है।

2. उपायुक्त यह जाँच कर सुनिश्चित कर लेंगे कि NTPC के उक्त परियोजना में कोई भी विस्थापित परिवार R & R नीति के लाभ से वंचित न रह जाए।

3. इस प्रस्ताव में प्रभारी परामर्शी, राजस्व एवं भूमि सुधार विभाग का अनुमोदन प्राप्त है।

विश्वासभाजन

(जे० बी० तुबिद)
प्रधान सचिव

30/7/13

झारखण्ड सरकार
राजस्व एवं भूमि सुधार विभाग।

::संकल्प::

सं0-10/डी.एल.ए./एन.टी.पी.सी. (को.) पुन.-16/09 /रा., राँची, दिनांक-

राजस्व एवं भूमि सुधार विभाग, झारखण्ड, राँची के संकल्प सं0-630/रा. दिनांक-23.07.08 द्वारा स्वीकृत 'झारखण्ड पुनर्स्थापन एवं पुनर्वास नीति-2008' राज्य गजट के प्रकाशन की तिथि-25.07.08 से झारखण्ड में लागू है। एन.टी.पी.सी. लि0 द्वारा हजारीबाग जिलान्तर्गत पकरी बरवाडीह कोल माईन्स प्रोजेक्ट में non coal Bearing Area में पड़ने वाली रैयती भूमि के भू-अर्जन हेतु झारखण्ड सरकार के साथ दिनांक-12.05.2011 को एकरारनामा किया गया। उक्त एकरारनामा में एन.टी.पी.सी. लि0 द्वारा भू-अर्जन से प्रभावित परिवारों/व्यक्तियों के पुनर्वास हेतु बचनबद्धता दी गई है।

2. झारखण्ड पुनर्स्थापन एवं पुनर्वास नीति-2008 के अध्याय-IV के आलोक में एन.टी.पी.सी. लि0 द्वारा पकरी बरवाडीह कोल माईन्स प्रोजेक्ट के नन कोल बीयरिंग एरिया एवं कोल बीयरिंग एरिया में भू-अर्जन से प्रभावित परिवारों का सामाजिक-आर्थिक सर्वे (Socio-Economic Survey) I.I.T., खड़गपुर एवं क्षेत्रीय NGO 'अभिज्ञान' से कराया गया है। समर्पित प्रतिवेदन के अनुसार सर्वेक्षण का सार निम्नवत् है :-

क्र.	विवरण	भू-अर्जन अधिनियम से प्रभावित	C.B. Act से प्रभावित	कुल प्रभावित
(i)	Homestead oustees (HSO's)	0	4276	4276
(ii)	Project Affected families (PAF's)			
	(क) अनुसूचित जन जाति	0	0	0
	(ख) अनुसूचित जाति	191	648	839
	(ग) ओ.बी.सी.	699	5886	6585
	(घ) सामान्य श्रेणी	178	737	915
	कुल-	1068	7271	8339
(iii)	BPL Families	303	1993	2296
(iv)	विधवा	53	21	74
(v)	अविवाहित पुरुष	2	1	3
(vi)	अविवाहित महिला	0	0	0
(vii)	विकलांग	2	1	3
(viii)	नाबालिग अनाथ	0	0	0
(ix)	Vulnerable Person	0	0	0
(x)	कृषि मजदूर	4	4	8
(xi)	गैर कृषि मजदूर	0	0	0
(xii)	Artisons	0	5	5

3. सर्वेक्षण प्रतिवेदन के अनुसार इस परियोजना में अनुसूचित जन जाति का कोई भी परिवार HSO's अथवा PAF's के अन्तर्गत नहीं है।

4. परियोजना से प्रभावित होनेवाली जन सुविधाओं और सरकारी भवनों की सूची जो प्रभावित है अथवा जिनके प्रभावित होने की संभावना है, निम्नवत है :-

1. सरकारी विद्यालय - 24
2. पंचायत भवन - 03
3. प्राथमिक स्वास्थ्य केन्द्र - 01
4. आँगनवाड़ी केन्द्र - 19
5. उप डाकघर - 01
6. महिला प्रशिक्षण केन्द्र - 01
7. कृषि उत्पाद हेतु भंडारगृह - 01

5. परियोजना से प्रभावित होनेवाली सार्वजनिक एवं सामुदायिक संपत्तियों, परिसंपत्तियों और संरचनाओं का विवरण, जो प्रभावित हो रही है, निम्नवत है :-

1. मंदिर - 32
2. मस्जिद - 06
3. खेल मैदान - 02
4. तालाब - 15
5. कुँआ - 08
6. कब्रगाह - 19
7. हाट बाजार - 02
8. पहुँच पथ - 03

6. परियोजना से प्रभावित भूमि एवं PAF's की विवरण निम्नवत है :-

मौजो की संख्या	क्षेत्र (रैयती एकड़ में)	PAF's की संख्या	अभ्युक्ति
7	1711	2221	पूर्ण सर्वे के अनुसार DLAO, कार्यालय में रक्षित अभिलेख के आधार पर
10	2360	5050	
13	690	1068	
कुल- 30	4761	8339	

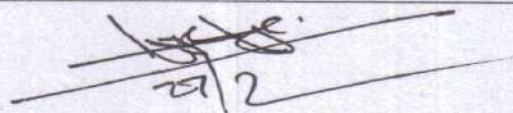
7. उपर्युक्त प्रभावित परिवारों/व्यक्तियों को पुनर्वासित करने हेतु पुनर्स्थापन क्षेत्र के रूप में अर्जित की जा रही भूमि की विस्तृत विवरणी निम्नवत् है :-

अंचल का नाम	ग्राम/मौजा	थाना नं.	रकबा (एकड़ में)		
			रैयती	गैरमजरूआ	कुल
बड़कागाँव	ढेंगा	127	170.14	4.1.10	211.24
बड़कागाँव	लकुरा	128	9.52	1.77	11.29
			179.66	42.87	222.53

8. एन.टी.पी.सी. लि० द्वारा कोल बियरिंग एरिया एवं नॅन कोल बियरिंग एरिया दोनों के भू-अर्जन से प्रभावित विस्थापितों के लिये एक संयुक्त 'पुनर्स्थापन एवं पुनर्वास योजना' समर्पित की गई है।

9. झारखण्ड पुनर्स्थापन एवं पुनर्वास नीति की कंडिका-4.4.1 के अनुसार स्वतंत्र बहुविद्य विशेषज्ञ समूह का वर्तमान में अस्तित्व में नहीं होने के फलस्वरूप एन.टी.पी.सी. लि० द्वारा समर्पित "पुनर्स्थापन एवं पुनर्वास योजना" को परामर्शी परिषद के समक्ष उपस्थापित किया गया। परामर्शी परिषद द्वारा गहन समीक्षोपरान्त दिनांक-12.02.2013 को मद संख्या-12 में स्वीकृति प्रदान की गई है जो कि निम्नवत् है :-

SI No.	Jharkhand R&R Policy Clause	Jharkhand R&R Policy Provisions	Proposed R&R Package to be given by NTPC
1	2	3	4
1	Land compensation	As per circle rate varying from 1.4 to 3.6 lacs per acre plus solatium and interest etc. Financial implication: 3.81 Rs lacs/acres	Land compensation @ Rs. 15 lacs/acre inclusive of award amount of the land (value of land + solatium + statutory interest) + cash value of 300 days minimum assured wages for a year + cash value of 600 days minimum wages as subsistence allowance in lieu of employment + cash value of 1/10th of the land acquired from the land looser (maximum 50 decimal).
2	7.1	R&R benefit shall be extended to all the affected families on the date of publication of the declaration, any division of assets in the family after said date may not be taken into account	NTPC will comply the provisions of Jharkhand R & R
3	7.2	Any PAP who losses his/her house due to LA will be allocated house site equivalent to the actual area of house lost limited to maximum of 10 decimal in rural area and 5 decimal in urban area a pucca house of 100 sqm carpet area on the allotted site shall be constructed by acquiring body which should consists of 2 bedrooms, 1 Drawing room, 1 kitchen & 1 toilet.	A:-NTPC shall allocate house site equivalent to the actual area of house lost limited to maximum of 10 decimal which is equivalent to 400sqmt land. NTPC shall construct a house of 100 sqm carpet area on the said plot of 400 sqm consisting of 2 bedrooms, 1 Drawing room, 1 kitchen & 1 toilet with the roof right.


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4	7.2	Affected family losing house on land less than 10 decimal area in rural area & 5 decimal in urban area shall be allotted 150 sqm land for construction of house. pucca house of equal carpet area or carpet area of minimum 55 sqm which ever is more shall be constructed by acquiring body. it will be limited to a maximum of 100 sqm.	B:- In case of affected family losing house on land less than 10 decimal area in rural area NTPC shall allocate house site of 150 sqmt land. NTPC shall construct house of 55 sqm on said plot consisting of 1 bedrooms, 1 Drawing room, 1 kitchen & 1 toilet with the roof right.
5		If affected family opts not to take the house offered then the PAF shall get one time financial assistance for construction of house @ Rs 3.00 Lakhs	c:- NTPC shall allocate house to all the persons who loses their house.
6	7.3	Each BPL family residing in affected area for a period not less than 15 years in non scheduled area & 30 years in scheduled area shall be entitled to get a constructed house of 55sqm carpet area in rural as well as urban area.	NTPC will provide house in R&R Colony
7		If affected BPL family opts not to take the house offered then the BPL family shall get one time financial assistance for construction of house @ Rs 2.00 Lakhs	NTPC will comply the provisions of Jharkhand R & R
8	7.4	Each affected family to whom Govt land can not be settled or if they do not opt to get Govt land, they will be entitled to get 1/10th of land lost due to LA subject to a maximum of 50 decimal land in proposed township or at a place in the proximity. This will be calculated by deducting land allotted for homestead purpose	not providing land the cost of the proposed land to be given is included in the consolidated package mentioned in SI.No 1.
9	7.5	Stamp duty and other fees payable for registration of land or house allotted to the affected family shall be borne by acquiring body	NTPC will bear the stamp duty & other fees for registration of allocated house site & constructed house.
10	7.6	land & houses allotted to PAF shall be free from all encumbrances	NTPC will comply the provisions of Jharkhand R & R
11	7.7	Land and house allotted to affected families shall be in joint name of wife and husband. monetary amount shall be disbursed through bank account opened in the joint name	NTPC will comply the provisions of Jharkhand R & R
12	7.8	Each displaced family having cattle shall get one time financial assistance of Rs 35000 for construction of cattle shed	Rs 35,000 as mentioned in Jharkhand R & R

13	7.9	Each displaced family shall get one time financial assistance of Rs 15000 for shifting of family, belongings, cattle & building materials	Rs 15,000 as mentioned in Jharkhand R & R
14	7.10	Each affected trader who has been displaced having pucca shop or gumti shall get one time financial assistance of Rs 50000	NTPC will comply the provisions of Jharkhand R & R
15	7.11.1(a)	Employment to one eligible persons from each nuclear family who has lost their agriculture land or homestead land due to LA. If more jobs are available then priority to be given to the displaced persons priority in the employment to be decided by Administrator(concerned DC) in consultation with gram sabha & requiring body	This will be largely taken care by NTPC by way of enhanced compensation mentioned in forgoing para 1 and enhanced annuity mentioned in para 26 below.
16	7.11.1(b)	Technical/vocational training to the affected persons to make them suitable for the jobs	NTPC will ensure completion & operation of ITI at Barkagaon immediately.
17	7.11.1 (C)	requiring body to provide Scholarship and skill development opportunities to eligible persons from the affected families as per criteria fixed by State government	ITI training is being provided on NTPC cost to affected persons, Modular employable scheme course arranged for wards of PAP's
18	7.11.1(d)	requiring body to give preference to affected persons or their groups or cooperatives in allotment of outsourced contracts, shops etc coming up in the project.	NTPC will comply the provisions of Jharkhand R & R
19	7.11.1(e)	requiring body to give preference to willing landless labour & unemployed affected persons in labour jobs during construction phase	NTPC will comply the provisions of Jharkhand R & R
20	7.11.1(f)	Age of Nominees of the PAF for employment shall be relaxed by 10 years	not providing employment
21	7.11.1(g)	All unskilled and semi skilled direct employment created in the project shall be provided to the members of affected families subject to availability and suitability	NTPC will comply the provisions of Jharkhand R & R
22	7.11.1(h)	Preference to local people in all levels of employment as far as possible	not providing employment
23	7.11.1(i)	Each affected family will nominate one member for employment	not providing employment
24	7.11.1(j)	Demise of person of affected family during service his dependent will be provided employment on compassionate ground	not providing employment

25	7.11.2	affected persons to be offered the necessary training facilities for development of entrepreneurship, technical & professional skills for self development.	NTPC will comply the provisions of Jharkhand R & R
26	7.12	If employment is not provided by the requiring body to the PAFs then Annuity @ Rs.12000/- per acre per annum for 30 years which is to be escalated by Rs.500 /acre/annum every two years from the date of displacement. maximum amount of annuity shall be limited to Rs 10000/- per month i.e. Rs.12000 per year for 30 years which is to be increased by Rs.500 in every two years. If PAF losses less the one acre of land then minimum Rs.1000 per month is to be paid.	In lieu of employment annuity @ Rs. 36,000 per acre per annum for 30 years for those loosing one acre or more land which is to be escalated by Rs.1,000 every two years(Limited to maximum for 5 acres).Those loosing land less than 1 acre then annuity @ Rs 30,000 per annum for 30 years which is to be escalated by Rs. 750 every two years
27	7.13.1	1% annual profit to be distributed in PAP's for companies other than PSU's	As per GOI policy for central PSUs engaged in mining
28	7.13.2	Distribution of profit	As per GOI policy for central PSUs engaged in mining
29	7.14	each affected family shall get Subsistence allowance equivalent to 25 minimum agriculture wages per month for one year i.e. 300 MAW	This benefit is included in land compensation at s. No. 1.
30		Affected families not getting employment from requiring body shall get amount equal to 600 days of agriculture wages.	This benefit is included in land compensation at s. No. 1.
31	7.15	Requiring body to pay Pension for life to vulnerable affected persons @ Rs 1500/- per month for life.Vulnerable means disabled, destitutes, orphans, widows, unmarried girls, abanodoned women or persons above 50 yrs of age who are not provided or can not immediaetely be provided with alternative livelihood & who are not otherwise covered as part of a family.(clause 6.4.v)	As per the Jharkhand State R & R Policy comprehensive Re-survey will be conducted by DC Hazaribagh to ascertain such vulnerable persons.
32	7.16	Except CI 7.13.1 and 7.15 other benefits can be paid in lumpsum	NTPC will comply the provisions of Jharkhand R & R
33	7.18.1	if project involves displacement of 100 STs then tribal development plan to be prepared.	not applicable in the instant case
34	7.18.2	1/3 of compensation amount due to be paid as first instalment rest at time of taking over possession	NTPC will comply the provisions of Jharkhand R & R

35	7.18.3	Schedule tribes to be resettled in same schedule area in the compact block	not applicable in the instant case
36	7.18.4	in the resettlement areas predominantly inhabited by STs and to be given for community and religious gatherings free of cost	not applicable in the instant case
37	7.18.5	if PAFs belonging to SC, ST, OBC categories are resettled outside the district then 25% higher R & R benefits of clause 7.8,7.9 7.10 is to be paid	not applicable in the instant case
38	7.18.6	any alienation of tribal land in violation of laws of land then it will be treated as null & void. R & R benefits to be paid to the original tribal owner.	NTPC will comply the provisions of Jharkhand R & R
39	7.18.7	in hydel projects, PAFs to get fishing rights in the reservoirs	not applicable in the instant case
40	7.18.8	Affected ST/SC/other forest dweller families who are in possession of forest land in the affected area prior to 13th December, 2005 shall be eligible for R & R Benefits	NTPC will comply as per provisions of FRA 2006.
41	7.19.1 to 7.19.6	Amenities and infrastructure facilities to be provided by the requiring body in the Resettlement areas	Roads, public Transport, drainage, sanitation, drinking water, community pond, plantation, public utilities (panchayat Ghar, electric supply, healthcare facilities, playground, community centre, school, place of worship, burial/cremation ground, grazing land etc, will be part of R&R colony.
42	7.20	Indexation of Rehabilitation Grant and other benefits shall be indexed as per CPI (consumer price index) except annuity.	NTPC will comply the provisions of Jharkhand R & R
43	7.21	Periphery development: requiring body to earmark 1% of their annual net profit for development within 15 Km periphery. commissioner to coordinate & State Govt. may frame rules & guidelines for this purpose.	NTPC will comply the provisions of Jharkhand R & R

उपर्युक्त वर्णित प्रावधानों के अतिरिक्त अन्य देय कोई भी लाभों/सुविधाओं का भुगतान/विवरण झारखण्ड पुनर्स्थापन एवं पुनर्वास नीति-2008 के आलोक में किया जायेगा।

झारखण्ड राज्यपाल के आदेश से,
ह0 / -

(ए0 के0 रस्तोगी)
सरकार के विशेष सचिव

ज्ञापांक—

दिनांक—

प्रतिलिपि :—अधीक्षक, राजकीय मुद्रणालय, डोरण्डा, राँची को सूचना एवं झारखण्ड राजपत्र के असाधारण अंक में प्रकाशनार्थ प्रेषित।


ह0/—

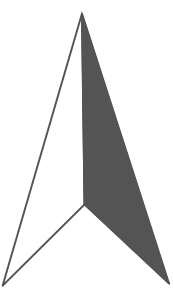
सरकार के विशेष सचिव

ज्ञापांक—

116/रा० दिनांक— 27-2-13

प्रतिलिपि :—महामहिम राज्यपाल के प्रधान सचिव/मुख्य सचिव के सचिव/विकास आयुक्त, झारखण्ड, राँची/सभी प्रधान सचिव/सचिव, झारखण्ड, राँची/सभी विभागाध्यक्ष/सभी प्रमंडलीय आयुक्त/सभी उपायुक्त/महाप्रबंधक, एन.टी. पी.सी. लि०, पकरी बरवाडीह कोल माईनिंग प्रोजेक्ट, हजारीबाग को सूचना एवं आवश्यक कार्रवाई हेतु प्रेषित।


27/2
सरकार के विशेष सचिव
को०

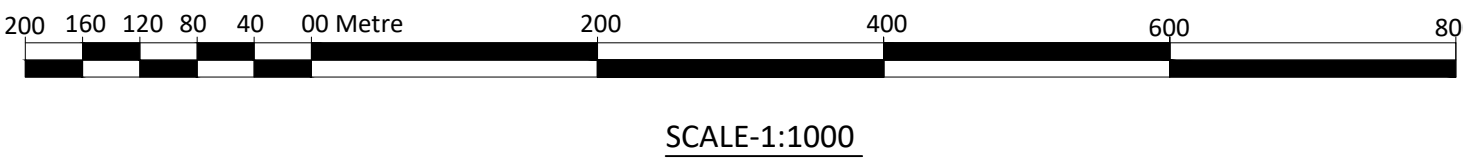


-:LEGENDS :-		
Sl.	Particulars	Symbol
1.	Kerandari Lease/Mine Boundary	
2.	Proposed Excavation Boundary	
3.	Proposed Dumping Area	



AARAV UNMANNED SYSTEMS
35, 1st Floor,
Jairam Nagar, Jakkur,
Bengaluru,Karnataka 560064
www.aus.co.in

 NTPC LIMITED	
PROJECT	KERANDARI COAL MINING PROJECT
TITLE	DRONE IMAGE
SCALE	1:1000
DATE	Dec'2022





झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद,
क्षेत्रीय कार्यालय-सह-प्रयोगशाला, पी0टी0सी0 चौक, मटवारी रोड, हजारीबाग।

Ref.....876.....

Date..18/8/23

From,

A.K. Yadav,
Regional Officer, Hazaribag,

To,

The GM(HOP),
M/s Kerendari Coal Mining project
of NTPC Ltd,
Hazaribag.

Sub:- For approval of locations for Environmental monitoring Stations at Kerendari Coal Mining Project of NTPC Ltd., Hazaribag.


Ref. no. Your letter no. KDCMP/Mining/2023/205 dt. 12.08.2023

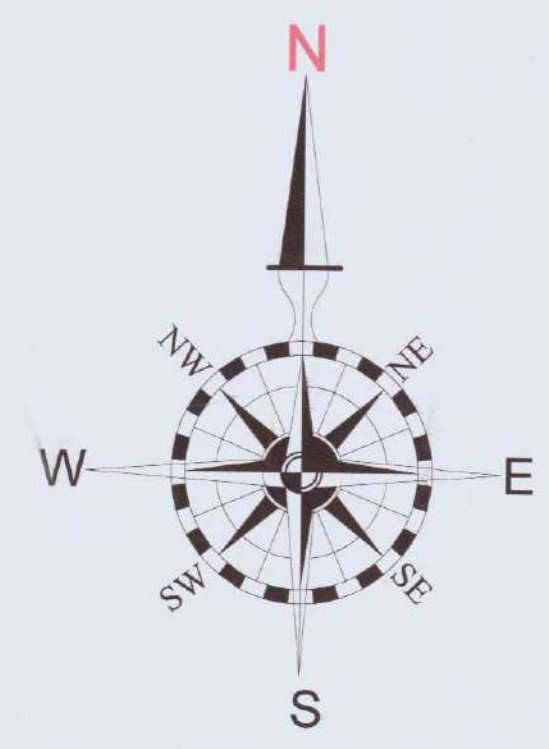
Sir,

With reference to the above subject this is to informed you that the site was inspected on 18.08.2023 and found the all marked location to install the monitoring devices are suitable.

The stations may be fixed at marked locations.

Yours faithfully


(A.K. Yadav)
Regional Officer



LEGENDS

- CAAQMS
- GW (GROUND WATER)
- A (AIR)
- N (NOISE)
- SO (SOIL)
- SW (SURFACE WATER)

Sl. No	Village	Monitoring Stations
1	Basaria	SO1, A1, N1, SW4 and GW3
2	BGR Workshop	CAAQMS, SO2, N2, A2 and GW2
3	Bāledewri	SW3
4	Pandu	GW1
5	Bengwari	A3, N3, SO3 and GW4
6	Tarhesa	A4, N4, SW2 and SO4
7	Hewai	SW1
8	Manātu	SW5, A5, N5, GW5 and SO5
9	Pahra	SO6, N6, A6 and GW6
10	Jordag	N7, GW7, A7 and SO7
11	Bukru	SW8
12	Keredari	SO8, GW8, N8, A8 and SW7
13	Garri Kalan	SW6

NTPC LIMITED	
PROJECT	KERANDARI COAL MINING PROJECT
TITLE	ENVIRONMENT Monitoring Stations
SCALE	Not to Scale
PLAN NO	NTPC_KDCMP_EMS01 DATE: 07.08.2023

Certified that the Plan is correct and updated

Prepared By
Pravin Ramdas Sanap

Checked By
S. V. Venkata Ramesh Kumar

Approved By
JSPCB R.O. (Hazaribagh)

07/08/2023

07/08/2023

07/08/2023

07/08/2023



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TEST REPORT **AMBIENT AIR QUALITY** (Baseria Village)

Format No: 7.8F-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000000883F	Report Issue Date : 07/02/2024
Job Card No : BES/0001287	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish Kr.Singh & Team	Sampling Plan Reference : BES/0170		
Sampling Date : 09/01/2024 to 10/01/2024	Sample Receiving & Registration Date : 13/01/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities		
Metrological Information	Temp: 21 °C	R.Humidity : 65 %	Barometric Pressure: 726 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Baseria Village (NTPC Camp) – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	09.60
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	13.65
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	64.28
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	23.34

---END OF REPORT---

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

Declaration: -

- Reported results are related only to the item tested.
- This report is the property of laboratory & should not be used unless advised.
- Items tested are as per the standard requirements.
- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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Certified by: ISO 9001:2015(QMS) & ISO 45001:2018(OHSAS)



TEST REPORT **AMBIENT AIR QUALITY** (BGR Work Shop)

Format No: 7.8F-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000000884F	Report Issue Date : 07/02/2024
Job Card No : BES/0001288	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170		
Sampling Date : 09/01/2024 to 10/01/2024	Sample Receiving & Registration Date : 13/01/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicle Surrounding Activities		
Metrological Information	Temp: 21 °C	R.Humidity : 65 %	Barometric Pressure: 726 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : BGR Work Shop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	10.28
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	18.47
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	69.88
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	30.21

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager



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Format No: 7.9F-04

TEST REPORT **AMBIENT AIR QUALITY** (Bengwari Nadi Tola)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000000885F	Report Issue Date : 07/02/2024
Job Card No : BES/00001289	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170		
Sampling Date : 09/01/2024 to 10/01/2024	Sample Receiving & Registration Date : 13/01/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities		
Metrological Information	Temp: 21 °C	R.Humidity : 65 %	Barometric Pressure: 726 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Bengwari Nadi Tola -- Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	09.62
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	10.80
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	76.61
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	39.52

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Tarhesa Village)

FIRST FORTNIGHT

Unique Lab Report No : TC1203923000000886F	Report Issue Date : 07/02/2024
Job Card No : BES/0001290	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0170	
Sampling Date : 09/01/2024 to 10/01/2024		Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 21 °C	R.Humidity : 65 %	Barometric Pressure: 726 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Tarhesa Village – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	08.48
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	12.70
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	69.81
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	35.33

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Bki Road, Bajra, P.O - Hehal, Dist - Ranchi, Jharkhand. Pin -834005

Email Id :- biocratenv@gmail.com, Mobile No - 7369019812, 8340466751, 9608708172



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Format No: 7-SF-04

TEST REPORT **AMBIENT AIR QUALITY** (Manatu Village)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000000887F	Report Issue Date : 07/02/2024
Job Card No : BES/0001291	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170		
Sampling Date : 10/01/2024 to 11/01/2024	Sample Receiving & Registration Date : 13/01/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities		
Metrological Information	Temp: 22 °C	R.Humidity : 67 %	Barometric Pressure: 728 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	08.38
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	09.41
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	55.79
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	25.61

—END OF REPORT—

• **Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No 8.29016/20/90/PCI-L of 18th November 2009)

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- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Surveshwari Nagar, Tikri Road, Rajra, P.O. - 150001, Ranchi, Jharkhand. Pin - 834005
Email Id :- biocratenv@gmail.com, Mobile No - 7369019812, 8340466751, 9608708172



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Certified by: ISO 9001:2015(QMS) & ISO 45001:2018(OHSAS)



Formet No: 7.BF-04

TEST REPORT **AMBIENT AIR QUALITY** (Pahra Village)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000000888F	Report Issue Date : 07/02/2024
Job Card No : BES/0001292	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Keraandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0170	
Sampling Date : 10/01/2024 to 11/01/2024		Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 67 %	Barometric Pressure: 728 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	07.88
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	08.10
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	57.27
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	21.54

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)
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 - All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, 106 Road, Bajra, P.O - Hahat, Ranchi - Jharkhand, Pin -834005
Email Id :- biocratenv@gmail.com Mobile No - 7369019812, 8340466751, 9608708122



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Format No: 7.8F-04

TEST REPORT **AMBIENT AIR QUALITY** (Jordag Village)

FIRST FORTNIGHT

Unique Lab Report No : TC1203923000000889F	Report Issue Date : 07/02/2024
Job Card No : BES/0001293	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0170	
Sampling Date : 10/01/2024 to 11/01/2024		Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 67 %	Barometric Pressure: 728 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Jordag School – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	<5.0
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	07.83
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	47.65
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	19.24

---END OF REPORT---

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/POI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwar Nagar, Itri Road, Hajra, P.O. - 834005, Ranchi, Jharkhand. Pin -834005

Email Id :- biocratenv@gmail.com Mobile No :- 7569419812, 8340466751, 9608708172



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Kerandari Village)

FIRST FORTNIGHT

Unique Lab Report No : TC1203923000000890F	Report Issue Date : 07/02/2024
Job Card No : BES/0001294	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0170	
Sampling Date : 10/01/2024 to 11/01/2024		Sample Receiving & Registration Date : 13/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 67 %	Barometric Pressure: 728 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 13/01/2024	Test End Date : 27/01/2024
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	18.90
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	27.49
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	66.53
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	31.28

---END OF REPORT---

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No 8,29016/20/90/PCI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwar Nagar, Dki Road, Bajra, P.O. - Hazaribag, Jharkhand. Pin - 834005
Email Id :- biocrateis@gmail.com, Mobile No - 7569013812, 8340466751, 9608708172



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TEST REPORT AMBIENT AIR QUALITY (Baseria Village)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000000999F	Report Issue Date : 07/02/2024
Job Card No : BES/0001445	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/09	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0187	
Sampling Date : 27/01/2024 to 28/01/2024		Sample Receiving & Registration Date : 30/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 69 %	Barometric Pressure: 729 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/01/2024	Test End Date : 05/02/2024
Sampling Location : Baseria Village (NTPC Camp) – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	10.24
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	14.57
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	73.41
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	28.69

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT **AMBIENT AIR QUALITY** (BGR Workshop)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001000F	Report Issue Date : 07/02/2024
Job Card No : BES/0001446	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/10	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0187	
Sampling Date : 27/01/2024 to 28/01/2024		Sample Receiving & Registration Date : 30/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 69 %	Barometric Pressure: 729 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/01/2024	Test End Date : 05/02/2024
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	11.61
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	19.56
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	78.24
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	35.59

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Bengwari Nadi Tola)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001001F	Report Issue Date : 07/02/2024
Job Card No : BES/0001447	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/11	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0187	
Sampling Date : 27/01/2024 to 28/01/2024		Sample Receiving & Registration Date : 30/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 69 %	Barometric Pressure: 729 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/01/2024	Test End Date : 05/02/2024
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	10.54
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	11.84
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	88.82
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	46.21

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PO-L of 18th November 2009)
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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Tarhesa Village)

Format No: 7.BE-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001002F	Report Issue Date : 07/02/2024
Job Card No : BES/0001448	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/12	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0187	
Sampling Date : 27/01/2024 to 28/01/2024		Sample Receiving & Registration Date : 30/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 69 %	Barometric Pressure: 729 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/01/2024	Test End Date : 05/02/2024
Sampling Location : Tarhesa Village – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	08.63
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	13.70
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	78.26
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	39.18

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by



[Signature]

Authorized Signatory
Technical Manager



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TEST REPORT **AMBIENT AIR QUALITY** (Manatu Village)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001003F	Report Issue Date : 07/02/2024
Job Card No : BES/0001449	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/13	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0187	
Sampling Date : 28/01/2024 to 29/01/2024		Sample Receiving & Registration Date : 30/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 21 °C	R.Humidity : 65 %	Barometric Pressure: 727 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/01/2024	Test End Date : 05/02/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	09.60
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	10.80
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	64.34
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	30.50

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PO-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Pahra Village)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001004F	Report Issue Date : 07/02/2024
Job Card No : BES/0001450	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/14	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0187	
Sampling Date : 28/01/2024 to 29/01/2024		Sample Receiving & Registration Date : 30/01/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 21 °C	R.Humidity : 65 %	Barometric Pressure: 727 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/01/2024	Test End Date : 05/02/2024
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	08.18
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	09.96
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	65.17
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	26.43

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT **AMBIENT AIR QUALITY** (Jordag Village)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001005F	Report Issue Date : 07/02/2024
Job Card No : BES/0001451	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/15	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0187		
Sampling Date : 28/01/2024 to 29/01/2024	Sample Receiving & Registration Date : 30/01/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities		
Metrological Information	Temp: 21 °C	R.Humidity : 65 %	Barometric Pressure: 727 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/01/2024	Test End Date : 05/02/2024
Sampling Location : Jordag Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	<5.0
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	08.69
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	55.87
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	22.41

-----END OF REPORT-----

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PO-L of 18th November 2009)

Declaration:-

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Kerandari Village)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001006F	Report Issue Date : 07/02/2024
Job Card No : BES/0001452	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/AAQ/16	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WD/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0187		
Sampling Date : 28/01/2024 to 29/01/2024	Sample Receiving & Registration Date : 30/01/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities		
Metrological Information	Temp: 21 °C	R.Humidity : 65 %	Barometric Pressure: 727 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/01/2024	Test End Date : 05/02/2024
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	19.21
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	29.52
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	73.78
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	36.55

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PO-I of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Baseria Village)

Format No: 7.8F-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001101F	Report Issue Date : 09/03/2024
Job Card No : BES/0001594	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0205	
Sampling Date : 12/02/2024 to 13/02/2024		Sample Receiving & Registration Date : 16/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 23 °C	R.Humidity : 60 %	Barometric Pressure: 723 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 16/02/2024	Test End Date : 29/02/2024
Sampling Location : Baseria Village (NTPC Camp) - Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	08.45
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	13.12
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	68.40
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	26.72

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PC-I of 18th November 2009)

Declaration :-

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Technical Manager



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TEST REPORT **AMBIENT AIR QUALITY** (BGR Work Shop)

Format No: 7, BF-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001102F	Report Issue Date : 09/03/2024
Job Card No : BES/0001393	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/ FEB/AAQ/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205		
Sampling Date : 12/02/2024 to 13/02/2024	Sample Receiving & Registration Date : 16/02/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicle Surrounding Activities		
Metrological Information	Temp: 23 °C	R.Humidity : 60 %	Barometric Pressure: 723 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 16/02/2024	Test End Date : 29/02/2024
Sampling Location : BGR Work Shop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	10.69
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	17.48
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	72.39
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	33.59

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B 29016/20/90/PCI-L of 18th November 2009)
- Declaration:** -
 01. Reported results are related only to the item tested.
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 04. All parameters in this report conforms to the specific standard

Tested by



Authorized Signatory
Technical Manager

Add: - Surveshwar Nagar, Iki Road, Hazra, P.O - Hehal, Dist - Ranchi, Jharkhand Pin-834005
Email Id :- bicratenviro@gmail.com Mobile No :- 7369019812, 8340466751, 9608708172



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TEST REPORT **AMBIENT AIR QUALITY** (Bengwari Nadi Tola)

Form No: 7.BF-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001103F	Report Issue Date : 09/03/2024
Job Card No : BES/00001596	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/ FEB/AAQ/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0205	
Sampling Date : 12/02/2024 to 13/02/2024		Sample Receiving & Registration Date : 16/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 23 °C	R.Humidity : 60 %	Barometric Pressure: 723 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 16/02/2024	Test End Date : 29/02/2024
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	08.96
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	10.26
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	83.88
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	45.00

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCL-L of 18th November 2009)

Declaration: -

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT

Format No: 7.BF-04

AMBIENT AIR QUALITY

(Tarhesa Village)

FIRST FORTNIGHT

Unique Lab Report No : TC1203923000001104F	Report Issue Date : 09/03/2024
Job Card No : BES/0001597	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0205	
Sampling Date : 12/02/2024 to 13/02/2024		Sample Receiving & Registration Date : 16/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 23 °C	R.Humidity : 60 %	Barometric Pressure: 723 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 16/02/2024	Test End Date : 29/02/2024
Sampling Location : Tarhesa Village – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	06.79
02	Oxides of Nitrogen (NO _x)	µg/m ³	24 Hours	IS 5182 Part-06	80	11.84
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	71.66
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	38.24

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Itki Road, Dajra, P.O - Hatai, Dist - Ranchi, Jharkhand Pin -834003
Email Id :- biocratenv@gmail.com Mobile No - 7309019812, 8340466751, 9028708172



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Format No: 7.BF-04

TEST REPORT AMBIENT AIR QUALITY (Manatu Village)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001105F	Report Issue Date : 09/03/2024
Job Card No : BES/0001598	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205		
Sampling Date : 13/02/2024 to 14/02/2024	Sample Receiving & Registration Date : 16/02/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities		
Metrological Information	Temp: 22 °C	R.Humidity : 62 %	Barometric Pressure: 726 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 16/02/2024	Test End Date : 29/02/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	08.55
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	09.16
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	60.63
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	28.61

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)
- Declaration** : -
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Tested by



Authorized Signatory
Technical Manager



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Format No: 7.BF-04

TEST REPORT AMBIENT AIR QUALITY (Pahra Village)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001106F	Report Issue Date : 09/03/2024
Job Card No : BES/0001599	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WD/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0205	
Sampling Date : 13/02/2024 to 14/02/2024		Sample Receiving & Registration Date : 16/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 62 %	Barometric Pressure: 726 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 16/02/2024	Test End Date : 29/02/2024
Sampling Location : Pahra Village - Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	06.68
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	08.08
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	61.49
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	25.83

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by



Authorized Signatory
Technical Manager

Add: - Survesdwai Nagar, Bks Road, Usra, P.O - Hetal, Dist - Ranchi, Jharkhand Pin - 834003
Email Id :- biocratenv@gmail.com Mobile No - 73600119812, 8340466751, 9008708172



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Jordag Village)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001107F	Report Issue Date : 09/03/2024
Job Card No : BES/0001600	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0205	
Sampling Date : 13/02/2024 to 14/02/2024		Sample Receiving & Registration Date : 16/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 62 %	Barometric Pressure: 726 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 16/02/2024	Test End Date : 29/02/2024
Sampling Location : Jordag School – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	11.25
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	17.80
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	72.38
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	42.69

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

Declaration: -

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04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Bika Road, Hattia, P.O. - Hattia, Dist - Ranchi, Jharkhand Pin - 834005
Email Id :- biocratenv@gmail.com Mobile No - 7369019812, 8340466751, 9008708172



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Format No: 7.8F-04

TEST REPORT AMBIENT AIR QUALITY (Kerandari Village)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001108F	Report Issue Date : 09/03/2024
Job Card No : BES/0001601	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0205	
Sampling Date : 13/02/2024 to 14/02/2024		Sample Receiving & Registration Date : 16/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 62 %	Barometric Pressure: 726 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 16/02/2024	Test End Date : 29/02/2024
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	18.05
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	27.49
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	69.87
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	34.28

—END OF REPORT—

- Norms:** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)
- Declaration:** -
 01. Reported results are related only to the item tested.
 02. This report is the property of laboratory & should not be used unless advised.
 03. Items tested are as per the standard requirements.
 04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Bika Road, Hazra, P.O. - Hahat Dwt - Ranchi, Jharkhand. Pin - 834005.
Email Id :- biocratenr@gmail.com Mobile No :- 7360019812, 9340466751, 96008308172



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TEST REPORT

Form No. 7, BP-04

AMBIENT AIR QUALITY

(Baseria Village)

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001168F	Report Issue Date : 09/03/2024
Job Card No : BES/0001699	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/09	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0220	
Sampling Date : 26/02/2024 to 27/02/2024		Sample Receiving & Registration Date : 29/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 65 %	Barometric Pressure: 727 mmHg

Sample Description

Sample Temperature at the time of receiving : 5°C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 29/02/2024	Test End Date : 07/03/2024
Sampling Location : Baseria Village (NTPC Camp) – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	10.62
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	15.41
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	74.58
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	30.17

—END OF REPORT—

- Norms:** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI L of 18th November 2009)

- Declaration:** -

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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Format No: 7_RP-04

TEST REPORT **AMBIENT AIR QUALITY** (BGR Workshop)

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001169F	Report Issue Date : 09/03/2024
Job Card No : BES/0001700	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/10	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0220		
Sampling Date : 26/02/2024 to 27/02/2024	Sample Receiving & Registration Date : 29/02/2024		
Sample Condition : OK. Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities		
Metrological Information	Temp: 22 °C	R.Humidity : 65 %	Barometric Pressure: 727 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 29/02/2024	Test End Date : 07/03/2024
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	12.47
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	18.52
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	78.55
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	36.14

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India; Extraordinary, CPCB Notification No B.29016/20/90/PCL of 18th November 2009)
- Declaration** : -
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
 - Items tested are as per the standard requirements.
 - All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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Format No: 7.BF-04

TEST REPORT AMBIENT AIR QUALITY (Bengwari Nadi Tola)

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001170F	Report Issue Date : 09/03/2024
Job Card No : BES/0001701	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/11	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0220	
Sampling Date : 26/02/2024 to 27/02/2024		Sample Receiving & Registration Date : 29/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 65 %	Barometric Pressure: 727 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 29/02/2024	Test End Date : 07/03/2024
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	10.67
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	14.08
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	89.63
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	48.34

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

Declaration: -

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Iki Road, Hujra, P.O - Helat, Dist - Ranchi, Jharkhand. Pin-834005
Email Id :- biocratenv@gmail.com Mobile No - 7369619612, 8340466751, 9008708172



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Tarhesa Village)

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001171F	Report Issue Date : 09/03/2024
Job Card No : BES/0001702	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/12	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0220	
Sampling Date : 26/02/2024 to 27/02/2024		Sample Receiving & Registration Date : 29/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 22 °C	R.Humidity : 65 %	Barometric Pressure: 727 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 29/02/2024	Test End Date : 07/03/2024
Sampling Location : Tarhesa Village – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	08.46
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	13.25
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	76.28
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	42.81

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

Declaration: -

- Reported results are related only to the item tested.
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- Items tested are as per the standard requirements.
- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Surveshwar Nagar, Ili Road, Dugra, P.O - Hahat, Dist - Ranchi, Jharkhand. Pin - 834003
Email Id :- biocratenv@gmail.com Mobile No - 7369019812, 8340466751, 9608708172



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TEST REPORT **AMBIENT AIR QUALITY** (Manatu Village)

Form No: ZBF-01

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001172F	Report Issue Date : 09/03/2024
Job Card No : BES/0001703	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/13	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: -	M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311
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General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0220	
Sampling Date : 27/02/2024 to 28/02/2024		Sample Receiving & Registration Date : 29/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 23 °C	R.Humidity : 64 %	Barometric Pressure: 725 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 29/02/2024	Test End Date : 07/03/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	10.39
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	12.27
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	66.41
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	31.96

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No 8.29016/20/90/PCI-I of 18th November 2009)

Declaration: -

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- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Saraswati Nagar, Jhki Road, Baria, P.O - Hikal, Dist - Ranchi, Jharkhand. Pin-834005
Email Id :- biocratenv@gmail.com Mobile No - 7369019812, 8340467551, 9608708172



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Certified by: ISO 9001:2015(QMS) & ISO 45001:2018(OHSAS)



TEST REPORT AMBIENT AIR QUALITY (Pahra Village)

Format No: 7.BF-04

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001173F	Report Issue Date : 09/03/2024
Job Card No : BES/0001704	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/14	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0220	
Sampling Date : 27/02/2024 to 28/02/2024		Sample Receiving & Registration Date : 29/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities.	
Metrological Information	Temp: 23 °C	R.Humidity : 64 %	Barometric Pressure: 725 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 29/02/2024	Test End Date : 07/03/2024
Sampling Location : Pahra Village - Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	68.41
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	10.34
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	68.61
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	29.45

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

Declaration: -

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- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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Format No: 7.BF-C4

TEST REPORT **AMBIENT AIR QUALITY** (Jordag Village)

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001174F	Report Issue Date : 09/03/2024
Job Card No : BES/0001705	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/15	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: -	M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311
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General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish kr. Singh & Team	Sampling Plan Reference : BES/0220		
Sampling Date : 27/02/2024 to 28/02/2024	Sample Receiving & Registration Date : 29/02/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities		
Metrological Information	Temp: 23 °C	R.Humidity : 64 %	Barometric Pressure: 725 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 29/02/2024	Test End Date : 07/03/2024
Sampling Location : Jordag Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	12.46
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	19.75
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	78.22
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	50.21

—END OF REPORT—

- Norms:** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-I of 18th November 2009)
- Declaration:-**
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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT **AMBIENT AIR QUALITY** (Kerandari Village)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001175F	Report Issue Date : 09/03/2024
Job Card No : BES/0001706	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/AAQ/16	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0220	
Sampling Date : 27/02/2024 to 28/02/2024		Sample Receiving & Registration Date : 29/02/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 23 °C	R.Humidity : 64 %	Barometric Pressure: 725 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 29/02/2024	Test End Date : 07/03/2024
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	19.38
02	Oxides of Nitrogen (NO _x)	µg/m ³	24 Hours	IS 5182 Part-06	80	28.96
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	75.61
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	37.29

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

Declaration: -

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- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Surveshwar Nagar, Biki Road, Hajra, P.O - Hahad, Dist - Ranchi, Jharkhand Pin-834005
Email Id :- biocratenv@gmail.com Mobile No - 7360019812, 8340466751, 9008708172



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TEST REPORT AMBIENT AIR QUALITY (Baseria Village)

Format No: 7-BF-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001286F	Report Issue Date : 06/04/2024
Job Card No : BES/0001883	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 11/03/2024 to 12/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 25 °C	R.Humidity : 59 %	Barometric Pressure: 710 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Baseria Village (NTPC Camp) - Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	12.14
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	17.22
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	81.44
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	35.50

---END OF REPORT---

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B 29016/20/90/PCI-L of 18th November 2009)

Declaration: -

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02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Ili Road, Rajra, P.O. - Rajra, Jharkhand, Pin - 834015
Email Id :- biocratenv@gmail.com Mobile No - 7369019812, 8340466751, 9608708172



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Format No: 7.8F-04

TEST REPORT **AMBIENT AIR QUALITY** (BGR Work Shop)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001287F	Report Issue Date : 06/04/2024
Job Card No : BES/0001884	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/ MAR/AAQ/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air	Type of Sample: Ambient Air		
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245		
Sampling Date : 11/03/2024 to 12/03/2024	Sample Receiving & Registration Date : 15/03/2024		
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicle Surrounding Activities		
Metrological Information	Temp: 25 °C	R.Humidity : 59 %	Barometric Pressure: 710 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : BGR Work Shop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	14.86
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	20.11
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	84.68
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	40.36

---END OF REPORT---

- Norms:** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India. Extraordinary, CPCB Notification No 8.29016/20/90/PCI-L of 18th November 2009)

Declaration: -

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- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Bengwari Nadi Tola)

Format No: 7.8F-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001288F	Report Issue Date : 06/04/2024
Job Card No : BES/00001885	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/ MAR/AAQ/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 11/03/2024 to 12/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 25 °C	R.Humidity : 59 %	Barometric Pressure: 710 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	12.36
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	17.54
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	90.12
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	49.33

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-I of 18th November 2009)

Declaration:-

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- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory

Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Tarhesa Village)

Format No: 7-BF-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001289F	Report Issue Date : 06/04/2024
Job Card No : BES/0001886	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 11/03/2024 to 12/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 25 °C	R.Humidity : 59 %	Barometric Pressure: 710 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Tarhesa Village – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	09.40
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	16.42
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	80.42
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	45.61

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-I, of 18th November, 2009)

Declaration: -

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04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Manatu Village)

Formet No: 7.8P-03

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001290F	Report Issue Date : 06/04/2024
Job Card No : BES/0001887	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 12/03/2024 to 13/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK. Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 24 °C	R.Humidity : 61 %	Barometric Pressure: 712 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	11.66
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	13.44
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	69.35
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	34.69

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India. Extraordinary, CPCB Notification No B.29016/30/90/PCI-L of 18th November 2009)

Declaration: -

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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Pahra Village)

Format No: 7-BF-04

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001291F	Report Issue Date : 06/04/2024
Job Card No : BES/0001888	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 12/03/2024 to 13/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 24 °C	R.Humidity : 61 %	Barometric Pressure: 712 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	09.37
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	11.67
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	71.32
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	32.76

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards) as per published in the gazette of India: Extraordinary, CPCB Notification No B-29016/20/90/PCI-L of 18th November 2009)

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- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Suryeshwari Nagar, Iki Road, Bujra, P.O - Helmut, Dist - Ranchi, Jharkhand / Pin-834005
Email Id :- biocratenv@gmail.com. Mobile No :- 7369010812, 8380466751, 9608708172



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TEST REPORT

Format No: 7.BF-04

AMBIENT AIR QUALITY

(Jordag Village)

FIRST FORTNIGHT	
Unique Lab Report No : TC1203923000001292F	Report Issue Date : 06/04/2024
Job Card No : BES/0001889	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 12/03/2024 to 13/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 24 °C	R.Humidity : 61 %	Barometric Pressure: 712 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Jordag School – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	14.70
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	20.01
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	81.14
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	54.49

—END OF REPORT—

- **Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

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Tested by:



[Signature]

Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Iki Road, Dugra, P.O - Hikal, Dist - Ranchi, Jharkhand Pin-834005
Email Id :- biocratenv@gmail.com, Mobile No - 7369019812, 8340466751, 9608708172



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TEST REPORT

Format No: 7.BF-04

AMBIENT AIR QUALITY

(Kerandari Village)

FIRST FORTNIGHT

Unique Lab Report No : TC1203923000001293F	Report Issue Date : 06/04/2024
Job Card No : BES/0001890	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 12/03/2024 to 13/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 24 °C	R.Humidity : 61 %	Barometric Pressure: 712 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	20.87
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	29.47
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	79.38
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	40.11

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No 8.29016/20/90/PC-I of 18th November 2009)

- Declaration: -**

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Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Iki Road, Dugri, P.O. - Hehal, Dist - Ranchi, Jharkhand / Pin - 834005
Email Id :- biocratenv@gmail.com. Mobile No :- 7369019812, 8340466731, 9888708172



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TEST REPORT

Format No: 7 RF-04

AMBIENT AIR QUALITY

(Baseria Village)

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001373F	Report Issue Date : 06/04/2024
Job Card No : BES/0002024	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/09	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0265	
Sampling Date : 27/03/2024 to 28/03/2024		Sample Receiving & Registration Date : 30/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 26 °C	R.Humidity : 57 %	Barometric Pressure: 711 mmHg

Sample Description

Sample Temperature at the time of receiving : 5°C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/03/2024	Test End Date : 05/04/2024
Sampling Location : Baseria Village (NTPC Camp) – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	12.00
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	18.31
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	85.47
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	38.20

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)
- Declaration:** -
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 04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Bki Road, Hajm, P.O.-Behal, Dist- Ranchi, Jharkhand, Pin -834005
Email Id :- biocratenvi@gmail.com Mobile No - 7364019812, 8340466751, 9608708172



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TEST REPORT

Format No: 7.BF-04

AMBIENT AIR QUALITY

(BGR Workshop)

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001374F	Report Issue Date : 06/04/2024
Job Card No : BES/0002025	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/10	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0265	
Sampling Date : 27/03/2024 to 28/03/2024		Sample Receiving & Registration Date : 30/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 26 °C	R.Humidity : 57 %	Barometric Pressure: 711 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/03/2024	Test End Date : 05/04/2024
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	14.71
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	21.15
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	87.27
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	42.10

---END OF REPORT---

- Norms :** NAAQS (National Ambient Air Quality Standards) as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

Declaration: -

- Reported results are related only to the item tested.
- This report is the property of laboratory & should not be used unless advised.
- Items tested are as per the standard requirements.
- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sirsawanwar Nagar, Iki Road, Bara, P.O. - Hefal, Dist - Ranchi, Jharkhand. Pin - 834005
Email Id :- biocratenv@gmail.com Mobile No - 7369019812, 8340467531, 9688708172



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Bengwari Nadi Tola)

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001375F	Report Issue Date : 06/04/2024
Job Card No : BES/0002026	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/11	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0265	
Sampling Date : 27/03/2024 to 28/03/2024		Sample Receiving & Registration Date : 30/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 26 °C	R.Humidity : 57 %	Barometric Pressure: 711 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/03/2024	Test End Date : 05/04/2024
Sampling Location : Bengwari Nadi Tola - Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	12.26
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	18.70
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	88.46
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	47.55

---END OF REPORT---

- Norms:** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PC-I of 13th November 2009)

- Declaration:** -

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Suryeshwari Nagar, Jks Road, Durg, P.O - Heghal, Dist - Ranchi, Jharkhand. Pin -834005
Email Id :- biocratenv@gmail.com, Mobile No - 7369019812, 8340466751, 9608708172



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TEST REPORT

Format No: 7.RF-04

AMBIENT AIR QUALITY

(Tarhesa Village)

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001376F	Report Issue Date : 06/04/2024
Job Card No : BES/0002027	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/12	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0265	
Sampling Date : 27/03/2024 to 28/03/2024		Sample Receiving & Registration Date : 30/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities.	
Metrological Information	Temp: 26 °C	R.Humidity : 57 %	Barometric Pressure: 711 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/03/2024	Test End Date : 05/04/2024
Sampling Location : Tarhesa Village – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	11.80
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	17.36
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	86.21
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	48.74

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009)

- Declaration:** -

01. Reported results are related only to the item tested.
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04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Saraswati Nagar, Jhika Road, Durgam, P.O. - Hehal, Dist - Ranchi, Jharkhand. Pin - 834005
Email Id :- biocratenv@gmail.com Mobile No :- 7369019812, 8346466751, 9608708172



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TEST REPORT

Format No: 7.BF-04

AMBIENT AIR QUALITY

(Manatu Village)

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001377F	Report Issue Date : 06/04/2024
Job Card No : BES/0002028	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/13	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0265	
Sampling Date : 28/03/2024 to 29/03/2024		Sample Receiving & Registration Date : 30/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 27 °C	R.Humidity : 55 %	Barometric Pressure: 709 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/03/2024	Test End Date : 05/04/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	12.28
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	14.63
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	74.19
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	36.24

—END OF REPORT—

- **Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29036/20/90/PCI-Lof 18th November 2009)

- **Declaration: -**

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager

Add: - Sarveshwari Nagar, Iki Road, Dajra, P.O - Hehar, Taluk - Ranchi, Jharkhand. Pin - 834005
Email Id :- biocratserv@gmail.com. Mobile No - 7369019812, 8340465751, 9608708172



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TEST REPORT

Format No: 7-RE-04

AMBIENT AIR QUALITY

(Pahra Village)

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001378F	Report Issue Date : 06/04/2024
Job Card No : BES/0002029	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/14	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0265	
Sampling Date : 28/03/2024 to 29/03/2024		Sample Receiving & Registration Date : 30/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 27 °C	R.Humidity : 55 %	Barometric Pressure: 709 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/03/2024	Test End Date : 05/04/2024
Sampling Location : Pahra Village - Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	09.26
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	12.70
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	77.75
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	35.52

—END OF REPORT—

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India; Extraordinary, CPCB Notification No B.29016/20/00/PCI-L of 18th November 2009)

- Declaration: -**

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Jordag Village)

Format No: 7.BF-04

SECOND FORTNIGHT	
Unique Lab Report No : TC1203923000001379F	Report Issue Date : 06/04/2024
Job Card No : BES/0002030	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/15	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information			
Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0265	
Sampling Date : 28/03/2024 to 29/03/2024		Sample Receiving & Registration Date : 30/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 27 °C	R.Humidity : 55 %	Barometric Pressure: 709 mmHg

Sample Description	
Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/03/2024	Test End Date : 05/04/2024
Sampling Location : Jordag Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result						
Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	14.70
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	21.01
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	86.55
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	51.61

—END OF REPORT—

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PC-I. of 18th November 2009)
- Declaration** : -
 01. Reported results are related only to the item tested.
 02. This report is the property of laboratory & should not be used unless advised.
 03. Items tested are as per the standard requirements.
 04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT AMBIENT AIR QUALITY (Kerandari Village)

Format No: 7.8F-03

SECOND FORTNIGHT

Unique Lab Report No : TC1203923000001380F	Report Issue Date : 06/04/2024
Job Card No : BES/0002031	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/16	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address: - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air	
Sample Collected By : Manish kr. Singh & Team		Sampling Plan Reference : BES/0265	
Sampling Date : 28/03/2024 to 29/03/2024		Sample Receiving & Registration Date : 30/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 27 °C	R.Humidity : 55 %	Barometric Pressure: 709 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 30/03/2024	Test End Date : 05/04/2024
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method No	Norms NAAQS 2009	Result
01	Sulphur Dioxide (SO ₂)	µg/m ³	24 Hours	IS 5182 Part-02	80	21.34
02	Oxides of Nitrogen (NO ₂)	µg/m ³	24 Hours	IS 5182 Part-06	80	28.38
03	Respirable Suspended Particulate Matter (PM ₁₀)	µg/m ³	24 Hours	IS 5182 Part 23	100	75.61
04	Fine Particulate Matter (PM _{2.5})	µg/m ³	24 Hours	IS 5182 Part 24	60	38.61

—END OF REPORT—

- Norms:** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No.B.29016/20/90/PC-I, of 18th November 2009)

- Declaration:** -

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Baseria Village)

Unique Lab Report No : LAB/REPORTS/BES/00000254	Report Issue Date : 06/04/2024
Job Card No : BES/0000261A	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/Heavy Metal/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air (Heavy Metal)	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 11/03/2024 to 12/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 25 °C	R.Humidity : 59 %	Barometric Pressure: 710 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Baseria Village (NTPC Camp) – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method Name	Norms NAAQS 2009	Result
01	Mercury (Hg)	ng/m ³	24 Hours	Cold-Vapor AAS Method	Not Specified	<0.12
02	Arsenic (As)	ng/m ³	24 Hours	AAS Method	06 ng/m ³ (Annual)	<0.3
03	Nickel (Ni)	ng/m ³	24 Hours	AAS Method	20 ng/m ³ (Annual)	<0.6
04	Cadmium (Cd)	ng/m ³	24 Hours	Extraction/Air Acetylene Flame Method	Not Specified	<0.6
05	Chromium (Cr)	ng/m ³	24 Hours	AAS Method	Not Specified	<13

---END OF REPORT---

- Norms :** NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009).

- Note – AAS (Atomic Absorption Spectrophotometry)

Declaration: -

- Reported results are related only to the item tested.
- This report is the property of laboratory & should not be used unless advised.
- Items tested are as per the standard requirements.
- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(BGR workshop)

Unique Lab Report No : LAB/REPORTS/BES/00000255	Report Issue Date : 06/04/2024
Job Card No : BES/0000262A	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/Heavy Metal/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air	Type of Sample: Ambient Air (Heavy Metal)
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 11/03/2024 to 12/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities
Metrological Information	Temp: 25 °C
	R.Humidity : 59 %
	Barometric Pressure: 710 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method Name	Norms NAAQS 2009	Result
01	Mercury (Hg)	ng/m ³	24 Hours	Cold-Vapor AAS Method	Not Specified	<0.12
02	Arsenic (As)	ng/m ³	24 Hours	AAS Method	06 ng/m ³ (Annual)	<0.3
03	Nickel (Ni)	ng/m ³	24 Hours	AAS Method	20 ng/m ³ (Annual)	<0.6
04	Cadmium (Cd)	ng/m ³	24 Hours	Extraction/Air Acetylene Flame Method	Not Specified	<0.6
05	Chromium (Cr)	ng/m ³	24 Hours	AAS Method	Not Specified	<13

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009).

- Note – AAS (Atomic Absorption Spectrophotometry)

Declaration: -

- Reported results are related only to the item tested.
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- Items tested are as per the standard requirements.
- All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Bengwari Nadi Tola)

Unique Lab Report No : LAB/REPORTS/BES/00000256	Report Issue Date : 06/04/2024
Job Card No : BES/0000263A	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/Heavy Metal/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air (Heavy Metal)	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 11/03/2024 to 12/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 25 °C	R.Humidity : 59 %	Barometric Pressure: 710 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Bengwari Nadi Tola- Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method Name	Norms NAAQS 2009	Result
01	Mercury (Hg)	ng/m ³	24 Hours	Cold-Vapor AAS Method	Not Specified	<0.12
02	Arsenic (As)	ng/m ³	24 Hours	AAS Method	06 ng/m ³ (Annual)	<0.3
03	Nickel (Ni)	ng/m ³	24 Hours	AAS Method	20 ng/m ³ (Annual)	<0.6
04	Cadmium (Cd)	ng/m ³	24 Hours	Extraction/Air Acetylene Flame Method	Not Specified	<0.6
05	Chromium (Cr)	ng/m ³	24 Hours	AAS Method	Not Specified	<13

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009).

- Note – AAS (Atomic Absorption Spectrophotometry)

Declaration: -

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Tested by



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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Tarhesa Village)

Unique Lab Report No : LAB/REPORTS/BES/00000257	Report Issue Date : 06/04/2024
Job Card No : BES/0000264A	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/Heavy Metal/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air (Heavy Metal)	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 11/03/2024 to 12/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 25 °C	R.Humidity : 59 %	Barometric Pressure: 710 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Tarhesa Village – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method Name	Norms NAAQS 2009	Result
01	Mercury (Hg)	ng/m ³	24 Hours	Cold-Vapor AAS Method	Not Specified	<0.12
02	Arsenic (As)	ng/m ³	24 Hours	AAS Method	06 ng/m ³ (Annual)	<0.3
03	Nickel (Ni)	ng/m ³	24 Hours	AAS Method	20 ng/m ³ (Annual)	<0.6
04	Cadmium (Cd)	ng/m ³	24 Hours	Extraction/Air Acetylene Flame Method	Not Specified	<0.6
05	Chromium (Cr)	ng/m ³	24 Hours	AAS Method	Not Specified	<13

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009).

- Note – AAS (Atomic Absorption Spectrophotometry)

Declaration: -

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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Manatu Village)

Unique Lab Report No : LAB/REPORTS/BES/00000258	Report Issue Date : 06/04/2024
Job Card No : BES/0000265A	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/Heavy Metal/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air (Heavy Metal)	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 12/03/2024 to 13/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 24 °C	R.Humidity : 61 %	Barometric Pressure: 712 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method Name	Norms NAAQS 2009	Result
01	Mercury (Hg)	ng/m ³	24 Hours	Cold-Vapor AAS Method	Not Specified	<0.12
02	Arsenic (As)	ng/m ³	24 Hours	AAS Method	06 ng/m ³ (Annual)	<0.3
03	Nickel (Ni)	ng/m ³	24 Hours	AAS Method	20 ng/m ³ (Annual)	<0.6
04	Cadmium (Cd)	ng/m ³	24 Hours	Extraction/Air Acetylene Flame Method	Not Specified	<0.6
05	Chromium (Cr)	ng/m ³	24 Hours	AAS Method	Not Specified	<13

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009).

- Note – AAS (Atomic Absorption Spectrophotometry)

Declaration: -

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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Pahra Village)

Unique Lab Report No : LAB/REPORTS/BES/00000259	Report Issue Date : 06/04/2024
Job Card No : BES/0000266A	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/Heavy Metal/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air	Type of Sample: Ambient Air (Heavy Metal)
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 12/03/2024 to 13/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : OK, Preserved & Sealed	Emission Due to: Movement of Vehicles & Surrounding Activities
Metrological Information	Temp: 24 °C
	R.Humidity : 61 %
	Barometric Pressure: 712 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method Name	Norms NAAQS 2009	Result
01	Mercury (Hg)	ng/m ³	24 Hours	Cold-Vapor AAS Method	Not Specified	<0.12
02	Arsenic (As)	ng/m ³	24 Hours	AAS Method	06 ng/m ³ (Annual)	<0.3
03	Nickel (Ni)	ng/m ³	24 Hours	AAS Method	20 ng/m ³ (Annual)	<0.6
04	Cadmium (Cd)	ng/m ³	24 Hours	Extraction/Air Acetylene Flame Method	Not Specified	<0.6
05	Chromium (Cr)	ng/m ³	24 Hours	AAS Method	Not Specified	<13

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009).

- Note – AAS (Atomic Absorption Spectrophotometry)

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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Jordag Village)

Unique Lab Report No : LAB/REPORTS/BES/00000260	Report Issue Date : 06/04/2024
Job Card No : BES/0000267A	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/Heavy Metal/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air (Heavy Metal)	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0245	
Sampling Date : 12/03/2024 to 13/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 24 °C	R.Humidity : 61 %	Barometric Pressure: 712 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Jordag Village – Buffer Zone	
Predominant Wind Direction : From WNW towards ESE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

SI No	Specific Test Performed	Unit	Time Weighted Average	Test Method Name	Norms NAAQS 2009	Result
01	Mercury (Hg)	ng/m ³	24 Hours	Cold-Vapor AAS Method	Not Specified	<0.12
02	Arsenic (As)	ng/m ³	24 Hours	AAS Method	06 ng/m ³ (Annual)	<0.3
03	Nickel (Ni)	ng/m ³	24 Hours	AAS Method	20 ng/m ³ (Annual)	<0.6
04	Cadmium (Cd)	ng/m ³	24 Hours	Extraction/Air Acetylene Flame Method	Not Specified	<0.6
05	Chromium (Cr)	ng/m ³	24 Hours	AAS Method	Not Specified	<13

---END OF REPORT---

- Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009).

- Note – AAS (Atomic Absorption Spectrophotometry)

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TEST REPORT

Format No: 7.8F-04

AMBIENT AIR QUALITY

(Kerandari Village)

Unique Lab Report No : LAB/REPORTS/BES/00000261	Report Issue Date : 06/04/2024
Job Card No : BES/0000268A	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/AAQ/Heavy Metal/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Air
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Air		Type of Sample: Ambient Air (Heavy Metal)	
Sample Collected By : Manish Kr. Singh & Team		Sampling Plan Reference : BES/0032	
Sampling Date : 12/03/2024 to 13/03/2024		Sample Receiving & Registration Date : 15/03/2024	
Sample Condition : OK, Preserved & Sealed		Emission Due to: Movement of Vehicles & Surrounding Activities	
Metrological Information	Temp: 24 °C	R.Humidity : 61 %	Barometric Pressure: 712 mmHg

Sample Description

Sample Temperature at the time of receiving : 5 °C	Temperature at the time of Analysis : 25 ± 2 °C
Test Start Date : 15/03/2024	Test End Date : 30/03/2024
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From WNW towards ESE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Sl No	Specific Test Performed	Unit	Time Weighted Average	Test Method Name	Norms NAAQS 2009	Result
01	Mercury (Hg)	ng/m ³	24 Hours	Cold-Vapor AAS Method	Not Specified	<0.12
02	Arsenic (As)	ng/m ³	24 Hours	AAS Method	06 ng/m ³ (Annual)	<0.3
03	Nickel (Ni)	ng/m ³	24 Hours	AAS Method	20 ng/m ³ (Annual)	<0.6
04	Cadmium (Cd)	ng/m ³	24 Hours	Extraction/Air Acetylene Flame Method	Not Specified	<0.6
05	Chromium (Cr)	ng/m ³	24 Hours	AAS Method	Not Specified	<13

---END OF REPORT---

- **Norms** : NAAQS (National Ambient Air Quality Standards as per published in the gazette of India: Extraordinary, CPCB Notification No B.29016/20/90/PCI-L of 18th November 2009).

- Note – AAS (Atomic Absorption Spectrophotometry)

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Format No.: 7.5F-05

TEST REPORT AMBIENT NOISE MONITORING (BGR Workshop)

Unique Lab Report No : TC1203923000000411F	Report Issue Date : 08/11/2023
Job Card No : BES/0000560	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/OCT/NOISE/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0064
Sampling Date : 10/10/2023 to 11/10/2023	Sample Receiving & Registration Date : 14/10/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 14/10/2023	Data Analysis End Date : 28/10/2023
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	53.8	48.4		
Maximum in dB(A)	79.3	67.9		
Sound Level (LA) in Leq in dB(A)	69.7	53.5	75	70

—END OF REPORT—

- Note :** “dB(A) Leq” denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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Format No.: 7 SE-05

TEST REPORT **AMBIENT NOISE MONITORING** (Jordag School)

Unique Lab Report No : TC1203923000000416F	Report Issue Date : 08/11/2023
Job Card No : BES/0000565	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/OCT/NOISE/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0064
Sampling Date : 11/10/2023 to 12/10/2023	Sample Receiving & Registration Date : 14/10/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 14/10/2023	Data Analysis End Date : 28/10/2023
Sampling Location : Jordag School – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	49.1	41.5		
Maximum in dB(A)	76.4	65.3		
Sound Level (LA) in Leq in dB(A)	67.3	50.1	75	70

---END OF REPORT---

• **Note:** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

• **Declaration :-**

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TEST REPORT **AMBIENT NOISE MONITORING** (Kerandari Village)

Format No : TEF-05

Unique Lab Report No : TC1203923000000417F	Report Issue Date : 08/11/2023
Job Card No : BES/0000566	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/OCT/NOISE/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information	
Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0064
Sampling Date : 11/10/2023 to 12/10/2023	Sample Receiving & Registration Date : 14/10/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description	
Data Analysis Start Date : 14/10/2023	Data Analysis End Date : 28/10/2023
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result			
Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	
Minimum in dB(A)	56.2	46.8	06AM – 10PM
Maximum in dB(A)	84.5	70.1	10PM – 06AM
Sound Level (LA) in Leq in dB(A)	70.5	56.5	75
			70

—END OF REPORT—

- Note :** “dB(A) Leq” denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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Format No : 7.8F-05

TEST REPORT **AMBIENT NOISE MONITORING** (Manatu Village)

Unique Lab Report No : TC1203923000000414F	Report Issue Date : 08/11/2023
Job Card No : BES/0000563	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/OCT/NOISE/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0064
Sampling Date : 11/10/2023 to 12/10/2023	Sample Receiving & Registration Date : 14/10/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 14/10/2023	Data Analysis End Date : 28/10/2023
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	56.8	44.2	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	78.9	64.8	75	70
Sound Level (LA) in Leq in dB(A)	67.6	54.2		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
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Format No : 7-BF-05

TEST REPORT AMBIENT NOISE MONITORING (NTPC Site Office)

Unique Lab Report No : TC1203923000000410F	Report Issue Date : 08/11/2023
Job Card No : BES/0000559	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/OCT/NOISE/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information	
Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0064
Sampling Date : 10/10/2023 to 11/10/2023	Sample Receiving & Registration Date : 14/10/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description	
Data Analysis Start Date : 14/10/2023	Data Analysis End Date : 28/10/2023
Sampling Location : NTPC Site Office - Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result				
Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	53.4	47.1	06AM - 10PM	10PM - 06AM
Maximum in dB(A)	80.2	70		
Sound Level (LA) in Leq in dB(A)	70.5	54.6	75	70

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 01. Reported results are related only to the item tested.
 02. This report is the property of laboratory & should not be used unless advised.
 03. Items tested are as per the standard requirements.
 04. All parameters in this report conforms to the specific standard.

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Signature
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Technical Manager



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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING

(Pahra Village)

Unique Lab Report No : TC1203923000000415F	Report Issue Date : 08/11/2023
Job Card No : BES/0000564	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/OCT/NOISE/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0064
Sampling Date : 11/10/2023 to 12/10/2023	Sample Receiving & Registration Date : 14/10/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 14/10/2023	Data Analysis End Date : 28/10/2023
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	54.4	41.2		
Maximum in dB(A)	75.6	66.3		
Sound Level (LA) in Leq in dB(A)	67.2	52.4	75	70

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
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TEST REPORT

Format No : 7-BF-05

AMBIENT NOISE MONITORING (Tarhesa Village)

Unique Lab Report No : TC1203923000000413F	Report Issue Date : 08/11/2023
Job Card No : BES/0000562	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/OCT/NOISE/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information	
Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0064
Sampling Date : 10/10/2023 to 11/10/2023	Sample Receiving & Registration Date : 14/10/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description	
Data Analysis Start Date : 14/10/2023	Data Analysis End Date : 28/10/2023
Sampling Location : Tarhesa Village – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result				
Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	48.7	40.9	75	70
Maximum in dB(A)	69.3	65.2		
Sound Level (LA) in Leq in dB(A)	65.1	51.0		

—END OF REPORT—

- Note :** “dB(A) Leq” denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

Declaration :-

- Reported results are related only to the item tested.
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- Items tested are as per the standard requirements.
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Format No : 7.5F-05

TEST REPORT AMBIENT NOISE MONITORING (Bengwari Nadi Tola)

Unique Lab Report No : TC1203923000000412F	Report Issue Date : 08/11/2023
Job Card No : BES/0000561	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/OCT/NOISE/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0064
Sampling Date : 10/10/2023 to 11/10/2023	Sample Receiving & Registration Date : 14/10/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 14/10/2023	Data Analysis End Date : 28/10/2023
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	49.6	46.3	75	70
Maximum in dB(A)	76.2	64.1		
Sound Level (LA) in Leq in dB(A)	68.2	57.4		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
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TEST REPORT

Format No : T-RF-05

AMBIENT NOISE MONITORING

(Kerandari Village)

Unique Lab Report No : TC1203923000000602F	Report Issue Date : 07/12/2023
Job Card No : BES/0000823	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/NOISE/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095
Sampling Date : 08/11/2023 to 09/11/2023	Sample Receiving & Registration Date : 11/11/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/11/2023	Data Analysis End Date : 27/11/2023
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	54.9	44.6	75	70
Maximum in dB(A)	83.2	68.1		
Sound Level (LA) in Leq in dB(A)	69.3	54.9		

—END OF REPORT—

- Note :** “dB(A) Leq” denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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TEST REPORT

Format No : 7-RF-05

AMBIENT NOISE MONITORING

(Manatu Village)

Unique Lab Report No : TC1203923000000599F	Report Issue Date : 07/12/2023
Job Card No : BES/0000820	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/NOISE/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095
Sampling Date : 08/11/2023 to 09/11/2023	Sample Receiving & Registration Date : 11/11/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/11/2023	Data Analysis End Date : 27/11/2023
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	55.3	43.6		
Maximum in dB(A)	76.7	63.1		
Sound Level (LA) in Leq in dB(A)	66.9	53.4	75	70

---END OF REPORT---

• **Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

Declaration :-

01. Reported results are related only to the item tested.
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TEST REPORT

Format No : 7-BF-05

AMBIENT NOISE MONITORING

(NTPC Site Office)

Unique Lab Report No : TC1203923000000595F	Report Issue Date : 07/12/2023
Job Card No : BES/0000816	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/NOISE/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095
Sampling Date : 07/11/2023 to 08/11/2023	Sample Receiving & Registration Date : 11/11/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/11/2023	Data Analysis End Date : 27/11/2023
Sampling Location : NTPC Site Office – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	52.4	46.2		
Maximum in dB(A)	79.7	68.5		
Sound Level (LA) in Leq in dB(A)	69.3	53.8	75	70

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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TEST REPORT

Format No.: 7.8E-05

AMBIENT NOISE MONITORING

(Pahra Village)

Unique Lab Report No : TC1203923000000600F	Report Issue Date : 07/12/2023
Job Card No : BES/0000821	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/NOISE/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095
Sampling Date : 08/11/2023 to 09/11/2023	Sample Receiving & Registration Date : 11/11/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/11/2023	Data Analysis End Date : 27/11/2023
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	53.8	39.8	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	74.3	65.1	75	70
Sound Level (LA) in Leq in dB(A)	66.7	51.9		

---END OF REPORT---

• **Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

Declaration :-

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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING

(Tarhesa Village)

Unique Lab Report No : TC1203923000000598F	Report Issue Date : 07/12/2023
Job Card No : BES/0000819	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/NOISE/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095
Sampling Date : 07/11/2023 to 08/11/2023	Sample Receiving & Registration Date : 11/11/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/11/2023	Data Analysis End Date : 27/11/2023
Sampling Location : Tarhesa Village- Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM - 10PM	10PM - 06AM
Minimum in dB(A)	47.4	39.7		
Maximum in dB(A)	67.2	64.1		
Sound Level (LA) in Leq in dB(A)	63.8	49.3	75	70

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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 - All parameters in this report conforms to the specific standard.

Manish Kumar
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Prakash Kumar
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Technical Manager



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TEST REPORT

Format No : 7.BF-05

AMBIENT NOISE MONITORING

(Bengwari Nadi Tola)

Unique Lab Report No : TC1203923000000597F	Report Issue Date : 07/12/2023
Job Card No : BES/0000818	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/NOISE/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/NO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095
Sampling Date : 07/11/2023 to 08/11/2023	Sample Receiving & Registration Date : 11/11/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/11/2023	Data Analysis End Date : 27/11/2023
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	47.7	45.2	75	70
Maximum in dB(A)	74.3	63.6		
Sound Level (LA) in Leq in dB(A)	66.0	56.3		

---END OF REPORT---

• **Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing

• **Declaration :-**

01. Reported results are related only to the item tested.
02. This report is the property of laboratory & should not be used unless advised.
03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.



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Format No : 7.8F-05

TEST REPORT AMBIENT NOISE MONITORING (BGR Workshop)

Unique Lab Report No : TC1203923000000596F	Report Issue Date : 07/12/2023
Job Card No : BES/0000817	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/NOISE/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095
Sampling Date : 07/11/2023 to 08/11/2023	Sample Receiving & Registration Date : 11/11/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/11/2023	Data Analysis End Date : 27/11/2023
Sampling Location : BGR Workshop - Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM - 10PM	10PM - 06AM
Minimum in dB(A)	52.1	47.3		
Maximum in dB(A)	78.4	68.5		
Sound Level (LA) in Leq in dB(A)	68.1	52.7	75	70

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
 - Items tested are as per the standard requirements.
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Format No - 7.BF-05

TEST REPORT AMBIENT NOISE MONITORING (Jordag School)

Unique Lab Report No : TC1203923000000601F	Report Issue Date : 07/12/2023
Job Card No : BES/0000822	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/NOV/NOISE/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information	
Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kumar & Team	Sampling Plan Reference : BES/0095
Sampling Date : 08/11/2023 to 09/11/2023	Sample Receiving & Registration Date : 11/11/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description	
Data Analysis Start Date : 13/11/2023	Data Analysis End Date : 27/11/2023
Sampling Location : Jordag School - Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result				
Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Sampling Duration			06AM - 10PM	10PM - 06AM
Minimum in dB(A)	47.3	39.6		
Maximum in dB(A)	75.6	64.1		
Sound Level (LA) in Leq in dB(A)	65.4	48.9	75	70

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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 - All parameters in this report conforms to the specific standard.

Tested by
Leshu Kr.



Authorized Signatory
Technical Manager



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TEST REPORT

Format No : 7-BE-05

AMBIENT NOISE MONITORING

(Kerandari Village)

Unique Lab Report No : TC1203923000000766F	Report Issue Date : 09/01/2024
Job Card No : BES/0001075	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/DEC/NOISE/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Nilesh Kumar & Team	Sampling Plan Reference : BES/0128
Sampling Date : 12/12/2023 to 13/12/2023	Sample Receiving & Registration Date : 15/12/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/12/2023	Data Analysis End Date : 30/12/2023
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	53.8	43.7	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	82.3	66.5		
Sound Level (LA) in Leq in dB(A)	68.1	53.2	75	70

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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 - All parameters in this report conforms to the specific standard.

Nilesh Kumar
Tested by



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Technical Manager



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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING

(Manatu Village)

Unique Lab Report No : TC1203923000000763F	Report Issue Date : 09/01/2024
Job Card No : BES/0001072	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/DEC/NOISE/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Nilesh Kumar & Team	Sampling Plan Reference : BES/0128
Sampling Date : 12/12/2023 to 13/12/2023	Sample Receiving & Registration Date : 15/12/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/12/2023	Data Analysis End Date : 30/12/2023
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	53.8	42.8	75	70
Maximum in dB(A)	74.2	62.3		
Sound Level (LA) in Leq in dB(A)	65.3	52.9		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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 - Items tested are as per the standard requirements.
 - All parameters in this report conforms to the specific standard.

Nilesh Kumar
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Technical Manager



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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING

(NTPC Site Office)

Unique Lab Report No : TC1203923000000759F	Report Issue Date : 09/01/2024
Job Card No : BES/0001068	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/DEC/NOISE/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information	
Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Nilesch Kumar & Team	Sampling Plan Reference : BES/0128
Sampling Date : 11/12/2023 to 12/12/2023	Sample Receiving & Registration Date : 15/12/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description	
Data Analysis Start Date : 15/12/2023	Data Analysis End Date : 30/12/2023
Sampling Location : NTPC Site Office - Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result				
Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	51.7	45.5	06AM - 10PM	10PM - 06AM
Maximum in dB(A)	78.6	67.9	75	70
Sound Level (LA) in Leq in dB(A)	68.7	52.9		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
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 - All parameters in this report conforms to the specific standard.

Nilesch Kumar
Tested by



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Technical Manager



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TEST REPORT

Format No: 7.BF-05

AMBIENT NOISE MONITORING

(Pahra Village)

Unique Lab Report No : TC1203923000000764F	Report Issue Date : 09/01/2024
Job Card No : BES/0001073	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/DEC/NOISE/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Nilesh Kumar & Team	Sampling Plan Reference : BES/0128
Sampling Date : 12/12/2023 to 13/12/2023	Sample Receiving & Registration Date : 15/12/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/12/2023	Data Analysis End Date : 30/12/2023
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Sampling Duration				
Minimum in dB(A)	53.1	38.7	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	73.3	63.2		
Sound Level (LA) in Leq in dB(A)	65.8	50.4	75	70

—END OF REPORT—

- Note :** “dB(A) Leq” denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

Declaration :-

- Reported results are related only to the item tested.
- This report is the property of laboratory & should not be used unless advised.
- Items tested are as per the standard requirements.
- All parameters in this report conforms to the specific standard.

Nilesh Kumar
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TEST REPORT

Format No : 7.BF-05

AMBIENT NOISE MONITORING

(Tarhesa Village)

Unique Lab Report No : TC1203923000000762F	Report Issue Date : 09/01/2024
Job Card No : BES/0001071	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/DEC/NOISE/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/VO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Nilesh Kumar & Team	Sampling Plan Reference : BES/0128
Sampling Date : 11/12/2023 to 12/12/2023	Sample Receiving & Registration Date : 15/12/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/12/2023	Data Analysis End Date : 30/12/2023
Sampling Location : Tarhesa Village- Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM - 10PM	10PM - 06AM
Minimum in dB(A)	46.3	39.2	75	70
Maximum in dB(A)	66.9	63.6		
Sound Level (LA) in Leq in dB(A)	62.5	48.7		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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 - All parameters in this report conforms to the specific standard.

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TEST REPORT

Format No : 7-BF-05

AMBIENT NOISE MONITORING

(Bengwari Nadi Tola)

Unique Lab Report No : TC1203923000000761F	Report Issue Date : 09/01/2024
Job Card No : BES/0001070	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/DEC/NOISE/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Nilesh Kumar & Team	Sampling Plan Reference : BES/0128
Sampling Date : 11/12/2023 to 12/12/2023	Sample Receiving & Registration Date : 15/12/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/12/2023	Data Analysis End Date : 30/12/2023
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	46.8	44.5	75	70
Maximum in dB(A)	73.7	62.8		
Sound Level (LA) in Leq in dB(A)	64.8	54.1		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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 - All parameters in this report conforms to the specific standard.

Nilesh Kumar
Tested by



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Technical Manager



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TEST REPORT

Format No : 7-BF-05

AMBIENT NOISE MONITORING

(BGR Workshop)

Unique Lab Report No : TC1203923000000760F	Report Issue Date : 09/01/2024
Job Card No : BES/0001069	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/DEC/NOISE/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Nitesh Kumar & Team	Sampling Plan Reference : BES/0128
Sampling Date : 11/12/2023 to 12/12/2023	Sample Receiving & Registration Date : 15/12/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/12/2023	Data Analysis End Date : 30/12/2023
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	51.4	46.5	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	77.6	67.6		
Sound Level (LA) in Leq in dB(A)	67.3	51.2	75	70

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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Nitesh Kumar
Tested by



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Technical Manager



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TEST REPORT

Format No: Z.BF-05

AMBIENT NOISE MONITORING

(Jordag School)

Unique Lab Report No : TC1203923000000765F	Report Issue Date : 09/01/2024
Job Card No : BES/0001074	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/DEC/NOISE/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Nilesh Kumar & Team	Sampling Plan Reference : BES/0128
Sampling Date : 12/12/2023 to 13/12/2023	Sample Receiving & Registration Date : 15/12/2023
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/12/2023	Data Analysis End Date : 30/12/2023
Sampling Location : Jordag School – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Parameters	Ambient Noise Levels		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	45.9	38.4	75	70
Maximum in dB(A)	73.4	63.6		
Sound Level (LA) in Leq in dB(A)	64.7	47.9		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
 - Items tested are as per the standard requirements.
 - All parameters in this report conforms to the specific standard.

Nilesh Kumar
Tested by



[Signature]
Authorized Signatory
Technical Manager



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TEST REPORT

Format No : 7.8f-05

AMBIENT NOISE MONITORING (NTPC Site Office)

Unique Lab Report No : TC1203923000000891F	Report Issue Date : 07/02/2024
Job Card No : BES/0001295	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/NOISE/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr.Singh & Team	Sampling Plan Reference : BES/0170
Sampling Date : 09/01/2024 to 10/01/2024	Sample Receiving & Registration Date : 13/01/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/01/2024	Data Analysis End Date : 27/01/2024
Sampling Location : NTPC Site Office – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	51.2	45.2	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	77.9	66.5	75	70
Sound Level (LA) in Leq in dB(A)	68.2	52.5		

—END OF REPORT—

- Note :** “dB(A) Leq” denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
 - Items tested are as per the standard requirements.
 - All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT

Format No : 7-SF-05

AMBIENT NOISE MONITORING

(BGR Workshop)

Unique Lab Report No : TC1203923000000892F	Report Issue Date : 07/02/2024
Job Card No : BES/0001296	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/NOISE/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170
Sampling Date : 09/01/2024 to 10/01/2024	Sample Receiving & Registration Date : 13/01/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/01/2024	Data Analysis End Date : 27/01/2024
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	50.4	44.5	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	75.3	65.6	75	70
Sound Level (LA) in Leq in dB(A)	65.1	49.8		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 01. Reported results are related only to the item tested.
 02. This report is the property of laboratory & should not be used unless advised.
 03. Items tested are as per the standard requirements.
 04. All parameters in this report conforms to the specific standard.

Manish Kr. Singh
Tested by



Prakash Kumar
Authorized Signatory
Technical Manager



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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING

(Bengwari Nadi Tola)

Unique Lab Report No : TC1203923000000893F	Report Issue Date : 07/02/2024
Job Card No : BES/0001297	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/NOISE/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170
Sampling Date : 09/01/2024 to 10/01/2024	Sample Receiving & Registration Date : 13/01/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/01/2024	Data Analysis End Date : 27/01/2024
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	48.3	45.5	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	74.8	63.2		
Sound Level (LA) in Leq in dB(A)	65.2	55.6	75	70

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :** -
 - Reported results are related only to the item tested.
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 - All parameters in this report conforms to the specific standard.

Manish Kr. Singh
Tested by



Prakash Kumar
Authorized Signatory
Technical Manager



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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING

(Tarhesa Village)

Unique Lab Report No : TC1203923000000894F	Report Issue Date : 07/02/2024
Job Card No : BES/0001298	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/NOISE/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd,
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170
Sampling Date : 09/01/2024 to 10/01/2024	Sample Receiving & Registration Date : 13/01/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/01/2024	Data Analysis End Date : 27/01/2024
Sampling Location : Tarhesa Village- Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	44.7	38.3	06AM - 10PM	10PM - 06AM
Maximum in dB(A)	65.1	62.6	75	70
Sound Level (LA) in Leq in dB(A)	61.7	47.5		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
 - Items tested are as per the standard requirements.
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Manish Kr. Singh
Tested by



Prakash Kumar
Authorized Signatory
Technical Manager



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TEST REPORT

Format No : 7.BF-05

AMBIENT NOISE MONITORING

(Manatu Village)

Unique Lab Report No : TC1203923000000895F	Report Issue Date : 07/02/2024
Job Card No : BES/0001299	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/NOISE/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170
Sampling Date : 10/01/2024 to 11/01/2024	Sample Receiving & Registration Date : 13/01/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/01/2024	Data Analysis End Date : 27/01/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	54.8	43.2	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	75.2	62.8	75	70
Sound Level (LA) in Leq in dB(A)	66.1	53.4		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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Technical Manager



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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING

(Pahra Village)

Unique Lab Report No : TC1203923000000896F	Report Issue Date : 07/02/2024
Job Card No : BES/0001300	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/NOISE/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170
Sampling Date : 10/01/2024 to 11/01/2024	Sample Receiving & Registration Date : 13/01/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/01/2024	Data Analysis End Date : 27/01/2024
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	53.7	39.4	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	73.9	64.1	75	70
Sound Level (LA) in Leq in dB(A)	67.2	51.3		

—END OF REPORT—

• **Note:** “dB(A) Leq” denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

• **Declaration :-**

01. Reported results are related only to the item tested.
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03. Items tested are as per the standard requirements.
04. All parameters in this report conforms to the specific standard.

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Technical Manager



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Format No : 7.BF-05

TEST REPORT AMBIENT NOISE MONITORING (Jordag School)

Unique Lab Report No : TC1203923000000897F	Report Issue Date : 07/02/2024
Job Card No : BES/0001301	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/NOISE/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information	
Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170
Sampling Date : 10/01/2024 to 11/01/2024	Sample Receiving & Registration Date : 13/01/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description	
Data Analysis Start Date : 13/01/2024	Data Analysis End Date : 27/01/2024
Sampling Location : Jordag School – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result				
Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	45.2	39.7	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	72.6	64.5	75	70
Sound Level (LA) in Leq in dB(A)	63.9	48.6		

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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Prakash Kumar
Tested by

Prakash Kumar
Authorized Signatory
Technical Manager



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TEST REPORT

Format No : T.89-05

AMBIENT NOISE MONITORING

(Kerandari Village)

Unique Lab Report No : TC1203923000000898F	Report Issue Date : 07/02/2024
Job Card No : BES/0001302	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/JAN/NOISE/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0170
Sampling Date : 10/01/2024 to 11/01/2024	Sample Receiving & Registration Date : 13/01/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 13/01/2024	Data Analysis End Date : 27/01/2024
Sampling Location : Kerandari Village - Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	53.9	44.5	06AM - 10PM	10PM - 06AM
Maximum in dB(A)	81.7	67.2		
Sound Level (LA) in Leq in dB(A)	69.2	54.3	75	70

---END OF REPORT---

• **Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

• **Declaration :-**

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04. All parameters in this report conforms to the specific standard.

Manish Kr. Singh
Tested by



Prakash Kumar
Authorized Signatory
Technical Manager



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Format No : 7.8F-05

TEST REPORT AMBIENT NOISE MONITORING (NTPC Site Office)

Unique Lab Report No : TC1203923000001109F	Report Issue Date : 09/03/2024
Job Card No : BES/0001602	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/NOISE/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205
Sampling Date : 12/02/2024 to 13/02/2024	Sample Receiving & Registration Date : 16/02/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 16/02/2024	Data Analysis End Date : 29/02/2024
Sampling Location : NTPC Site Office – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	52.8	46.9		
Maximum in dB(A)	78.5	68.3		
Sound Level (LA) in Leq in dB(A)	69.2	53.1	75	70

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 01. Reported results are related only to the item tested.
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Tested by



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Technical Manager



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TEST REPORT

Format No : 7.BF-05

AMBIENT NOISE MONITORING

(BGR Workshop)

Unique Lab Report No : TC1203923000001110F	Report Issue Date : 09/03/2024
Job Card No : BES/0001603	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/NOISE/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205
Sampling Date : 12/02/2024 to 13/02/2024	Sample Receiving & Registration Date : 16/02/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 16/02/2024	Data Analysis End Date : 29/02/2024
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	51.7	45.3		
Maximum in dB(A)	77.6	66.1		
Sound Level (LA) in Leq in dB(A)	65.9	50.5	75	70

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

Declaration :-

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Technical Manager



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Format No : T-BF-05

TEST REPORT AMBIENT NOISE MONITORING (Bengwari Nadi Tola)

Unique Lab Report No : TC1203923000001111F	Report Issue Date : 09/03/2024
Job Card No : BES/0001604	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/NOISE/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205
Sampling Date : 12/02/2024 to 13/02/2024	Sample Receiving & Registration Date : 16/02/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 16/02/2024	Data Analysis End Date : 29/02/2024
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	47.4	44.2		
Maximum in dB(A)	73.8	62.6		
Sound Level (LA) in Leq in dB(A)	64.3	54.7	75	70

---END OF REPORT---

- Note :-** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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 - Items tested are as per the standard requirements.
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Tested by



Authorized Signatory
Technical Manager



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TEST REPORT

Format No : 7.BF.05

AMBIENT NOISE MONITORING (Tarhesa Village)

Unique Lab Report No : TC1203923000001112F	Report Issue Date : 09/03/2024
Job Card No : BES/0001605	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/NOISE/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205
Sampling Date : 12/02/2024 to 13/02/2024	Sample Receiving & Registration Date : 16/02/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 16/02/2024	Data Analysis End Date : 29/02/2024
Sampling Location : Tarhesa Village- Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM - 10PM	10PM - 06AM
Minimum in dB(A)	45.7	39.2		
Maximum in dB(A)	65.8	63.4		
Sound Level (LA) in Leq in dB(A)	62.3	47.8	75	70

—END OF REPORT—

- Note :-** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
 - Items tested are as per the standard requirements.
 - All parameters in this report conforms to the specific standard.

Manish Kr.
Tested by



[Signature]
Authorized Signatory
Technical Manager



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TEST REPORT

Form No : J-RF-05

AMBIENT NOISE MONITORING

(Manatu Village)

Unique Lab Report No : TC1203923000001113F	Report Issue Date : 09/03/2024
Job Card No : BES/0001606	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/NOISE/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WQ/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205
Sampling Date : 13/02/2024 to 14/02/2024	Sample Receiving & Registration Date : 16/02/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 16/02/2024	Data Analysis End Date : 29/02/2024
Sampling Location : Manatu Village - Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM - 10PM	10PM - 06AM
Minimum in dB(A)	55.5	44.4		
Maximum in dB(A)	76.1	63.7		
Sound Level (LA) in Leq in dB(A)	67.4	54.6	75	70

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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TEST REPORT

Format No : 7-BF-05

AMBIENT NOISE MONITORING

(Pahra Village)

Unique Lab Report No : TC1203923000001114F	Report Issue Date : 09/03/2024
Job Card No : BES/0001607	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/NOISE/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205
Sampling Date : 13/02/2024 to 14/02/2024	Sample Receiving & Registration Date : 16/02/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 16/02/2024	Data Analysis End Date : 29/02/2024
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	52.9	38.6	75	70
Maximum in dB(A)	72.6	63.7		
Sound Level (LA) in Leq in dB(A)	66.5	50.3		

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
 - This report is the property of laboratory & should not be used unless advised.
 - Items tested are as per the standard requirements.
 - All parameters in this report conforms to the specific standard.

Tested by



Authorized Signatory
Technical Manager



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TEST REPORT

Format No: 7.8F-05

AMBIENT NOISE MONITORING

(Jordag School)

Unique Lab Report No : TC1203923000001115F	Report Issue Date : 09/03/2024
Job Card No : BES/0001608	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/NOISE/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WQ/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205
Sampling Date : 13/02/2024 to 14/02/2024	Sample Receiving & Registration Date : 16/02/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 16/02/2024	Data Analysis End Date : 29/02/2024
Sampling Location : Jordag School – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	44.1	38.5		
Maximum in dB(A)	70.8	61.9		
Sound Level (LA) in Leq in dB(A)	63.2	47.9	75	70

—END OF REPORT—

- Note :-** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.

Declaration :-

- Reported results are related only to the item tested.
- This report is the property of laboratory & should not be used unless advised.
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- All parameters in this report conforms to the specific standard.



Manish Kr. Singh
Tested by

Prakash Kumar
Authorized Signatory
Technical Manager



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Format No : 7.BF-05

TEST REPORT AMBIENT NOISE MONITORING (Kerandari Village)

Unique Lab Report No : TC1203923000001116F	Report Issue Date : 09/03/2024
Job Card No : BES/0001609	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/FEB/NOISE/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0205
Sampling Date : 13/02/2024 to 14/02/2024	Sample Receiving & Registration Date : 16/02/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 16/02/2024	Data Analysis End Date : 29/02/2024
Sampling Location : Kerandari Village - Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM - 10PM	10PM - 06AM
Minimum in dB(A)	54.7	45.8		
Maximum in dB(A)	82.3	69.4		
Sound Level (LA) in Leq in dB(A)	70.1	55.4	75	70

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :**
 - 01. Reported results are related only to the item tested.
 - 02. This report is the property of laboratory & should not be used unless advised.
 - 03. Items tested are as per the standard requirements.
 - 04. All parameters in this report conforms to the specific standard.

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Technical Manager



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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING (NTPC Site Office)

Unique Lab Report No : TC1203923000001294F	Report Issue Date : 06/04/2024
Job Card No : BES/0001891	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/NOISE/01	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr.Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 11/03/2024 to 12/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/03/2024	Data Analysis End Date : 30/03/2024
Sampling Location : NTPC Site Office – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	51.9	46.1		
Maximum in dB(A)	77.2	67.8		
Sound Level (LA) in Leq in dB(A)	68.7	52.9	75	70

—END OF REPORT—

- Note :** “dB(A) Leq” denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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TEST REPORT

Format No : 7.BF-05

AMBIENT NOISE MONITORING (BGR Workshop)

Unique Lab Report No : TC1203923000001295F	Report Issue Date : 06/04/2024
Job Card No : BES/0001892	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/NOISE/02	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 11/03/2024 to 12/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/03/2024	Data Analysis End Date : 30/03/2024
Sampling Location : BGR Workshop – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	52.3	45.8	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	78.5	67.2	75	70
Sound Level (LA) in Leq in dB(A)	66.4	51.2		

---END OF REPORT---

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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TEST REPORT

Format No : 7, RF-05

AMBIENT NOISE MONITORING

(Bengwari Nadi Tola)

Unique Lab Report No : TC1203923000001296F	Report Issue Date : 06/04/2024
Job Card No : BES/0001893	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/NOISE/03	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : M/s NTPC Ltd,
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 11/03/2024 to 12/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/03/2024	Data Analysis End Date : 30/03/2024
Sampling Location : Bengwari Nadi Tola – Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	46.7	43.5	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	72.3	61.8	75	70
Sound Level (LA) in Leq in dB(A)	63.6	54.5		

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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 - Items tested are as per the standard requirements.
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TEST REPORT

Format No : 7.8F-05

AMBIENT NOISE MONITORING (Tarhesa Village)

Unique Lab Report No : TC1203923000001297F	Report Issue Date : 06/04/2024
Job Card No : BES/0001894	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/NOISE/04	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/SVO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information	
Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 11/03/2024 to 12/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description	
Data Analysis Start Date : 15/03/2024	Data Analysis End Date : 30/03/2024
Sampling Location : Tarhesa Village-- Core Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result				
Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM - 10PM	10PM - 06AM
Minimum in dB(A)	46.1	38.6	75	70
Maximum in dB(A)	65.3	62.7		
Sound Level (LA) in Leq in dB(A)	61.9	47.4		

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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TEST REPORT

Format No : 7.XF-02

AMBIENT NOISE MONITORING

(Manatu Village)

Unique Lab Report No : TC1203923000001298F	Report Issue Date : 06/04/2024
Job Card No : BES/0001895	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/NOISE/05	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address :- M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 12/03/2024 to 13/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/03/2024	Data Analysis End Date : 30/03/2024
Sampling Location : Manatu Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	53.2	41.5	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	74.5	60.2	75	70
Sound Level (LA) in Leq in dB(A)	65.2	53.5		

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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TEST REPORT

Format No:- 7.8F-05

AMBIENT NOISE MONITORING

(Pahra Village)

Unique Lab Report No : TC1203923000001299F	Report Issue Date : 06/04/2024
Job Card No : BES/0001896	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/NOISE/06	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 12/03/2024 to 13/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/03/2024	Data Analysis End Date : 30/03/2024
Sampling Location : Pahra Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCL5/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)		
Minimum in dB(A)	53.4	39.1	06AM – 10PM	10PM – 06AM
Maximum in dB(A)	72.1	62.3	75	70
Sound Level (LA) in Leq in dB(A)	65.8	49.1		

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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Technical Manager



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TEST REPORT

Format No : 7-BF-05

AMBIENT NOISE MONITORING

(Jordag School)

Unique Lab Report No : TC1203923000001300F	Report Issue Date : 06/04/2024
Job Card No : BES/0001897	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/NOISE/07	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd.
Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 12/03/2024 to 13/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/03/2024	Data Analysis End Date : 30/03/2024
Sampling Location : Jordag School - Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM - 10PM	10PM - 06AM
Minimum in dB(A)	39.5	38.5	75	70
Maximum in dB(A)	69.9	60.6		
Sound Level (LA) in Leq in dB(A)	62.4	45.7		

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration : -**
 - Reported results are related only to the item tested.
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Tested by :



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TEST REPORT

Format No : 7, BE-05

AMBIENT NOISE MONITORING

(Kerandari Village)

Unique Lab Report No : TC1203923000001301F	Report Issue Date : 06/04/2024
Job Card No : BES/0001898	Discipline : Chemical
Field Data Sheet Code : BES/BGR/KRD/MAR/NOISE/08	Group : Atmospheric Pollution
Type of Industry : Coal Mines	Product / Material of Test : Ambient Noise Levels (Excluding Vibration)
Work Order No : BGR/KRD/WO/0226/ENVIRONMENT MONITORING/BES/2023-24	Work Order Date : 24/06/2023

Client Name & Address : - M/s NTPC Ltd. Kerandari Coal Mining Project, Sikri, Barkagaon, Hazaribag, Jharkhand 825311

General Information

Protocol : Ambient Noise	Type of Sample : Ambient Noise
Sample Collected By : Manish Kr. Singh & Team	Sampling Plan Reference : BES/0245
Sampling Date : 12/03/2024 to 13/03/2024	Sample Receiving & Registration Date : 15/03/2024
Sample Condition : Good	Emission Due to : Movement of Vehicles & Nearby Activities

Sample Description

Data Analysis Start Date : 15/03/2024	Data Analysis End Date : 30/03/2024
Sampling Location : Kerandari Village – Buffer Zone	
Predominant Wind Direction : From NW towards SE	Customer Representative Name : Mr. Prakash Kumar

Analysis Result

Test Method No.	IS 9989:2020		Noise Level Standards for Coal Mines (As per 7th Edition POLLUTION CONTROL LAW SERIES: PCLS/02/2021- 2022)	
Sampling Duration	Time Period (06 AM - 10 PM)	Time Period (10 PM - 06 AM)	06AM – 10PM	10PM – 06AM
Minimum in dB(A)	54.2	44.6	75	70
Maximum in dB(A)	78.8	68.3		
Sound Level (LA) in Leq in dB(A)	68.8	54.5		

—END OF REPORT—

- Note :** "dB(A) Leq" denotes the time weighted average of sound in decibels on scale A which is reliable to human hearing.
- Declaration :-**
 - Reported results are related only to the item tested.
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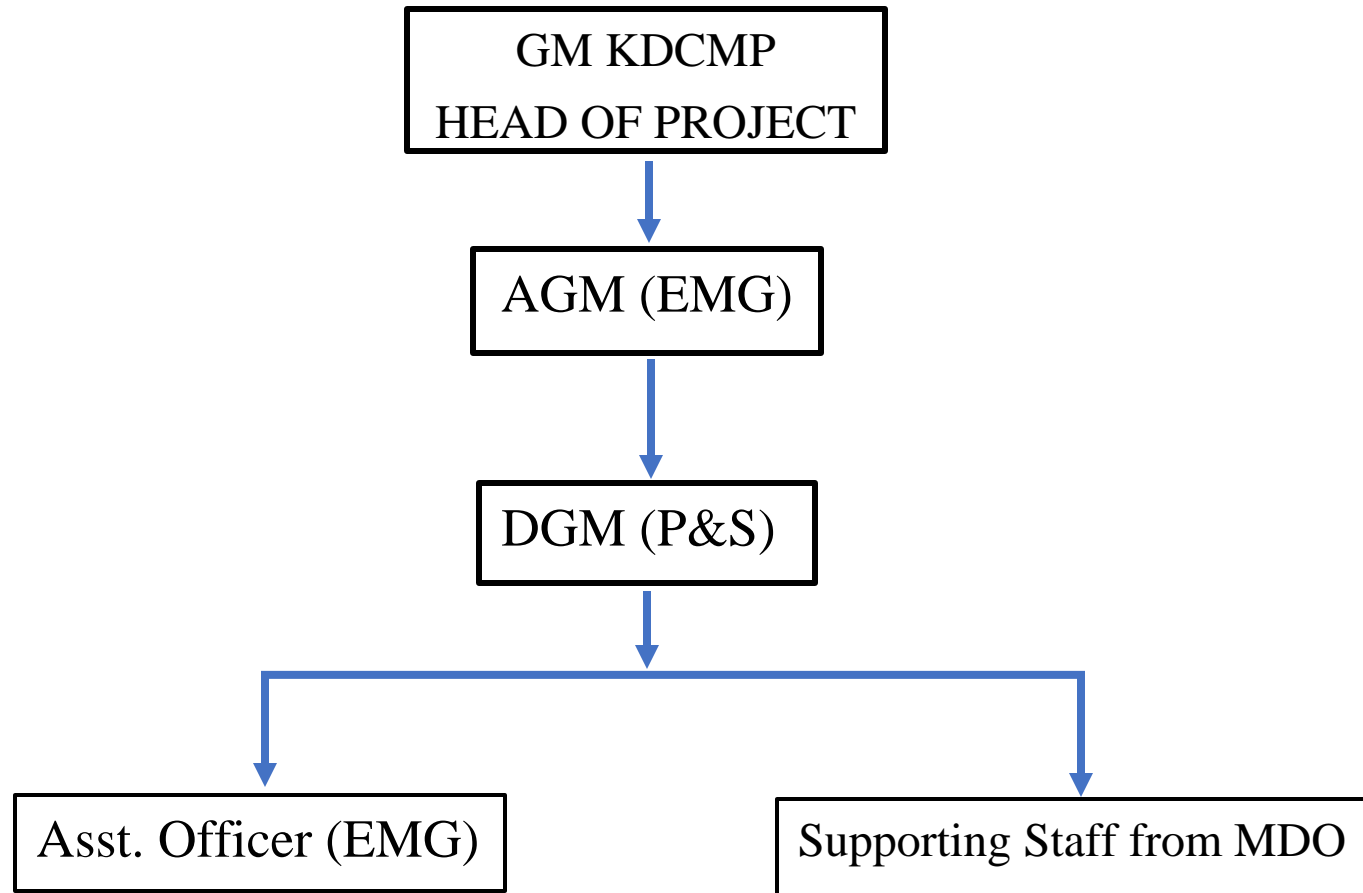
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ENVIRONMENT MANAGEMENT CELL AT NTPC - KDCMP



CAAQMS DISPLAY BOARD

A photograph of a CAAQMS (Continuous Ambient Air Quality Monitoring System) display board mounted on a wooden structure. The board is a red LED matrix display showing real-time air quality data for Kerandari Coal Mining. The data is organized into a table with three columns: Parameter, Value, and Unit. The parameters shown are SO2, PM10, and PM2.5. The date and time are also displayed at the bottom of the board.

KERANDARI COAL MINING		
PARAMETER	VALUE	UNIT
SO2	31.33	ppb
PM10	79.7	µg/m3
PM2.5	0.0	µg/m3
17/05/2024		05:22 PM