

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

ORIGINAL APPLICATION NO. 976 OF 2024

In the matter of: -

Vijay Kumar Singh Urf Dablu Singh Bhiar Vihar Sabha

Applicant

Versus

State of Bihar

Respondent(s)

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Srinivas Vishven

**Filed by Adv. Srinivas Vishven
(On behalf on Central Pollution Control Board)**

**Place: Delhi
Dated: 26.11.2024**

**INSPECTION REPORT OF THE JOINT COMMITTEE CONSTITUTED IN
THE MATTER OF THE HON'BLE NGT OA NO. 976/2024/PB TITLED
VIJAY KUMAR SINGH Vs STATE OF BIHAR & OTHERS.**

Inspection site:

Industry premises of (1) M/s NTPC Ltd., Nabinagar Super Thermal Power Station (Old name M/s Nabinagar Super Thermal Power Project), Nabinagar, Aurangabad and (2) M/s Bhartiya Rail Bijlee Company Ltd. (BRBCL), Nabinagar, Aurangabad.

Date of Inspection: 28.10.2024 & 29.10.2024.

Background:

The Hon'ble NGT, Eastern Zone Bench, Kolkata, took Suo Motu cognizance on the complaint of Sri Vijay Kumar Singh @ W Singh resident of Kshatriya Nagar, G.T. Road, Aurangabad, Bihar, Hon'ble MLA, Bihar Legislative Assembly dated 17th December 2023 and passed its order dated 03.10.2024, registered it as O.A. 976/2024/PB. The complaint is made w.r.t. air pollution caused due to usage of de-graded quality of Coal by M/s NTPC's Plants (i.e. NPGCL & BRBCL).

According to the letter petition of Sri Vijay Kumar Singh, M/s Nabinagar Power Generation Co Ltd (NPGCL) and M/s Bhartiya Rail Bijlee Co Ltd (BRBCL), both are subsidiary of M/s NTPC, and are using de-graded quality of Coal by mixing Waste Material, Black Filter dust and Dolo Char and causing pollution which further affecting the animals, agriculture and general public.

The matter was heard before Hon'ble NGT, Principal Bench on 3rd October 2024 and the Tribunal directed the following:

“...In our view, facts stated in Original Application required verification before taking any further action in the matter and therefore, we constitute a Joint Committee comprising Central Pollution Control Board (hereinafter referred to as ‘CPCB’); Bihar State Pollution Control Board; (hereinafter referred to as ‘BPCB’) Integrated Regional Office Ministry of Environment Forest and Climate Change, Aurangabad; and District Magistrate, Aurangabad.

CPCB shall be the Nodal Authority for co-ordination and compliance.”

The Tribunal directed that the committee shall collect relevant information after visiting the site, and submit a factual report and also verify as whether consent conditions and EC conditions have been complied with by the above proponents.

Formation of the Joint Committee:

In compliance with the Hon’ble NGT’s directions, the Joint Committee was constituted based on nominations received from the respective Departments are as follows:

- The Bihar State Pollution Control Board nominated Sri Arun Kumar, the Board Analyst and Sri Manoranjan Kumar Singh, the Regional Officer, Gaya vide Letter No. 2394 dated- 18.10.2024 **(Annexure- I)**.
- The Central Pollution Control Board, nominated Sri Sandeep Roy, Scientist- “D”, Central Pollution Control Board, Eastern Regional Directorate, Kolkata. **(Annexure- II)**.
- Regional Office, Ministry of Environment, Forest and Climate Change, Ranchi nominated Sri Sandeep Nandi, Scientist ‘B’ vide Letter No. – 7-248/ROR-2024/669 dated- 22.10.2024. **(Annexure- III)**.
- The District Magistrate, Aurangabad nominated Sri Lalit Bhushan Ranjan, Additional District Magistrate, Aurangabad **(Annexure- IV)**.

Meetings of the Committee Members:

1. The 1st meeting of the Committee was held on 23rd October 2024 (via VC Mode) to decide the methodology and date of the joint inspection. It was

also opined by Committee members that intimation about the inspection/ site visit may be sent to Sri Vijay Kumar Singh, the Applicant. Accordingly, letter was sent to the applicant (via Email & WhatsApp Message).

2. In light of the above meeting of the members of the Joint Committee fixed the date of inspection on 28th & 29th October, 2024 and CPCB being nodal agency communicated to all concerned with a schedule of Pre-inspection meeting before proceeding for visit of site under reference at 01:00 PM on 28th October 2024. This was informed to Sri Vijay Kumar Singh Alias Dabloo Singh, Hon'ble Member of Bihar Bidhan Sabha, Kshatriya Nagar, G.T. Road, Nabinagar, Aurangabad, Bihar, the Applicant in this case, and requested to present during the Pre-inspection meeting on 28.10.2024. (CPCB letter dated: 24.10.2024 **(Annexure- V)**).
3. As decided, Pre-Inspection meeting of the members of the Joint Committee was held on 28th October 2024 at the Office of the District Magistrate at 11:30 a.m., under the Chairmanship of the District Magistrate with Applicant's representative and Senior Officials of M/s NPGCL & M/s BRBCL. The meeting was attended by following (list enclosed as **Annexure: VI**).
 - Sri Shrikant Shastri, District Magistrate, Aurangabad
 - Sri Lalit Bhushan Ranjan, ADM, Aurangabad
 - Ms Ratna Priyadarshini, SDC, Aurangabad
 - Sri Arun Kumar, Board Analyst, BSPCB
 - Sri Manoranjan Kumar, R.O. Gaya, BSPCB
 - Sri Sandeep Nandi, Scientist B, MoEF & CC, Ranchi
 - Sri Sukhendu Biswas, Scientist B, CPCB, Kolkata
 - Sri Sandeep Roy, Scientist D, CPCB, Kolkata

Other Personnel

- Dr Chandan Kumar, Representative of Applicant

- Sri C K Samanta, H.O.P., NPGCL- Nabinagar
 - Sri B J C Sastry, C.E.O., BRBCL- Nabinagar
 - Senior Officers of M/s NPGCL & M/s BRBCL
4. During the meeting, Dr. Chandan Kumar, Representative of Applicant was present. He was not aware of the issues, raised by the Hon'ble member of Vidhan Shabha. However, he raised following issues:
- Overloading of Ash carrying Dumpers/ Trucks
 - Spillage of Wet ash during transportation
 - Spillage of Dry ash due to uncovered Dumpers/ Trucks
 - Fugitive emission from Ash dyke during high wind condition
 - Usage of De-graded coal for Power generation causing Air Pollution
5. After thorough deliberation during the meeting, the Joint Committee inspected the relevant areas of the plant where emissions were possible. The Joint Committee also verified compliance with the Consent to Operate (CTO) conditions for emissions and effluents under the relevant Acts. Additionally, the committee reviewed the conditions of the Environmental Clearance issued by the Ministry of Environment & Forest, Govt. of India for the establishment and expansion of production capacity.

Site Visit of M/s NTPC Ltd., Nabinagar Super Thermal Power Station (Old name M/s Nabinagar Super Thermal Power Project), Nabinagar, Aurangabad

1. M/s NTPC Ltd., Nabinagar Super Thermal Power Station (Old name M/s Nabinagar Super Thermal Power Project), Nabinagar, Aurangabad having power generation capacity of 1980 MW with 3 Supercritical units of 660 MW. The plant is situated in Aurangabad District of Bihar. The power generated from this plant is distributed to the State of Bihar (82.8%) and rest to UP, Gujarat, WB, Jharkhand, Orissa etc.
2. M/s NTPC-NSTPS is receiving coal in the range of 9.5 MMT/annum from various coal mines of Coal India Ltd (CIL) and NTPC Ltd. Major part of

coal is received from Central Coalfields Ltd, a subsidiary unit of CIL. The plant is also receiving coal from other subsidiaries of CIL like MCL, BCCL, NCL as well as mines of NTPC Ltd. The coal is supplied by CIL as per the Fuel Supply Agreement (FSA) between subsidiaries of Coal India Ltd (CIL) and NTPC Ltd.

3. The water for functioning of the plant is received from Sone River. The Plant has water agreement of 125 cusec. However, as per the available records, the plant is consuming 45 cusecs on annual average basis.
4. M/s NTPC-NSTPS station units started its commercial operation as follows:
 - Unit#1: 06.09.2019
 - Unit#2: 23.07.2021
 - Unit#3: 01.06.2022
5. During the site visit, all the units were found operational.
6. Sri Bijendra Agrawal, DGM (EMG) and Sri Gopi, Sr Manager along with the other officers of the plant were present during the visit of the Joint Committee.
7. Environmental Clearance has been granted by the Ministry of Environment & Forest, Govt. of India vide its reference no. J-13012/127/2007-IA. II(T) dt. 17.12.2010 for the generation of 3 x 660 MW Super-Critical Technology Coal Based Thermal Power Plant at village- Majhiyan, in Nabinagar Taluk, in Aurangabad Distt. in Bihar. **(Annexure- VII)**, which was subsequently revised on 20.03.2018 and 14.01.2020 with some Additional Conditions. The compliance report of Environmental Clearance is placed at **Annexure- VIII**.
8. The Bihar State Pollution Control Board has granted Consent to Establish (NOC) vide letter no.: PT (NOC)- 1008/09/4323 dated: 08.04.2011 **(Annexure- IX)**; Emission Consent Order vide letter no.: 1839 dated: 15.06.2022 **(Annexure- X)** and Discharge Consent Order vide letter no.: 1840 dated: 15.06.2022 **(Annexure- XI)** to M/s NTPC Ltd., Nabinagar Super Thermal Power Station, Nabinagar, Aurangabad

for generation of 3 x 660 MW Super-critical Technology Coal Based Thermal Power Plant. Compliance Reports are being placed at **Annexure- XII.**

9. There are three Stack in M/s NTPC Ltd., Nabinagar Super Thermal Power Station and Electrostatic Precipitator (ESP) is installed as an Air Pollution Control Device (APCD) to control particulate matter emission. The porthole and platform have been provided with the stacks. The aforesaid APCD were found operational. The two Stacks were monitored by the team of Bihar State Pollution Control Board, Patna on 28.10.2024.
10. The unit has installed four Continuous Ambient Air Quality Monitoring Stations were located within the boundary of NTPC-NSTPP premises. At following locations:
 1. Toward village Shivanpur
 2. Near H-Block Office
 3. Near Admin Building
 4. Near Raw Water Pump House

Site visit of M/s Bhartiya Rail Bijlee Company Ltd. (BRBCL), Nabinagar, Aurangabad

1. M/s Bhartiya Rail Bijlee Company Ltd. (BRBCL), Nabinagar, Aurangabad is a subsidiary of NTPC Ltd. in JV with Indian Railways with equity participation of 74 % and 26 % respectively, having a capacity of 1000 MW with 4 units of 250 MW. The plant is situated in Aurangabad District, Bihar. The power from this plant is going to the Indian Railways (90%) and State of Bihar (10%).
2. The plant is receiving coal in the range of 5.0 MMT per annum from various coal mines of CIL other subsidiaries of CIL like NCL. The coal is supplied by CIL as per the Fuel Supply Agreement (FSA) between subsidiaries of Coal India Ltd (CIL) and BRBCL in line with other plants of NTPC.

3. The water for functioning of the plant is received from Sone River. The Plant has water agreement of 60 cusecs. However, as per the available records, the plant is consuming 25 cusecs on annual average basis.
4. BRBCL station units came into commercial operation as follows:
 - Unit#1: 15.01.2017
 - Unit#2: 10.09.2017
 - Unit#3: 26.02.2019
 - Unit#4: 01.12.2021
5. During the site visit three units (i.e. Unit # 2, 3, 4) were found operational. Unit# 1 was under shut down for overhauling work.
6. Mr. Mathew Eipe Kovoov, GM (O&M), Sri Vishal Dubey, AGM (O&M), Sri Pranesh Kumar DGM (Env.) along with the other officers of the plant were present during the visit of the Joint Committee.
7. Environmental Clearance has been granted by the Ministry of Environment & Forest; Govt. of India vide its reference no. J-13012/16/2003. IA. II(T) dtd. 03.08.2004 for the generation of 4 x 250 MW Coal Based Thermal Power Plant under Joint Venture with Indian Railways near village- Dhundwa, in Aurangabad District, Bihar (**Annexure- XIII**). The compliance report of Environmental Clearance is placed at **Annexure- XIV**.
8. The Bihar State Pollution Control Board has granted Consent to Establish (NOC) vide letter no.: T-2130, dated: 08.04.2004 (**Annexure- XV**); Emission Consent Order vide letter no.: 783, dated: 17.06.2021 (**Annexure- XVI**) and Discharge Consent Order vide letter no.: 7884, dated: 17.06.2021 (**Annexure- XVII**) to M/s Bhartiya Rail Bijlee Company Ltd. (BRBCL), Nabinagar, Aurangabad for the generation of 4 x 250 MW Super-critical Technology Coal Based Thermal Power Plant. Compliance Reports are being placed at **Annexure- XVIII**.
9. There are 04 MS Stack in M/s Bhartiya Rail Bijlee Company Ltd. (BRBCL), Nabinagar, Aurangabad through Electrostatic Precipitator

(ESP) as an Air Pollution Control Device (APCD) to control particulate matter emission. The porthole and platform have been provided with the stacks. The aforesaid APCD were found operational. The two Stacks were monitored by the team of Bihar State Pollution Control Board, Patna on 29.10.2024.

10. The unit has installed four Continuous Ambient Air Quality Monitoring at different locations as mentioned below:

- (1) Main Gate of Plant,
- (2) Near Khadha Gate,
- (3) Near Pirouta Gate,
- (4) Near 'C' Type Quarter of Township.

Coal Management Policy of NTPC (NTPC- NSTPS and BRBCL)

- Coal subsidiary wise total number of rakes to be supplied to each Plant are planned by CC-FM in advance. Accordingly, Plants are advised to apply for the number of rakes required for the month. However, supply pattern depends on the factors i.e. Power demand, availability of Railway rakes and Coal production by concerned Mining agency in consideration of demand of coal in various Plants of M/s NTPC.
- Further the process of coal supply involves following steps:
 - a. The Mined Coal is transported from coal mine end (Pit head) to the railway siding by transporters engaged by Coal subsidiary.
 - b. The request for Railway rake is placed by Coal subsidiary to Indian Railways.
 - c. Accordingly, Indian Railway provides the rake placement as per availability and provides a time period of 3-5hr (at different sidings) for loading of rake else demurrage charge is applicable.
 - d. These rakes are placed for multiple consumers one after the other or on parallel lines at same siding. The sequence of Coal loading for specific plant is not provided in advance as it depends on the availability and type of Rakes.

Coal quality check procedure:

- Coal sample is collected **from rake** by a third party appointed jointly by Coal subsidiary and NTPC.
- After that rake start from the siding under the instruction and control of Indian Railways and movement, route, time etc. is planned by railways only. This rake until reaches to destination station/ Plant remains under control of Railways.
- After reaching the destination the coal rake is handed over to the consumer (NSTPS & BRBCL) and given 2.5hr (BOBR)/ 7hr (BOXN) for unloading the rake. The rake turns out time/ cycle time is monitored on real time basis by Indian Railway as per their SoP and different level to reduce the cycle time.
- Indian Railway rake is taken to the Plant end wagon tippler and track hopper for direct unloading the entire coal and conveying to the unit bunker/ stock yard by belt conveyor.
- This sample collected by Third party is prepared with crushing coning/ quartering process in 4 parts. One sample is tested by the Third party itself. One sample is submitted to coal subsidiary and consumer each for testing at their end. Other part of sample is kept with third party for reference in case there is disagreement on test results (submitted by third party) between subsidiary and consumer.
- Third party tests the sample and submit the report to supplier and consumer both. Supplier and consumer depending upon the result of their own sample report, agree or disagree on this result submitted by third party. Reference sample is tested by a separate party.
- Sometimes sample is not collected due to non-enabling conditions at siding. In this situation, average of previously supplied coal rake sample results is considered as result of un-sampled coal rake.
- Coal sample is also collected from wagons at unloading end and tested. As per the results available, average difference is of the order of approx. 0-600 kCal. The principal reason for such difference may be sampling

error and un-homogenised sample of bulk quantity of the coal received.

- Coal test/ analysis results for both the Plants are enclosed as **Annexure- XIX**

Stack Sampling and Monitoring Results:

During visit, the Stack monitoring work was carried out for randomly selected Stacks. The analysis report is following:

Plant	Location	PM (mg/Nm³)
M/s NPGCL	Stack of Unit-2	43.87
	Stack of Unit-3	39.53
M/s BRBCL	Stack of Unit-3	17.3
	Stack of Unit-4	29.72
Standard Limit		30

***The value of SO_x was analysed as 528 & 498 for Unit 3 & 4 respectively (M/s NPGCL) and 606 & 638 for Unit 3 & 4 respectively (M/s BRBCL). FGD installation for all units is in process.*

The observations of the Joint Committee at NTPC- NSTPS are as follows:-

1. The Joint Committee visited Ash Dyke, Coal Handling Plant, Circulation Area/ Transportation Pathway of Ash Dyke and other areas of M/s NTPC- NSTPS.
2. All the units were found operational during visit.

3. The annual coal consumption of the unit is around 9.5 Million MT/Annum, which is procured from CCL and other mines through Railway Rakes.
4. The coal procurement is under the centralized 'Central Procurement Team' at corporate level. The ash content is between 35% and 40% and its Gross calorific value (GCV) is between 3700 and 4000. Third Party Agency takes samples at the loading point and unloading point and generates report for given parameters. In the event of variation in the parameter (>10%), it is duly informed to both the parties for further process.
5. The plant is designed for the coal of 35% to 40% ash contents.
6. The plant has constructed RCC approach road up to Ash Dyke. However, the unit has not constructed roads from the approach road to the Ash Dyke Bund. The unpaved road can result into the re-suspension of fly ash during the movement of vehicles and can cause problem to the nearby resident (at about 200 meters).
7. Facility of Recirculating the water of Ash Dyke to the plant for slurry making is available.
8. The unit has installed three Wagon Tippler for downloading the coal from the wagons. The wagon tippler has water sprinkling system at two levels. One overhead pre sprinkling system is installed just before tippler. Another overhead water sprinkling system is over the coal falling platform.
9. The water sprayer over the wagon tippler was not functioning. It may result the fugitive emission. However, the unit have a movable Cannon Fogging Machine to combat such situation.
10. Boulder heaps were observed in the vicinity of coal handling plant. It was informed that the rejects coming along the coal is segregated during the tripling of wagons.
11. The unit has installed Sewage Treatment Plant (STP) having a capacity of 1.7 MLD.

12. The installation of Flue Gas Desulphurization units was under construction.
13. The Unit is disposing bottom ash for filing of road being constructed by NHAI.
14. They have constructed Ground Water Recharging Pit.
15. The Unit is maintaining Zero Liquid Discharge (ZLD).
16. The Unit has installed 04 Continuous Ambient Air Quality Monitoring Station at different locations inside the premises.
17. The unit has installed *Continuous Emission Monitoring System* at all the Stacks having sensor for PM, SO₂ NO_x and also installed *Continuous Effluent Monitoring System* at Effluent Treatment Plant (ETP) having sensor for BOD, COD & TSS.

The observations of the Joint Committee at BRBCL are as follows: -

1. The Committee members visited Ash Dyke, Coal Handling Plant, Circulation Area/ Transportation Pathway of Ash Dyke and other areas of M/s BRBCL.
2. The unit 2, 3, 4 were found operational during visit however, Unit 1 was found under shut down for maintenance purpose.
3. The annual coal consumption of the unit is around 5.0 Million MT/Annum, which is procured from CCL and other mines through Railway Rakes.
4. The coal procurement is under the centralized 'Central Procurement Team' at corporate level. The ash content is between 40% and 47% & its Gross calorific value (GCV) is between 2900 and 3800. Third Party Agency taking samples at the loading point and unloading point and generates report for given parameters. In the event of variation in the parameter (>10%), it is duly informed to both the parties for further process.
5. The plant is design for the coal of 40% to 47% ash contents.

6. The plant has RCC approach road up to Ash Dyke. They have constructed paved approach road and road over the Ash Dyke bund made up of bricks all around the dyke. As per the authority of the unit that they have placed the work order for construction of RCC road from the main road to the ash dyke. The work is about to start.
7. The unit is not having RCC roads from the main road to the Ash Dyke. The unpaved road results into the re-suspension of fly ash during the movement of vehicles and may cause some problem to general public.
8. Facility of recirculating the water of Ash Dyke to the plant for slurry making is available which again goes to Ash Dyke.
9. The unit has installed 2 nos. Wagon Tippler for downloading the coal from the wagons. The wagon tippler has water sprinkling system at two levels. One overhead pre sprinkling system is installed just before tippler. Another overhead water sprinkling system is over the coal falling platform. The water sprayer over the wagon tippler was not functioning. It may result the fugitive emission. However, the unit have a movable Cannon Fogging Machine to combat such situation.
10. Boulder heaps were observed in the vicinity of coal handling plant. It was informed that the rejects coming along the coal is segregated during the tripling of wagons.
11. The unit has installed Sewage Treatment Plant (STP) having a capacity of 1.2 MLD.
12. The installation of Flue Gas Desulphurization units was under construction.
13. They are disposing bottom ash for filling of road being constructed by NHAI.
14. The Unit is maintaining Zero Liquid Discharge (ZLD).
15. They have installed 04 Continuous Ambient Air Quality Monitoring Station (CAAQMS) at different locations inside the premises at (1) Main Gate of Plant, (2) Near Khadha Gate, (3) Near Pirouta Gate, (4) Near 'C' Type Quarter of Township.

16. The unit has installed *Continuous Emission Monitoring System* at all the Stacks having sensor for PM, SO₂ NO_x and also installed *Continuous Effluent Monitoring System* at Effluent Treatment Plant (ETP) having sensor for BOD, COD & TSS.

Recommendations of the Joint Committee for NTPC-NSTPS, Nabinagar, Aurangabad

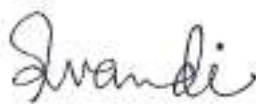
1. Wheel washing system may be installed at the out gate of the Ash Dyke.
2. The connecting road between Highway and Ash dyke should be made up of RCC.
3. Vehicle transporting Fly Ash may be covered from all sides so that fly ash cannot spillover to the environment.
4. Overload may be stopped.
5. Mechanical vacuum cleaning system may be in place to clean all RCC roads on regular basis and collected ash may be disposed properly.
6. Ensure 100% ash utilization within by next year as per the Environmental Clearance conditions.
7. The unit may ensure Zero Liquid Discharge, no discharge from the Ash Dyke and ensure installation of Oil & Grease section to the ETP as per the requirement.
8. The unit may ensure maintenance of the water spraying system at Wagon Tippler section and stop unloading till the system put in operation.
9. Unit may comply Specific Condition No. 3, 4, 15, 16, 17, 18, 19 of the Environmental Clearance within one year.
10. Unit may submit Specific Water Consumption, and Water Balance Report on yearly basis.
11. Unit may ensure water spraying on all the dusty roads within and outside the premises caused by transportation of fly ash.

12. Unit may ensure tree plantation in all vacant land within its premises and other probable places as per the regulations.
13. Unit ensure the implementations of the Solid Waste Management Rules, 2016, the Construction and Demolition Waste Management Rules, 2016, the Plastic Waste Management Rules, 2016, the E-Waste Management Rules, 2022, the Hazardous and Other Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and other waste management rules.
14. *System* at Effluent Treatment Plant (ETP) having sensor for pH, BOD, COD & TSS.

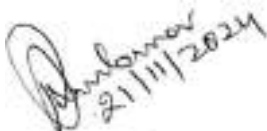
Recommendations of the Joint Committee for BRBCL, Nabinagar, Aurangabad

1. Wheel washing system may be installed at the out gate of the Ash Dyke.
2. The connecting road between Highway and Ash dyke should be made up of RCC.
3. Vehicle transporting Fly Ash may be covered form all sided so that fly ash cannot spillover to the environment.
4. Overload may be stopped.
5. Mechanical vacuum cleaning system may be in place to clean all RCC roads on regular basis and collected ash may be disposed properly.
6. Ensure 100% ash utilization within a year as per the Environmental Clearance conditions.
7. The unit may ensure Zero Liquid Discharge, no discharge from the Ash Dyke and ensure installation of Oil & Grease section to the ETP, as per requirement.
8. The unit may ensure maintenance of the water spraying system at Wagon Tippler section and stop unloading till the system put in operation.

9. Unit may comply Terms and Conditions No. X, XI, XIV, XVI, XVIII, XIX and XXI of the Environmental Clearance within one year.
10. Unit may submit Specific Water Consumption, and Water Balance Report on yearly basis.
11. Unit may ensure water spraying on all the dusty roads within and outside the premises caused by transportation of fly ash.
12. Unit may ensure tree plantation in all vacant land within its premises and other probable places as per the regulations.
13. Unit ensure the implementations of the Solid Waste Management Rules, 2016, the Construction and Demolition Waste Management Rules, 2016, the Plastic Waste Management Rules, 2016, the E-Waste Management Rules, 2022, the Hazardous and Other Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and other waste management rules.



(Sandeep Nandi)
Scientist B,
MoEF & CC, Ranchi



(Arun Kumar)
Board Analyst,
BSPCB, Patna



(Lalit Bhushan Ranjan),
Addl Dist. Magistrate,
Aurangabad, Bihar



(Manoranjan Kumar Singh)
Regional Officer,
BSPCB, Gaya



(Sandeep Roy)
Scientist D,
CPCB, Kolkata



ई-मेल बिहार राज्य प्रदूषण नियंत्रण पर्षद

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पत्रांक: P/Legal01- 168/2024

पटना, दिनांक:

प्रेषक,

नीरज नारायण, अध्यक्ष

सदस्य-सचिव।

सेवा में,

1. सदस्य-सचिव,
केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
ई-मेल- ncpcb.cpcb@nic.in
2. जिलाधिकारी, औरंगाबाद।
ई-मेल- dm-aurangabad.bih@nic.in
3. वन उप महानिदेशक,
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय।
समेकित क्षेत्रीय कार्यालय,
बंगलो नं०- 02, श्यामली कॉलोनी,
रांची- 834002 (झारखण्ड)
ई-मेल- ro.ranchi-mef@gov.in

Most urgent
Hon'ble NGT
matter

विषय: माननीय राष्ट्रीय हरित अधिकरण, प्रधान बेंच, दिल्ली में दायर O.A. No.- 976/2024, Vijay Kumar Singh V/S State of Bihar के मामले में दिनांक 03.10.2024 को पारित आदेश के अनुपालन के संबंध में।

प्रसंग: औरंगाबाद जिले के नवीनगर में NTPC के दो थर्मल पावर प्लांट अर्थात् NPGC एवं BRBCL के संचालन से हो रहे वायु प्रदूषण का मामला।

महाशय,

उपर्युक्त प्रसंगाधीन विषय के संबंध में सूचित करना है कि माननीय राष्ट्रीय हरित अधिकरण, प्रधान बेंच, दिल्ली के द्वारा श्री विजय कुमार सिंह, सदस्य विधान सभा से प्राप्त पत्र याधिका को मूल आवेदन के रूप में पंजीकृत किया गया है। विषयांकित मामला औरंगाबाद जिले के नवीनगर में NTPC के दो थर्मल पावर प्लांट अर्थात् NPGC एवं BRBCL के संचालन से हो रहे वायु प्रदूषण के कारण स्थानीय लोगों के स्वास्थ्य पर प्रतिकूल प्रभाव पड़ने का मामला है।

माननीय राष्ट्रीय हरित अधिकरण ने दिनांक 03.10.2024 को मामले की सुनवाई के दौरान विषयांकित मामले की तथ्यात्मक जांच करने हेतु निम्न सदस्यों की संयुक्त समिति गठित किया है (आदेश एवं पत्र याधिका की प्रति संलग्न):-

- केन्द्रीय प्रदूषण नियंत्रण बोर्ड
- बिहार राज्य प्रदूषण नियंत्रण पर्षद
- सामेकित क्षेत्रीय कार्यालय, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग
- जिलाधिकारी, औरंगाबाद

माननीय अधिकरण ने CPCB को मामले में समन्वय और अनुपालन हेतु नोडल प्राधिकरण बनाया है।

उक्त समिति को निर्देश दिया गया है कि स्थल का दौरा करने के एक महीना के भीतर तथ्यात्मक जांच रिपोर्ट प्रस्तुत करेगी जिसमें उल्लेखित हो कि प्रस्तावकों के द्वारा सहमति शर्तों और पर्यावरणीय स्वीकृति (EC) शर्तों का अनुपालन किया गया है या नहीं?

उक्त संदर्भ में सूचित किया जाता है कि पर्षद के श्री अरुण कुमार, पर्षद विश्लेषक (मोबाईल नं०- 9771023486 एवं E-mail- bspcb.arun@gmail.com) एवं श्री मनोरंजन कुमार सिंह, क्षेत्रीय पदाधिकारी, गया प्रक्षेत्र (मोबाईल नं०- 8789336767) को गठित समिति में पर्षद का प्रतिनिधित्व करने के लिए संयुक्त रूप से नामित किया जा सकता है।

माननीय अधिकरण के द्वारा प्रासंगिक मामले की सुनवाई हेतु दिनांक- 04.11.2024 को सूचीबद्ध किया गया है।

कृपया इसे सर्वोच्च प्राथमिकता देंगे।

अनुलग्नक: यथो०।

विश्वासभाजन
ह०/-
(नीरज नारायण)
सदस्य-सचिव।

ज्ञापांक: 2394 ✓

पटना, दिनांक: 18.10.24

प्रतिलिपि: श्री अरुण कुमार, पर्षद विश्लेषक, मुख्यालय पटना/ श्री मनोरंजन कुमार सिंह, क्षेत्रीय पदाधिकारी, गया प्रक्षेत्र को आदेश एवं पत्र याचिका की प्रति संलग्न करते हुए निर्देश दिया जाता है कि विषयांकित मामलों के संदर्भ में संबंधित से समन्वय स्थापित कर अग्रतर कार्रवाई सुनिश्चित करना चाहेंगे।

अनुलग्नक: यथो०।

18/10/24
(नीरज नारायण)
सदस्य-सचिव।

Item No.01

Court No. 2

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No.976/2024

Vijay Kumar Singh

...Applicant

Versus

State of Bihar

...Respondent

Date of hearing: 03.10.2024

**CORAM: HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant(s): None

ORDER

1. On a letter petition dated 17.12.2023 sent by Vijay Kumar Singh @ W Singh resident of Kshatriya Nagar, G.T. Road, Aurangabad, State of Bihar, this Original Application has been registered under Sections 14 and 15 of National Green Tribunal Act, 2010 [hereinafter referred to as **NGT Act, 2010**] exercising *suo-moto* jurisdiction in view of law laid down by Supreme Court in ***Municipal Corporation of Greater Mumbai Versus Ankita Sinha and Others, (2022) 13 SCC 401.***

2. Complainant has said that there are two Thermal Power Plants of National Thermal Power Corporation namely BRBCL and NPGC functioning at Nabinagar, District Aurangabad, wherein fuel used for

(2)

generation of electricity comprised a waste material, black filter dust and rejected coal which is causing air pollution affecting local people and creating health hazards.

3. In our view, facts stated in Original Application required verification before taking any further action in the matter and therefore, we constitute a Joint Committee comprising Central Pollution Control Board (hereinafter referred to as 'CPCB'); Bihar State Pollution Control Board; (hereinafter referred to as 'BPCB') Integrated Regional Office Ministry of Environment Forest and Climate Change, Aurangabad; and District Magistrate, Aurangabad.

4. CPCB shall be the Nodal Authority for co-ordination and compliance.

5. Said Committee shall collect relevant information after visiting the site, and submit a factual report within one month. Committee shall also verify as to whether consent conditions and EC conditions have been complied with by the above proponents.

6. List for further consideration on 04.11.2024.

Sudhir Agarwal, JM

Dr. Afroz Ahmad, EM

October 03, 2024
Original Application No.976/2024
M

विजय कु. सिंह उर्फ डब्लू सिंह

सदस्य

बिहार विधान सभा

(221, नवीनगर, औरंगाबाद)



क्षेत्रीय नगर, जी. टी. रोड,
औरंगाबाद - 824101

मो.: 9431225900, 9934979836

पत्रांक 840/023

दिनांक 17/12/23

2706/LP/2023
23/12/23

Use of fuel
fuel quality

Subject to
MRAs Ref
EAB

सेवा में

अध्यक्ष,

राष्ट्रीय हरित नियंत्रण (एन०जी०टी०),
इंडिया गेट, नई दिल्ली।

विषय:- औरंगाबाद जिलान्तर्गत नवीनगर स्थित एन०टी०पी०सी० में घटिया
कोयला के उपयोग से उत्पन्न प्रदूषण के संबंध में।

महोदय,

राज्य के औरंगाबाद जिलान्तर्गत नवीनगर में एन०टी०पी०सी० के दो पावर प्लांट बी०आर०बी०सी०एल० और एन०पी०जी०सी० कार्यरत हैं। इन परियोजनाओं में उर्जा उत्पादन के लिए कोल इंडिया लिमिटेड के विभिन्न शाखाओं से कोयले की आपूर्ति बड़े पैमाने पर रैक के माध्यम से किया जाता है। ऐसी सूचना मिली है कि कोयले की आपूर्ति करने वाली एजेंसी और उपरोक्त कंपनियों के कुछ पदाधिकारियों की मिलीभगत से 50 प्रतिशत उन्नत कोयले को बेचकर उसके बदले में वेस्ट मैटेरियल, ब्लैक फिस्टर डस्ट, डोल चार्ज तथा रिजेक्शन कोयला मिलाकर कंपनी को आपूर्ति की जा रही है। इस कोयले के प्रयोग से प्रदूषण का स्तर काफी बढ़ गया है, जिससे क्षेत्र की जनता गंभीर बीमारियों का शिकार हो रही है तथा जानवरों और फसलों पर भी इसका प्रतिकूल प्रभाव पड़ रहा है। घटिया कोयले के प्रयोग से न केवल प्रदूषण बढ़ रहा है, बल्कि सरकारी राजस्व भी भी क्षति हो रही है।

अतः अनुरोध है कि उपरोक्त तथ्यों की उच्च स्तरीय जांच कराते हुए घटिया कोयले के प्रयोग से उत्पन्न प्रदूषण को नियंत्रित करने की कार्रवाई करने के साथ ही दोषियों पर भी कार्रवाई की जाय। जनहित में इसे अतिआवश्यक समझा जाय।

भावदीय

(विजय कुमार सिंह उर्फ डब्लू सिंह)

स०वि०स०

366/HCP
22/12/23



केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
 (पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
 (Ministry of Environment, Forest & Climate Change, Govt. of India)
क्षेत्रीयनिदेशालय, कोलकाता
Regional Directorate, Kolkata



दिनांक: 20.10.2024
MOST URGENT/NGT MATTER

सेवा में,

- डिप्टी डायरेक्टर जनरल ऑफ़ फॉरेस्ट्स (सी),
 इंटीग्रेटेड रीजनल ऑफिस-पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय 2nd फ्लोर, हेडक्वार्टर- झारखण्ड स्टेट हाउसिंग बोर्ड,
 रांची, 834002
 Email- ro.ranchi-mef@gov.in
- सदस्य सचिव
 बिहार राज्य प्रदूषण नियंत्रण बोर्ड, बेल्टून भवन, शास्ती नगर, जवाहर लाल नेहरू मार्ग, पटना (बिहार), 800023
 E-mail: msbpcb-bih@gov.in or bspcb@yahoo.com
- जिला मजिस्ट्रेट / जिला कलेक्टर
 जिला कलेक्टर बिल्लिंग, औरंगाबाद (बिहार)-824010
 Email- dm-aurangabad.bih@nic.in

विषय: OA संख्या 976/2024/PB (विजय कुमार सिंह बनाम बिहार राज्य व अन्य) मामले में नामांकन पत्र।

महोदय,

OA संख्या 976/2024 (विजय कुमार सिंह बनाम बिहार राज्य व अन्य) के मामले में माननीय एनजीटी के दिनांक 03.10.2024 के आदेश का संदर्भ है जिसमें निम्नलिखित निर्देशित किया गया है:

"3. In our view, facts stated in Original Application required verification before taking any further action in the matter and therefore, we constitute a Joint Committee comprising Central Pollution Control Board; Bihar State Pollution Control Board; Integrated Regional Office Ministry of Environment Forest and Climate Change, Aurangabad; and District Magistrate, Aurangabad"

"4. CPCB shall be the nodal agency for coordination and compliance."

"5. Said Committee shall verify as to whether consent conditions and EC conditions have been complied with by the above proponents."

इस संबंध में श्री **Sandeep Roy, Scientist D** (मोबाइल नंबर 9903816939 & Email-sandeeproy.cpcb@nic.in & rdkolkata.cpcb@gov.in) को निरीक्षण करने के लिए इस समिति में केन्द्रीय प्रदूषण नियंत्रण बोर्ड का प्रतिनिधित्व करने के लिए सक्षम प्राधिकारी द्वारा नामित किया गया है।

साइट विजिट और इस विषय से संबंधित अन्य मामलों के संबंध में सभी संवाद श्री Sandeep Roy, Scientist D को इस कार्यालय को एक प्रति के साथ भेजा जा सकता है।

उपरोक्त को ध्यान में रखते हुए आपसे अनुरोध है कि कृपया समिति का पक्ष रखने के लिए अपने कार्यालय से एक अधिकारी को नामित करें ताकि सुनवाई की अगली तारीख यानी 04.11.2024 से पहले साइट विजिट कर रिपोर्ट माननीय एनजीटी के समक्ष प्रस्तुत किया जा सके। माननीय एनजीटी आदेश दिनांक 03.10.2024 की प्रति आपके त्वरित संदर्भ के लिए संलग्न है।

प्रारंभिक चर्चा के उद्देश्य से एक वीसी बैठक (लिंक <https://meet.google.com/wap-gtah-zgy>) 23/10/2024 @ 1500 hrs को निर्धारित है।

संलग्नक: उपरोक्तानुसार

भवदीय,

श्री. कां. विस्वास
 (श्री. कां. विस्वास)
 क्षेत्रीय निदेशक

जानकारी के लिए प्रति:

1. डीएच- आईपीसी-II, सीपीसीबी दिल्ली
2. डीएच-लॉ, सीपीसीबी दिल्ली
3. एमएस के लिए पीएस
4. श्री संदीप रॉय, एससी डी, आरडी कोलकाता

मृ. कां. बिष्ट

(मृ. कां. बिस्वास)
क्षेत्रीय निदेशक

===== Forwarded Message =====

From : ro.ranchi-mef@gov.in

To : sandeeproycpcb@nic.in, rdkolkata.cpcb@gov.in

Cc : msbspccb_bih@gov.in, dm-aurangabad.bih@nic.in

Date : Tue, 22 Oct 2024 13:43:16 +0530

Subject : Nomination from Regional Office Ranchi, Ministry of Environment Forest and Climate Change in OA No. 976/2024 (Vijay Kumar Singh Vs. State of Bihar) - reg

===== Forwarded Message =====

महोदय,

This is to inform you that Hon'ble NGT Principal Bench, New Delhi, vide order dated 03.10.2024 in OA No. 976/2024 (Vijay Kumar Singh Vs. State of Bihar) has constituted a Joint committee comprising of the ""... Central Pollution Control Board, Bihar State Pollution Control Board; Integrated Regional Office Ministry of Environment Forest and Climate Change, Aurangabad; and District Magistrate, Aurangabad".

Accordingly, this is to inform that Shri Sandeep Nandi, Scientist 'B' (Mobile No.90904 65288, email id: ro.ranchi-mef@gov.in) has been nominated from Regional Office Ranchi of the MoEF&CC as a member of the above Joint committee constituted by Hon'ble NGT. This is for your information and necessary action, please

With regards,

Regional Office (MoEFCC) - Ranchi / क्षेत्रीय कार्यालय - राँची
Ministry of Environment & Forest Climate Change / पर्यावरण, वन एवं
जलवायु परिवर्तन मंत्रालय
2nd Floor, Headquarter-Jharkhand State Housing Board,
Harmu Chowk, Ranchi, Jharkhand - 834002
द्वितीय तल, झारखण्ड राज्य आवास बोर्ड मुख्यालय,
हरमू चौक, राँची, झारखण्ड – 834002
Tel.: 0651-2410002/2410007

कार्यालय जिला पदाधिकारी एवं समाहर्ता, औरंगाबाद

(जिला सामान्य शाखा)

पत्रांक-2269 / सा0.

प्रेषक,

जिला पदाधिकारी

औरंगाबाद

सेवा में,

मुख्य कार्यकारी पदाधिकारी,

भारतीय रेल बिजली कंपनी लिमिटेड (BRBCL), नबीनगर, औरंगाबाद।

मुख्य कार्यकारी पदाधिकारी,

नबीनगर पावर जेनरेशन कंपनी प्राइवेट लिमिटेड (NPGC), नबीनगर, औरंगाबाद

औरंगाबाद, दिनांक-24.10.24

विषय :- माननीय NGT, नई दिल्ली में दायर O.A NO -976/2024 विजय कुमार सिंह बनाम बिहार राज्य के मामले में दिनांक-03.10.2024 को पारित आदेश के अनुपालन हेतु बैठक में भाग लेने के संबंध में।

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में कहना है कि माननीय NGT, नई दिल्ली में दायर O.A NO-976/2024 विजय कुमार सिंह बनाम बिहार राज्य के मामले में दिनांक-03.10.2024 को पारित आदेश के अनुपालन हेतु औरंगाबाद जिला के नबीनगर में NTPC के दो थर्मल पावर प्लांट अर्थात N.P.G.C एवं B.R.B.C.L. के संचालन से हो रहे वायु प्रदूषण से संबंधित मामले की जाँच हेतु 4 सदस्यीय संयुक्त समिति का गठन किया गया है। दिनांक-28.10.2024 को संयुक्त समिति के सभी सदस्य जिला औरंगाबाद में आ रहे हैं। सदस्यों द्वारा स्थलीय जाँच करने से पूर्व निरीक्षण से संबंधित बैठक दिनांक-28.10.2024 को दोपहर 1:00 बजे जिला अतिथि गृह, औरंगाबाद में निर्धारित किया गया है।

अतः उक्त बैठक में दिनांक-28.10.2024 को दोपहर 1:00 बजे जिला अतिथि गृह, औरंगाबाद में भाग लेना सुनिश्चित करेंगे।

अनुलग्नक:-यथोक्त।

विश्वासभाजन,


जिला पदाधिकारी,
औरंगाबाद



दिनांक: 24.10.2024

सेवा में,

श्री विजय कुमार सिंह उर्फ डबलू सिंह

माननीय सदस्य बिहार विधान सभा

क्षेत्रीय नगर, जी.टी. सड़क

नवीनगर, बिहार

ईमेल: vijaydablu2012@gmail.com

विषय: OA No.976/2024/PB (विजय कुमार सिंह बनाम बिहार राज्य) के मामले में गठित संयुक्त समिति के द्वारा स्थल निरीक्षण करने के सम्बन्ध में।

महोदय,

यह ओए नंबर 976/2024/पीबी (विजय कुमार सिंह बनाम बिहार राज्य) के मामले में माननीय एनजीटी के दिनांक 03.10.2024 के आदेश का संदर्भ है, जिसमें माननीय एनजीटी द्वारा एक संयुक्त समिति का गठन किया गया था। जिसमें केन्द्रीय प्रदूषण नियंत्रण बोर्ड, बिहार राज्य प्रदूषण नियंत्रण बोर्ड, एकीकृत क्षेत्रीय कार्यालय, पर्यावरण वन्य जीव एवं जलवायु परिवर्तन मंत्रालय, औरंगाबाद और जिला मजिस्ट्रेट औरंगाबाद। माननीय एनजीटी के आदेश के अनुसार केन्द्रीय प्रदूषण नियंत्रण बोर्ड नोटल एजेंसी है; और आगे इसमें निर्देशित किया गया है कि

"...Said Committee shall collect relevant information after visiting the site, and submit a factual report within one month. Committee shall also verify as to whether consent conditions and EC conditions have been complied with by the above proponents."

तदनुसार, संयुक्त समिति का साइट दौरा 28-29 अक्टूबर 2024 के दौरान किया जाना निर्धारित है। साइट विजिट के लिए आगे बढ़ने से पहले 28 अक्टूबर को दोपहर 01:00 बजे सर्किट हाउस औरंगाबाद, बिहार में एक पूर्व-निरीक्षण बैठक भी निर्धारित किया गया है।

उपरोक्तानुसार, आप से यह अनुरोध है की आप स्वयं व्यक्तिगत रूप से या अधिकृत प्रतिनिधि के माध्यम से समिति के सदस्य को मामले के बारे में विस्तृत रूप से जानकारी देने के लिए उक्त बैठक में सम्मिलित हो सकते हैं।

भवदीय

मृ. कां. सिन्हा

(मृनाल कांति बिस्वास)

क्षेत्रीय निदेशक

सूचनार्थ:

1. जिला मजिस्ट्रेट का कार्यालय, औरंगाबाद, बिहार

dm-aurangabad.bih@nic.in

बैठक हेतु सर्किट हाउस में आवश्यक व्यवस्था के संबंध में

2. श्री संदीप नंदी, वैज्ञानिक 'ख', पर्यावरण वन्य जीव एवं जलवायु परिवर्तन मंत्रालय रांची; ro.ranchi-mef@gov.in

पूर्व-निरीक्षण बैठक एवं निर्धारित कार्यक्रम के अनुसार क्षेत्र भ्रमण में भाग लेने के अनुरोध के साथ

3. श्री अरुण कुमार, बोर्ड एनालिस्ट, बिहार राज्य प्रदूषण नियंत्रण बोर्ड पटना; bspcb.arun@gmail.com

4. श्री संदीप रॉय, वैज्ञानिक 'घ', केन्द्रीय प्रदूषण नियंत्रण बोर्ड, क्षेत्रीय निदेशालय कोलकाता 700107; sandeeproy.cpcb@nic.in

मृ. कां. सिन्हा

(मृनाल कांति बिस्वास)

मुख्यालय/Head Office:

पश्चिम भवन / Parkash Bhawan,

पूर्व अर्ध नगर / East Arjun Nagar

दिल्ली/Delhi-110 032

दूरभाष/Tel: 011-431 02030, 22305771

वेबसाइट/Website: www.cpcb.nic.in

क्षेत्रीय निदेशालय/Regional Directorate:

502, राजवंश कॉन्फ्लैट/502, Southend Conclave

1582, राजदंगा मेन रोड/1582, Rajdanga Main Road

कोलकाता/Kolkata- 700107

दूरभाष/Tel: 033-2441 4677

ईमेल/e-mail: fdkolkata.cpcb@gov.in



केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(मंत्रालय, वातावरण, वन एवं जलवायु परिवर्तन, नई दिल्ली)
(Ministry of Environment, Forest & Climate Change, Govt. of India)
क्षेत्रीय निदेशालय, कोलकाता
Regional Directorate, Kolkata



Date: 24.10.2024

To
Shri. Vijay Kumar Singh Alias Dabloo Singh
Hon'ble Member of Bihar Bidhan Sabha
Kshatriya Nagar, G.T. Road
Nabinagar, Bihar
Email: vijaydablu2012@gmail.com

Sub: Site Visit of the Joint Committee constituted in the matter of OA No.976/2024/PB (Vijay Kumar Singh Vs. State of Bihar)

Sir,

This has reference to the Hon'ble NGT order dated 03.10.2024 in the matter of OA No. 976/2024/PB (Vijay Kumar Singh Vs. State of Bihar) wherein a joint committee was constituted by Hon'ble NGT comprising of Central Pollution Control Board, Bihar State Pollution Control Board, Integrated Regional Office MoEF&CC, Aurangabad and DM Aurangabad. CPCB is the nodal agency as per Hon'ble NGT order. It was further directed that

"...Said Committee shall collect relevant information after visiting the site, and submit a factual report within one month. Committee shall also verify as to whether consent conditions and EC conditions have been complied with by the above proponents."

Accordingly, site visit of the Joint Committee is scheduled to be carried out during 28th -29th October 2024. Before proceeding for site visit a Pre-Inspection meeting is also scheduled at 01:00 PM on 28th October at Circuit House Aurangabad, Bihar.

In view of above, your goodself may attend the said meeting in person or through authorized representative to brief the committee member about the matter in detail.

Yours faithfully,


(M. K. Biswas)
Regional Director

Copy to:

1. Office of district Magistrate, Aurangabad, Bihar; dnt-aurangabad.bih@nic.in

2. Shri Sandeep Nandi, Scientist B, MoEF &CC Ranchi; ro.ranchi-mef@gov.in

3. Shri Arun Kumar, Board Analyst, BSPCB Patna; bspcb.arun@gmail.com

4. Shri. Sandeep Roy, Scientist-D, CPCB, RD, Kolkata-700107; sandeeproy.cpcb@nic.in

With respect for necessary arrangement in Circuit house for the meeting

With request to participate in the pre-inspection meeting and field visit as per schedule


(M. K. Biswas)

मुख्यालय/Head Office:
पश्चिम भवन/Pasternak Bhawan,
पूर्वी अरुण नगर/East Arjun Nagar
दिल्ली/Delhi-110 032
दूरभाष/Tel: 011-431 02030, 22305792
वेबसाइट/Website: www.cpcb.nic.in

क्षेत्रीय निदेशालय/Regional Directorate:
502, साउथवुड कॉन्डोमिनियम/502, Southend Condoam
10R2, राजदाम्प मैन् वीट/10R2, Rajdamp Main Road
कोलकाता/Kolkata- 700107
दूरभाष/Tel: 033-2441 4679
ई-मेल/Email: rdkolkata.cpcb@nic.in

Date: 28.10.2024

Participants of Joint committee meeting constituted in compliance to NGT Order, (O.A.No. 976/2024) with DM (Aurangabad) on 28.10.24 at Circuit House, Aurangabad

Sl.	Name (Shri)	Desig. & Deptt	Mob No	Signature
1.	Shri Kant Shastri	DM Aurangabad	9473191261	
2.	Lalit Bhushan Sanjay	ADM	9473191262	
3.				
4.	Anam Kumar	Board Analyst B.S.P.C.B. Bahr	9771023486	
5.	Ratna Poojadashtini	S.D.C	8340514201	
6.	Sandeep Roy	Scientist - D C.P.C.B.	9903816939	
7.	Sandeep Nandi	Scientist B R.O. MOEFCC Ranchi	9090465288	
8.	Manikant Kumar Singh	R.O. B.S.P.C.B. Bahr	9835086103	
9.	Sukhendu Biswas	Scientist - B C.P.C.B. Kolkata	9831056571	
10.	Dheeraj Kumar	Manager (AIR) NTPC-NSTPS	7763216946	
11.	V. Dubey	AGM (AUD/EN) CRBCL	638743566	
12.	Roy Thomas	AGM (Mn) NPGCL	9650994522	
13.	Y.M.S. Sunder	AGM TS BRBCL	9440918754	
14.	IPIL BAGE	AGM - FM	9431215288	
15.	Brijendra Agrawal	AGM (TS) NPGCL	9431600839	
16.	Pranesh Kumar	DGM (EMG)	9412280642	
17.	B.J.C. SASTRY	CEO/BRBCL	9453013333	
18.	A.K. Samanta	AGP/NPGCL	9415342423	
19.	Manish	DGM (Chem)	9650993774	
20.	Gopi HALLAWAR	S.M.N (EMG)	9446190378	

Date: 28.10.2024

Participants of Joint committee meeting constituted in compliance to NGT Order, with DM (Aurangabad) on 28.10.24 at Circuit House, Aurangabad

Sl.	Name (Shri)	Desig. & Deptt	Mob No	Signature
1.	DEBASISH BANERJEE	SR. MANAGER NTPC / HEM	9434041526	D. Banerjee
2.	H. K. K. K. K. K.	Asst. H. M. J. (M. J.)	7070193190	H. K. K. K. K.
3.	Chandran Kumar	M. L. A. K. A. K. A. K. A.	9954559436	Chandran
4.				
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No. J-13012/127/2007-LA-II (T)
Government of India
Ministry of Environment, Forest and Climate Change

3rd Floor, Vayu Block,
 Indira Paryavaran Bhawan, Jor Bagh Road,
 Aliganj, New Delhi-110003
 Dated: 20.3.2018

To

The Chief Executive Officer,
 M/s Nabinagar Power Generating Co. Pvt. Ltd
 1st Floor, Vichyut Bhawan,
 Bailey Road, Patna-800 001, Bihar

Tel. No. 0612-2504010; Fax: 0612-2504098; E-mail: mpsnha1326@gmail.com

Sub: 3x660 MW Super-Critical Technology Coal Based Nabinagar Thermal Power Plant at village Majhiyan, in Nabinagar Taluk, in Aurangabad District in Bihar by M/s Nabinagar Power Generating Company Private Limited-reg. extension of validity of EC.

Sir,

This has reference to your online application no. **IA/BR/THE/11929/2007** dated 14.10.2017, Ministry's letter dated 13.11.2017 and the documents furnished vide online submission dated 8.12.2017 regarding the above mentioned subject.

2. It is inter-alia noted that EC to the above project was accorded on 27.12.2010 which was valid for five years, i.e. till 26.12.2015. As per EIA amendment notifications nos. S.O.114(E) dated 29.4.2015 & S.O 2944(E) dated 14.9.2016 and Ministry's OM dated 12.4.2016, the validity of EC is presumed as seven years for the above mentioned project. Accordingly, the said EC is valid till 26.12.2017.

3. It has been noted that you have requested for extension of validity of the said EC for further period of two years, i.e. till 26.12.2019. It has been informed by you that the project is in its advanced stage of development. Commissioning of Unit 1 (1x660 MW), Unit 2 (1x660 MW) and Unit-3 (1x660 MW) are scheduled in March, 2018, September, 2018 and March, 2019. The delay in scheduled implementation has been due to various issues majorly relating to delay in land acquisition, resettlement of homestead owners, availability of raw material, availability of start-up power, frequent load-sheds, etc. which are beyond control of the company.

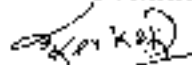
4. It has also been informed through additional documents submitted vide dated 8.12.2017 that the ESP has been designed with 99.97% efficiency to achieve revised PM standard of 30mg/Nm³. Tenders for installation of Flue Gas Desulphurisation (FGD) were scheduled to be floated on 30th November, 2017 and is expected to be awarded by 31st March, 2018. FGD will be implemented in about 30 months for first unit followed by 3 months' interval for subsequent units. There is no proven technology for meet the revised norms. Pilot testing of technologies is to be carried out and based on the results (Expected by June, 2018), De NOx systems will be implemented. Revised estimated project cost is Rs. 15131.67 crores. The commensurate Capital CSR Budget is Rs. 60.53 crores.

5. The matter regarding extension of validity of EC was placed before the Expert Appraisal Committee (Thermal Power) in its 119 Meeting held on 26.10.2017. In acceptance of the recommendations of the EAC and in view of the information/documents furnished by you, **the Ministry hereby extends the validity of EC dated 27.12.2010 for further period of two years, i.e. till 26.12.2019 (total 9 years from the date of issue of EC)** subject to the following additional conditions.

- i. Revised emission standards as per the Ministry's notification dated 07.12.2015 and subsequent amendments notified from time to time shall be complied. In case, plant is ready for commissioning and not meeting revised emission norms, operations shall be stopped unless otherwise an extension is given to the said power plant through a specific direction or an amendment to the Notification.
- ii. The commensurate Capital CSR Budget is Rs. 60.53 crores as per the revised Project Cost Rs. 15,131.67 Crores which shall be spent on CSR activities in the surrounding villages as per the action plan submitted by you.

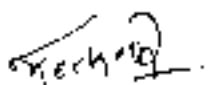
This issues with the approval of the Competent Authority.

Yours faithfully,


(Dr. S. Kerketta)
Director (IA.I)

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD cum-Office Complex, East Arjun Nagar, Delhi- 110032.
4. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forests and Climate Change, Regional Office (ECZ), Bungalow No. A-2, Shyamali Colony, Ranchi - 834002.
5. The Principal Secretary, Environment & Forest Department, Govt. of Bihar, Aranya Bhawan, Kiding Road, Patna-14.
6. The Chairman, Bihar State Pollution Control Board, Parivesh Bhawan, Plot no NS-14/2, Paliputra Industrial Area, Padiputra, Patna (Bihar) - 800 023.
7. The District Collector, Collectorate Office, Aurangabad, Bihar 824101.
8. Guard file/Monitoring file.
9. Website of MoEF&CC.


(Dr. S. Kerketta)
Director (IA.I)



No. J-13012/127/2007-IA.II (T)
Government of India
Ministry of Environment, Forest and Climate Change

3rd Floor, Vayu Block,
 Indira Paryavaran Bhawan, Jor Bagh Road,
 Aliganj, New Delhi-110003

Dated: 14.01.2020

To

The Chief Executive Officer
M/s Nabinagar Power Generating Co. Pvt. Ltd
 (A wholly owned subsidiary of M/s NTPC Ltd.)
 1st Floor, Vidhyut Bhawan,
 Bailey Road, Patna-800001, Bihar.

Tel. No. 0612-2504010; Fax: 0612-2504098; E-mail: mpsinha1326@gmail.com

Sub: 3x660 MW Super-Critical Technology Coal Based Nabinagar Thermal Power Plant at Village Majhiyan, Nabinagar Taluk, Aurangabad District, Bihar by M/s Nabinagar Power Generating Company Private Limited-reg. extension of validity of EC.

Sir,

This has reference to your online application No. **IA/BR/THE/11929/2007** dated **21.10.2019** for extension for Environmental Clearance (EC) dated 27.12.2010 for further period of one year. The EC was initially valid for five years (till 26.12.2015). Further EIA amendment Notification dated 29.4.2015 increased the validity of EC to seven years. As the said EC was valid on the date of publication of the Notification, EC automatically get extended upto seven years (till 26.12.2017). Subsequently, the EC was further extended for two years (till 26.12.2019) vide Ministry's letter dated 20.3.2018.

2. It has been noted that you have requested for extension of validity of the said EC for further period of one year, i.e. till 26.12.2020. It has been informed that Unit-1 (1x660 MW) was commissioned on 6.9.2019. Further, Unit-2 (1x660 MW) and Unit-3 (1x660 MW) are in advanced stage of commissioning which are scheduled be to commissioned on 30.03.2020 and 20.12.2020 respectively.

3. It has been informed that the delay in scheduled implementation has been delayed due to various issues majorly relating to delay in Land acquisition for Make-up water, Railway Siding, Ash Dyke, CHP area, Switchyard, Cooling Tower. Acquisition process also delayed due to New Land Acquisition Act 2014, NCLT Order against Ash Handling & SG Civil Agencies, NGT ban on sand mining, Termination of contract for site levelling, Delay in availability of start up power, frequent Law and order issues in the area due to local/naxal bandhs. Further, this project is located in the Aurangabad of Bihar which is a LWE notified district, which are beyond the control of the company.

4. It has been informed that the amount of Rs. 13,966 Crore (till September, 2019) had already been spent on the development of the project. The estimated Project Cost at the time of grant of Environmental Clearance was Rs.9,568.27 Cores. The revised project cost has been estimated to be Rs.17,304 Cores out of which an amount of Rs.925.22 Crores has been earmarked for installation of FGD

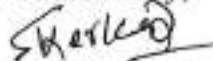
to meet new emission norms. The FGD package was awarded on 14.6.2019 and expected to be operationalize by 31.10.2021.

5. The matter regarding extension of validity of EC was placed before the Expert Appraisal Committee (Thermal Power) in its 35th Meeting held on 14.11.2019. In acceptance of the recommendations of the EAC in its meeting held on 14.11.2019 and in view of the information/documents furnished by you, **the Ministry hereby extends the validity of the Environmental Clearance dated 27.12.2010 for further period of one year (w.e.f. 26.12.2019 till 25.12.2020, total 10 years from the date of issue of EC)** subject to the following additional conditions.

- i. The details of Technology selection for adoption of FGD for control of SO_x shall be submitted. In case of wet FGD, details regarding source of limestone, impact of transportation, handling, storage and disposal of Gypsum including land requirement shall be submitted.
 - ii. In case SCR/SCNR is not adopted, an alternate technology analysis and justification of Technology Selection for NO_x reduction is to be submitted.
 - iii. Progress (physical and financial) of construction power plant till its commissioning, installation of FGD and De-NO_x measures shall be submitted as a part of six monthly compliance report.
 - iv. Emission norms and specific water consumption as per the Ministry's norms dated 7.12.2018 and 28.6.2018 shall be complied with. As committed, Flue-Gas Desulphurisation Unit and Selective Catalytic Reactor to control SO₂ and NO_x respectively shall be installed.
 - v. Water requirement for FGD to be installed in the existing units has to be provided. Therefore, water balance to be modified based on the water requirement for whole units including a plan on ZLD.
 - vi. The stack emissions (minimum, maximum, average and 98% percentile) shall be submitted for the period of six months in the compliance report. Further, daily water withdrawal, consumption, power generation and average PLF shall be submitted. The specific water consumption per MWhr shall be calculated based on water consumption and power generation and to be submitted in the compliance report.
 - vii. The plant shall operate only after meeting the new emission norms as notified by the Ministry. Else, extension of timelines from the CPCB for implementing pollution control measures for meeting new norms shall be obtained and a copy of the same shall be submitted to the Ministry.
6. All other conditions stipulated in the EC dated 27.12.2010 and Ministry's vide letter dated 20.3.2018 remain the same as applicable.

This issues with the approval of the Competent Authority.

Yours faithfully,



(Dr. S. Kerketta)
Director (IA.I)

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi- 110032.
4. The Deputy Director General of Forests (C), Ministry of Environment, Forests and Climate Change, Regional Office (ECZ), Bungalow No. A-2, Shyamali Colony, Ranchi - 834002.
5. The Principal Secretary, Environment & Forest Department, Govt. of Bihar, Aranya Bhawan, Riding Road, Patna-14.
6. The Chairman, Bihar State Pollution Control Board, Parivesh Bhawan, Plot no. NS-B/2, Paliputra Industrial Area, Patliputra, Patna (Bihar) - 800 023.
7. The District Collector, Collectorate Office, Aurangabad, Bihar-824101.
8. Guard file/Monitoring file.
9. Website of MoEF&CC.


Director (IA.I)

Monitoring Report of NTPC Nabinagar**Compliance status as Observed during Monitoring on 28.10.2024**

S.No	Special Conditions	Compliance status as observed during monitoring on 28.10.2024
SC-01	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six months.	Complied. Vision documented has been formulated and submitted to MOEFCC
SC-02	Land requirement shall be restricted to 1500 acres (including ash pond).	Read as Below: As per report , Total Land Acquired = 2972 Acres <ul style="list-style-type: none"> • Stage I - (3x660MW)- Around 1500 Acre (including Ash Pond), Under execution. • Stage II- (3x800MW) - around 1472 acres Proposed. • Forest land 7.3875 ha (18.24 acres) has been allocated.
SC-03	Provision for installation of FGD shall be provided for future use.	Read as below: As per report FGD contract awarded to M/s BHEL. Work is under progress. Being complied.

SC-04	<p>High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³.</p> <p>Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.</p>	<p>Being Complied.</p> <ul style="list-style-type: none"> ESP with efficiency of 99.97% is operational in running units to limit PM emission <30 mg/Nm³. Provision has been made for dust extraction system in coal handling area and ash handling areas including transfer points as well as other vulnerable dusty areas and being provided as observed.
SC-05	<p>Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to MoEF for suitable amendments to environmental clearance condition wherever necessary.</p>	<p>Read as below :-</p> <p>As per analysis reports some values have exceeded. But as per MOEF&CC notification dated 21.05.2020 TPP may use coal without any stipulations as regards ash content or distance.</p>
SC-06	<p>Stack of 275 m height shall be installed and provided with continuous online monitoring equipment for SO_x, NO_x and Particulate Matter. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.</p>	<p>Being complied</p> <ol style="list-style-type: none"> 275 m stack has been provided with continuous online monitoring system for SO_x, NO_x and PM. Exit velocity \geq 22 m/sec is being complied. Hg Emission Monitoring is being carried out offline and online Hg analyser has also been installed and commissioned in Unit # 1, Unit # 2, and Unit # 3 Stacks. Values are within limit.
SC-7	<p>Existing de-generated water bodies (if any) in the study area shall be regenerated at the project proponent's expenses in consultation with the state Govt.</p>	<p>Complied.</p> <p>The study has been conducted by M/s Geoscience Consultancy Services Roorkee. Final report yet to</p>

		be submitted. There are no degenerated water bodies which exist in the plant vicinity.
SC-8	Detailed hydro-geological study shall be conducted (including sustainability of water source study) shall be carried out by an institute of repute and report submitted to the Regional Office (RO) of the ministry. Further hydro-geological study shall be reviewed annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case and deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the RO of the Ministry.	<p>Complied.</p> <p>Hydro-geological study of NSTPS Nabinagar has been conducted by National Institute of Hydrology, Roorkee in 2019. Report of study has been submitted. Hydro-geological study is being carried out by M/s Geoscience Consultancy Services Roorkee Vide PO No. 4000303494 dated 31.03.2023. Final report will be submitted once the study is completed. No deterioration of water quality has been observed as per the study.</p>
SC-9	Source of water for meeting the requirement during lean season shall be specified and submitted to the Regional Office of the Ministry within three months.	<p>Complied.</p> <p>The source of the water is from Indrapuri Barrage on Sone River.</p>
SC-10	No ground water shall be extracted for use in operation of the power plant even in lean season.	<p>Read as Below:</p> <p>Ground water is not being extracted for operation of units under any circumstances.as stated.</p>
SC-11	No water bodies (including natural drainage system) in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.	<p>Complied</p> <p>No water bodies have been disturbed due to setting up and operation of NSTPS units as observed.</p>

SC-12	<p>Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.</p>	<p>Complied</p> <p>The quantity of water drawn for Nabinagar STPS from Indrapuri Barrage shall be limited to committed quantity for the project by State Govt. and therefore minimum required environmental flow shall be maintained. Environmental flow is maintained as per Bihar govt agreement dated 09.10.2017.</p>
SC-13	<p>COC (Cycle of Concentration) of 5.0 shall be adopted. The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant.</p> <p>There shall be no discharge outside the plant boundary except during monsoon.</p> <p>Arrangements shall be made that effluents and storm water do not get mixed.</p> <p>A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.</p>	<p>Partially Complied.</p> <p>Treated effluents are recycled and reused Zero liquid discharge is being followed. COC 4.2-4.5 is being adopted at present. A sewage treatment plant has been installed and operational and the treated sewage is being sent to horticulture using for raising greenbelt/plantation.</p>
SC-14	<p>Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.</p>	<p>Complied</p> <p>Has been complied during construction Phase. As stated.</p>
SC-15	<p>Utilization of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the</p>	<p>Being complied.</p> <p>System for 100% extraction of dry fly ash along with suitable storage facilities has been designed.</p>

	Regional Office of the Ministry from time to time.	A utilization plan has been made for 100% fly ash utilization and all efforts are being made for 100 % ash utilization. As stated at present FY 2024-25 80% being done. As per report this is 3rd year of operation.
SC-16	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	<p>Being complied</p> <p>Dry Fly Ash Extraction system (DAES) is under operational which collects 100% fly ash in dry form however, dry ash transportation by railway wagons is under construction. Unutilized fly ash shall be disposed through High Concentrated Slurry Discharge (HCSD) and bottom ash through normal slurry mode. Heavy metal monitoring of bottom ash is being carried out periodically and results are within limit for all 3 units carried out by M/s Vardan. Heavy metal monitoring of Ash Pond effluent shall be carried out once as pond effluents are discharged, as stated.</p>
SC-17	Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	<p>Being complied .</p> <p>Ash pond 1 has HDPE lining , ash pond 2&3 do not have HDPE lining but have bentonite clay layer at base.</p> <p>NSTPS has different systems for disposal of Fly ash and bottom ash:</p> <ul style="list-style-type: none"> • High Concentration Slurry Disposal System (HCSD) for fly Ash (Lagoon-I). • Wet Slurry Disposal with Ash Water Re-circulation for Bottom Ash. (Lagoon – II & III).

		<p>In HCSD lagoon (01 No), the disposed layers of ash are solidified, therefore leaching from HCSD lagoon is minimal.</p> <p>In one bottom ash lagoon, 300 mm thick high concentrated slurry is spread to make it impervious and in another BA lagoon 0.3m thick impervious liner of soil blended with bentonite to achieve a permeability $<1 \times 10^{-6}$ cm/sec is provided. Various instruments (Piezometers, water level sounders, settlement markers) are installed in body of Ash Dyke at various locations for monitoring the health of ash dyke embankment. The supernatant from the Ash Dykes is recycled back to the plant to ensure minimum water inside ash dyke. Adequate safety measures have already been incorporated at design & construction level to prevent dyke from breaching. Operational and preventive measures are in practice to prevent any occurrence of breaching.</p>
SC-18	<p>Disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) shall be carried out only after obtaining permission from DGMS(Directorate General of Mines Safety) and it shall be ensured that the bottom and sides of the mined-out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.</p>	<p>Complied.</p> <p>Noted and disposal of Bottom Ash in abandoned mines is not being carried out at present. At present , ash is being sent to NHAI for GT road 6 lane construction at 2 locations (north & south)</p>

SC-19	<p>Green Belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised, and adequate justification shall be submitted to the Ministry.</p> <p>Tree density shall not be less than 2500 per ha with survival rate not less than 75 %.</p>	<p>Being complied .</p> <p>Green belt has been developed with plantation of native species with specified tree density and survival rate by Forest Department, Govt. of Bihar width 100 m at 2 locations.</p> <p>Approx. 1,47,500 Saplings have been planted under mass afforestation program with survival rate more than 75%. Tree density is 2500 /ha survival rate is more than 75%.</p>
SC-20	<p>The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for providing fluoride free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.</p>	<p>Partially Complied .</p> <p>As per Hydro-Geological Study by NIH, Roorkee, the concentration of fluoride is within the prescribed limit (i.e. 1.5 mg/L) for drinking water requirement in surface water nearby NSTPS project area. However, as per NSTPS Nabinagar, R&R community development scheme, requisite amount has been deposited to Public Health Engineering Department (PHED), Aurangabad for installation of 110 hand pump for safe and clean drinking water in the nearby villages and 90% work is completed.</p>
SC-21	<p>Further an amount of Rs 60.53 Crores shall be earmarked as one-time capital cost for CSR program as committed by the project proponent. Subsequently a recurring expenditure of Rs 10.40 Crores per annum shall be earmarked as recurring expenditure</p>	<p>Partially complied.</p> <p>As per the approved Community development (CD) plan under R&R scheme, work has been undertaken for 51.73 Crores value upto FY 2023-24. Further proposal for 7.41 crores, CD activities</p>

	for CSR activities. Details of the activities to be undertaken shall be submitted within six months along with road map for implementation.	is under pipeline for award of the work in FY 2024-2025. For Balance amount 1.38 Cr, activities are under finalization with stakeholders and District administration. Some works are due for execution. partially complied.
SC-22	<p>While identifying CSR activities it shall be ensured that need based assessment for the nearby villages within study area shall be conducted to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people shall be undertaken. Special scheme for Bidi workers of Solapur shall be formulated. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such program.</p> <p>Company shall provide separate budget for community development activities and income generating programs. Vocational training program for possible self-employment and jobs shall be imparted to identified villagers free of cost.</p>	<p>Partially complied.</p> <p>The suggested activities are included in the approved CD plan by DM, Aurangabad for its implementation based on need-based assessment. NSTPS, Nabinagar sponsored to 30 youths for skill development program at CIPET Hajipur, Agro based training like vermicomposting provided to 50 PAPs and Bee keeping training & honey production and Amrit Krishi training has been provided to 50 PAPs each training and reimbursement of tuition fees for ITI course to the 115 PAPs/their wards. In future, Agro based training shall be imparted as a part of CD plan. Vocational training for skill development to villagers and sewing training provided to girls in the villages. Different Infrastructure need based projects are also being undertaken such as construction of Chhath ghats, community halls etc. at panchayat level. Some works are under progress.</p>
SC-23	Shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project	<p>Partially complied.</p> <p>NSTPS/NTPC Limited has in-built own system for monitoring and implementation of the complete CSR/R&R Community Development Plan at the Unit Level, Region level and corporate</p>

	proponent shall also submit the status of implementation of the scheme from time to time.	level. A specific social audit shall be undertaken and Purchase order issued . as stated.
General Conditions		
GC-1	A well-designed rainwater harvesting shall be put in place before commissioning of the plant. Central Ground water Authority / Board shall be consulted for finalization of appropriate rainwater harvesting technology/design within a period of three months from the date of this clearance and details shall be furnished.	Complied Approval of Central Ground Water Board (CGWB) has been granted for construction of Rainwater harvesting (RWH). Four Nos. recharge shafts (borewell) of RWH completed in Plant area near raw water Pump House and Two Nos. recharge shafts (borewell) of RWH in Township completed.
GC-2	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Complied , Provision for adequate safety measures is being implemented as stipulated. Details of safety measures and plant lay out have been submitted to this office .
GC-3	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives - Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in	Complied . License for storage of LDO has been granted by department of Explosive, Nagpur on 16.10.2018 and is valid upto 31.12.2026. Sulphur content in the liquid fuel does not exceed 0.5%. as per report. On-site Disaster Management Plan has been prepared and approved for implementation.

	case of an accident taking place due to storage of oil.	
GC-4	<p>Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers.</p> <p>Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg,Cr,As,Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.</p>	<p>Being Complied.</p> <p>Sample have been collected for borewells. analysis has been done by M/s Vardaan. Values are within limit.</p> <p>Ash pond area has been done. Ground water quality has not been adversely affected as per report.</p>
GC-5	<p>Monitoring of surface water quantity and quality shall also be regularly conducted, and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.</p>	<p>Being complied</p> <p>Surface water analysis report shows values within limits. Monitoring for heavy metals in ground water has been done.</p>
GC-6	<p>First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.</p>	<p>Being Complied.</p> <p>First Aid and sanitation arrangements have been made for the drivers and other contract workers. Toilets and drinking water arrangement are being made at main plant area.</p>
GC-7	<p>Noise levels emanating from turbines shall be so controlled such that the noise in the</p>	<p>Being Complied</p>

	work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/earmuffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.	Noise level monitoring being done. From turbine and other high noises areas. Requisite Personal protective equipment being ensured, and training imparted, and requisite training being imparted. Periodical examination of workers being carried out working in high noise area.
GC-8	Regular monitoring of ambient air ground level concentration of SO ₂ , NO _x , PM _{2.5} & PM ₁₀ and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.	Being Complied AAQM at specified 04 locations is being carried out regularly. AAQM report shows values pf all 4 no's of stations are within limits. 4 no's of online Ambient Air Quality station have already been Installed (in consultation with pollution control board) and commissioned and all are operational.
GC-9	Provision shall be made for the housing of construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied. Housing of construction labour (as applicable) with all necessary infrastructure and facilities are being provided within the site by concerned agencies as per contract.

GC-10	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in .	Complied. It has been advertised and copies submitted.
GC-11	A copy of the clearance letter shall be sent by the proponent to concern Panchayat, Zila Parisad/ Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied . All three Units in operation. NPGCL Nabinagar is now merged with NTPC Ltd. named as Nabinagar Super Thermal Power Station (NSTPS). Data uploading on NTPC website has been done. EC letter submitted to urban local bodies and uploaded in NTPC website as shown by documents produced.
GC-12	An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the Cell shall directly report to the head of the organization.	Being Complied. An Environment Cell known as Environment Management Group (EMG) has already been created and functional at site. Constituted members are <ol style="list-style-type: none"> 1. Sh. Brijendra Agrawal (AGM TS-EMG) 2. Sh. Gopi Challawar (Sr. Mgr EMG) 3. Sh. Ashok Kr Singh (Asst. Mgr EMG)
GC-13	The proponent shall upload the status of compliance of the stipulated environmental	Being Complied.

	clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, SPM, RSPM (PM _{2.5} & PM ₁₀), SO ₂ , NO _x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.	Environment data Being displayed at main gate also , it is uploaded in NTPC website and being submitted to RO ,SPCB,CPCB.
GC-14	The environment statement for each financial year ending 31st March in Form-V as 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 put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	Being complied. Environmental Statement Submitted to MOEF&CC and BSPCB on dated 22.09.2023.
GC-15	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of	Being complied Last six monthly report on status of the implementation of stipulated environmental safeguards was submitted on 31.12.2023 to MOEF&CC Regional Office, Central Pollution Control Board and State Pollution Control Board.

	<p>compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.</p>	<p>Last status of compliance of the environmental clearance conditions was uploaded on company website. It is accessed from the https://ntpc.co.in/about-us/corporate-functions/environment/status-hyc-reports</p> <p>Half Yearly EC Compliance report for the period of Oct 2023 to March 2024 has been submitted,</p> <p>All three Units in operation. NPGCL Nabinagar is now merged with NTPC Ltd. named as Nabinagar Super Thermal Power Station (NSTPS). Data uploading on NTPC website has been done and being updated the same periodically.</p>
GC-16	<p>Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponents will up-load the compliance status in their website and up-date the same from time to time at least six-monthly basis. Criteria pollutants levels including NO_x (from stack & ambient air)</p>	<p>Being Complied .</p> <p>The above project was monitored by Sh. Sandeep Nandi-Scientist B on 28.10.2024. Compliance report is being submitted regularly as per schedule. Environmental Impact Assessment Report has already been submitted to Regional office & Environment Management Plan / Environment Statement has been submitted to MoEF&CC .Display Board has been installed at the main Gate of the Power Plant. Real Time Environment Monitoring data is being displayed.</p>

	shall be displayed at the main gate of the power plant.	
GC-17	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. This cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	<p>Being Complied .</p> <p>An amount of Rs.992.48 Crores have been earmarked in the Feasibility Report for Nabinagar STPP towards environmental measures like ESP (267.27cr), Chimney (95.45cr), Cooling System (141.31cr), Ash Handling and Disposal (370.80cr), Effluent Treatment (39.66cr), Sewage Treatment (5.64cr), Dust Extraction and Suppression System (2.66cr), ZLD (9.05cr), Fire Fighting (30.43cr), Green Belt and Afforestation (6.83cr), DM Plant Waste treatment System (22.38cr), Env. Lab equipment (1.0cr) Various system are under implementation at site as observed.</p>
GC-18	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start	<p>Read as Below:</p> <p>Investment approval for the project was accorded by Board of NTPC Limited on 21.01.2013. The first, second and third Unit has been commissioned and commercial operation has</p>

	of land development work and commissioning of plant.	been started from 6 th Sep'2019, 23 rd July'2021 and 01 st Jun'2022 respectively.
GC-19	Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status.	Being Complied .
ADDITIONAL CONDITIONS (J-13012/127/2007-1A.II(T))		
AC-1	The details of technology selection for adoption of FGD for control of SO _x shall be submitted. In case of wet FGD, details regarding source of limestone, impact of transportation, handling storage and disposal of Gypsum including land requirement shall be submitted.	FGD is under construction at present.
AC-2	In case SCR/SCNR is not adopted, an alternate technology analysis and justification of technology selection for NO _x reduction is to be submitted.	Being Complied . For NO_x reduction system: The boiler is of sliding pressure supercritical, once-through type, utilizing a Tangential Firing System for NO _x control in addition with SOFA (Separated Over Fire Air) and COFA (Close-coupled Over Fire Air) system. Above technology is being used as stated.
AC-3	Progress of construction power plant till its commissioning, installation of FGD and	FGD under construction at present.

	De-Nox measures shall be submitted as a part of six-monthly compliance reports.	
AC-4	Emission norms and specific water consumption as per ministry norms dated 07.12.2018 and 28.12.2018 shall be complied with. As committed, Flue gas desulphurization unit and selective catalytic reactor to control SO ₂ and NO _x respectively shall be installed.	FGD erection work is under progress.
AC-5	Water requirement for FGD to be installed in the existing units has to be provided. Therefore, water balance to be modified based on the water requirement for whole units including a plan on ZLD.	Being Complied . Water balance diagram has been submitted.
AC-6	The stack emissions (min, max, average and 98 percentile) shall be submitted for the period of six months in the compliance report. Further daily water withdrawal, consumption, power generation and average PLF shall be submitted. The specific water consumption per MWhr shall be calculated based on water consumption shall be submitted in the compliance report.	Being Complied . Stack emission data for compliance period has been submitted all values within limits as per the report. Data table shows progressive decrease of specific water consumption.
AC-7	The plant shall operate only after meeting the new emission norms as notified by ministry. Else, extension of timelines from CPCB for implementing pollution control measures for meeting new norms shall be obtained and copy of the same shall be submitted to Ministry.	At present FGD is under construction.

As per monitoring done on 28.10.2024 by the undersigned, and review of monitored data reports submitted along with the half yearly EC compliance report for period 01.04.2024 to 30.09.2024, the following partially complied conditions have been detected, and these have been highlighted in bold in above report, and the are listed as follows:-

1. COC 4.2-4.5 is being adopted at present, instead of 5.0 as prescribed in the stipulated condition which has not been achieved so far.
2. 90% work involving installation of hand pumps is complete till now.

BIHAR STATE POLLUTION CONTROL BOARD
BELTRON Bhawan, Shastri Nagar, Patna - 800 023
EPABX 0612-2281250/2282265, Fax 0612-2281050
E-mail: bspcb@vsnl.net, website: http://bspcb.bih.nic.in

Ref.No.: PT(NOC)- 1008/09-

Patna, Dated:-

NOC UNDER SECTIONS 25/26 OF THE WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974 AND UNDER SECTION 21 OF THE AIR (PREVENTION & CONTROL OF POLLUTION) ACT, 1981.

Reference application no. 33293, dated: 22.02.2011 of M/s Nabinagar Power Generating Company Pvt. Ltd. (A Joint Venture of NTPC Ltd & Bihar State Electricity Board), 1st floor, Vidyut Bhawan-II, Bailey Road, Patna-800001(Bihar) for setting up Nabinagar Super Thermal Power project (3x660MW) in Blocks-Barun and Nabinagar, Distt- Aurangabad. Cost of the project is 129645.77 Million rupees.

2. AFTER CONSIDERING:

- (i) The facts stated in their Application & Project report;
- (ii) Bihar State Pollution Control Board's Notification No. 26 dated 08.11.2003;
- (iii) Provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981;
- (iv) The Environment Clearance from Ministry of Environment & Forests, Govt of India vide its ref. no. - J-13012/ 127/ 2007 IA II(T), dated: 27th December, 2010.

3. NOC IN FAVOUR OF THE PROPONENT AT THE SAID SITE IS HEREBY ACCORDED SUBJECT TO THE FOLLOWING CONDITIONS:

- (i) The unit shall obtain consent to operate under sections 25 & 26 of the Water Act, 1974 and u/s 21 of the Air Act, 1981 prior to commissioning of the plant from Bihar State Pollution Control Board.
- (ii) The effluent (Domestic & Trade) and emission, if any, shall conform to the standard as prescribed by the Board.
- (iii) That, they shall comply with all the conditions prescribed in the Environment Clearance (EC).
- (iv) The height of exhaust pipe of the D.G. set shall be as prescribed by the C.P.C. Board and the noise level shall be within the prescribed standard.
- (v) Stack of 275m height shall be installed with the provision of continuous online monitoring equipment as per the EC.

- (vi) High efficiency E.S.Ps shall be installed to achieve to ensure emission of particulate matter does not exceed 50mg/Nm^3 . Adequate pollution control devices shall be provided in dusty areas as in the EC.
- (vii) Fly ash shall be collected in dry form and storage facility (silo) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals will be monitored in bottom ash and in the effluent as per the EC. No ash shall be disposed off in low lying area.
- (viii) Ash pond shall be constructed as per the EC.
- (ix) Disposal of bottom ash in abandoned mines, if any, shall be as per the EC.
- (x) Demand of water shall be met as per the EC.
- (xi) The Treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. A Sewage Treatment plant shall be provided as per the EC.
- (xii) Analysis of the raw and treated effluent shall be carried out regularly and report shall be submitted to the Board monthly.
- (xiii) Regular monitoring of Ambient Air quality shall be carried out as specified in the EC.
- (xiv) The unit shall implement all the decisions taken in the Public Hearing conducted at SonNagar (Barun), Aurangabad on 12.03.2010.
- (xv) Compliance report of above conditions shall be submitted to the Board quarterly.
- (xvi) Tree plantation shall be done in 100m width as specified in the EC.

NOTE:

1. Bihar State Pollution Control Board reserves the option to revise and add other conditions, if necessary, for protection of environment in general and for pollution control Board in particular.
2. The present NOC should not be construed as an assurance for the grant of 'Consent-to-Operate' the proposed plant but shall be subject to compliance of all the conditions indicated above.
3. The NOC is valid for a period of 36 months from the date of issue.
4. Issued by the order of competent authority.

(M.K.Singh)
Member-Secretary

Memo No. :-

Patna, Dated: 05/04/11

Copy to M/s Nabinagar Power Generating Company Pvt. Ltd. (A Joint Venture of NTPC Ltd. & Bihar State Electricity Board), 1st floor, Vidyut Bhawan-II, Bailey Road, Patna-800001(Bihar)/ AEE, Patna for information and necessary action.

(M.K.Singh)
Member-Secretary



BIHAR STATE POLLUTION CONTROL BOARD

Parivesh Bhawan, Industrial Area, Patliputra, Patna – 800010

Ref. No- 1839

Patna, dated- 15-6-2022

EMISSION CONSENT ORDER

With reference to the Online application ID. 5853525, dated 26.04.2022, of M/s Nabinagar Super Thermal Power Project (3x660 MW), Vill-Majhiyawan, P.O.-Ankorha, Distt.-Aurangabad for consent under sections 21 of the Air (Prevention & Control of Pollution) Act, 1981, he/they is/are granted consent to operate his/their thermal power plant at Vill-Majhiyawan, P.O.-Ankorha, Distt.-Aurangabad for the capacity Power Generation (3x660 MW) for the period of five years from the date of issue with the following conditions:-

1. That, he/they shall not make any alteration, addition, deletion or modification in the plant without the prior clearance from the Board and shall also abide by the obligations under sections 22,23 and 31A of the Air (Prevention & Control of Pollution) Act, 1981 and further shall extend co-operation to the Board in performing its functions entrusted under sections 24,25 and 26 of the Act ;
2. That, he/they shall comply with the requirements of rule 14 of the Environment (Protection) Rules, 1986; rules 4,5,7,9,10 and 11 of the Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016; rules 4,5,7,8,10,11,12,13,15,17 and 18 of the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, and the provisions of the Public Liability Insurance Act, 1991, whichever is applicable;
3. That, he/they shall monitor his/their emission(s) and the ambient air quality from representative point regularly and shall maintain its quality in conformity with Board's standards and shall produce its proof, as and when asked for;
4. That, he/they shall submit application for consent again 30 days before the expiration of the period of consent or within 30 days from the date of receipt of this order, whichever is applicable.
5. That, they shall comply with the provisions (whichever applicable) of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and Rules and Notifications issued there under. The quality of emissions shall comply with the standards as prescribed under the Rules;
6. That, they shall comply with the conditions (whichever applicable) of the environmental clearance issued by MoEFCC, Govt. of India vide dated 27.12.2010/14.01.2020 and submit the compliance report accordingly to the Board;
7. That, they shall provide adequate air pollution control devices (APCD-ESP/Bagfilter etc) to meet the boiler stack emission etc to be within prescribed limit;
8. That, they shall comply with the standards as per notifications of MoEFCC, Govt. of India dated 02.01.2014, 07.12.2015, 07.03.2016, 28.06.2018, 19.10.2020 etc or as amended and as prescribe under the rules (whichever applicable) and point wise compliance report shall be submitted quarterly to the Board;
9. That, they shall comply with the provisions made under Notification of MoEFCC, Govt. of India vide dated 14.09.1999 and as amended as on today for utilization of fly ash generated from thermal power plant and report shall be submitted accordingly to the Board;
10. That, continuous online (24x7) monitoring system for emission should be maintained and connected to CPCB & BSPCB server for data transfer.
11. That, the unit shall install Flue Gas Desulphurization (FGD) system with 3 months to comply SO₂ emission level.

12. That, dust material/fly ash collected in APCD shall be disposed in proper manner and it shall not be disposed off on road side outside the campus. They shall submit ash disposal and management plan to the Board;
13. That, they shall provide adequate water sprinkling arrangement on ash dyke to suppress fugitive emission of dust and maintain proper safety arrangement with display board, lighting etc;
14. That, they shall maintain continuous ambient air quality monitoring system and data should be transferred to CPCB & BSPCB server;
15. That, they shall improve housekeeping of the plant area specially areas of all ETPs and submit quarterly report to the Board;
16. That, they shall provide adequate water sprinkling arrangement on the road inside the campus & surrounding roads to suppress fugitive dust emissions;
17. That, diesel generating sets (DG Sets, if any), as source of backup power should be provided with an integral acoustic enclosure and the maximum permissible sound pressure level for new D.G. set shall be 75 dB(A) at 1 meter from the enclosure surface. The height of exhaust of DG sets should be as, Exhaust Stack Height formula:- (Ht of Building in meter + $0.2\sqrt{\text{KVA}}$) m; it should be installed on pucca base with anti vibration pads;
18. That, they shall ensure all possible measures to be implemented to control noise pollution and the ambient noise levels should conform to the standards prescribed under the Noise Pollution (Regulation and Control) Rules, 2000, as amended to date viz. 75 dB(A) during day time and 70 dB(A) during night time;
19. That, they shall comply with the provisions (whichever applicable) of the Solid Waste Management Rules, 2016. Separate wet and dry bins must be provided and segregation of dry (in blue bin), wet (in green bin) and domestic hazardous waste (in black bin) must be ensure; wet waste must be composted inside the premises and dry & domestic hazardous waste shall be handed over to the local body Non-biodegradable waste and dry waste like rejected corrugated cardboard, waste paper etc may be handed over to the recyclers registered with Bihar State Pollution Control Board;
20. That, tree plantation in vacant space of the campus shall be done to develop as green belt and to control ecology of area surrounding the unit;
21. That, the environmental statement for each financial year ending the 31st Sept., in Form-V as is amended to be submitted by the proponent to the Board as prescribed in the Environment (Protection) Rules, 1986;
22. That, they shall make provisions for display of data outside main factory gate about quantity and quality of water discharge and air emission along with solid waste generated within the factory premises;
23. That, notwithstanding any thing stated above, the applicant unit shall abide by all the provisions of the environmental laws including policies and guidelines made there under;

To,

Sri Raj Kumar Pandey, CEO,
M/s Nabinagar Super Thermal Power Project, (3x660MW),
Vill-Majhiyawan, P.O.-Ankorha,
Distt.-Aurangabad


(S.Chandrasekar)
Member-Secretary



BIHAR STATE POLLUTION CONTROL BOARD

Parivesh Bhawan, N.S.B.-2, Patliputra Industrial Area, Patliputra, Patna – 800 010

Ref.no- 1840

Patna, dated- 15-6-2022

DISCHARGE CONSENT ORDER

With reference to the online application ID: 5853525, dated 26.04.2022, of M/s Nabinagar Super Thermal Power Project (3x660 MW), Vill-Majhiyawan, P.O.-Ankorha, Distt.-Aurangabad for consent under sections 25/26 of the Water (Prevention & Control of Pollution) Act, 1974, he/they is/are granted consent to bring into use his/their new/alterd/existing outlet(s) for discharge of trade effluent and/or domestic sewage thermal power plant at Vill-Majhiyawan, P.O.-Ankorha, Distt.-Aurangabad for the capacity Power Generation (3x660 MW) for the period of five years from the date of issue with the following conditions:-

- 1 That, he/they shall not make any alteration, addition, deletion or modification in the plant without the prior clearance from the Board and shall also abide by the obligations under sections 24,31 and 33A of the Water (Prevention & Control of Pollution) Act, 1974 and further shall extend co-operation to the Board in performing its functions entrusted under sections 20,21,23,30 and 32 of the Act;
- 2 That, he/they shall comply with the requirements of rule 14 of the Environment (Protection) Rules, 1986; rules 4,5,7,9,10 and 11 of the Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016; rules 4,5,7,8,10,11,12,13,15 and 18 of the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989; and the provisions of the Public Liability Insurance Act, 1991, whichever is applicable;
- 3 That, he/they shall monitor his/their effluent(s) regularly and maintain its quality in conformity with Board's standards and shall produce its proof, as and when asked for;
- 4 That, he/they shall submit application for consent again 30 days before the expiration of the period of consent or within 30 days from the date of receipt of this order, whichever is applicable.
- 5 That, they shall comply with the provisions (whichever applicable) of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and Rules and Notifications issued there under. The quality of final effluent shall comply with the standards as prescribed under the Rules;
- 6 That, all waste water like effluent from DM plant, boiler blow down, oil extraction system, raw water treatment plant, blow down of cooling tower water used in fly ash slurry, leakage, floor washing etc should be treated properly and re-used as far as possible to maintain zero discharge. No discharge from ash ponds shall be maintained;
- 7 That, they shall update and well maintain up to the marks all effluent treatment plant of facilities/oil extraction units including LWTP;
- 8 That, they shall comply with the conditions (whichever applicable) of the environmental clearance issued by MoEFCC, Govt. of India vide dated 27.12.2010/14.01.2020 and submit the compliance report accordingly to the Board;
- 9 That, they shall comply with the standards as per notifications of MoEFCC, Govt. of India dated 02.01.2014, 07.12.2015, 07.03.2016, 28.06.2018, 19.10.2020 etc or as amended and as prescribe under the rules (whichever applicable) and point wise compliance report shall be submitted quarterly to the Board;
- 10 That, the unit shall make effort not to discharge any trade effluent outside the plant premises (in to the Ganga River) and maintain zero liquid discharge (ZLD);
- 11 That, continuous online (24x7) monitoring system for effluent should be operative, maintained and connected to CPCB & BSPCB server for data transfer;
- 12 That, they shall re-use treated effluent to maintain Zero Discharge from the plant premises and water consumption shall be reduced by adopting 3 R's (reduce, reuse and recycle) concept;

- 13 That, they shall withdraw water from Sone River as per agreement with the competent authority and a report shall be submitted to the Board on quarterly basis;
- 14 That, daily water withdrawal, consumption, power generation and average PLF shall be submitted. The specific water consumption per MW hr shall be calculated based on water consumption and power generation and to be submitted in the compliance report.
- 15 That, water meter conforming to ISO standards shall be installed at the inlet point of water uptake as well as at all necessary points to monitor the daily water consumption (including water consumption in fly ash slurry management) and a log book shall be maintained in this regard. Use of water efficient devices/fixtures and appliance should be promoted;
- 16 That, they shall have to provide suitable and separate drainage system for sewer/other waste water and storm water. No sewage or untreated effluent would be discharged through storm water drains. A coloured drainage map shall be submitted to the Board within 3 months time;
- 17 That, they shall adopt rain water harvesting as provisions made by the local bye-law. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per CPCB guideline. Ensure proper management of storm water to optimum use and allow it to be by-passed during times of heavy rain to avoid any flooding problem inside the campus. Submit an action plan of well-designed rain water harvesting system with storm water management.
- 18 That, the sewage shall be treated in Sewage Treatment Plant (STP) and after treatment the water will be recycled for flushing of toilets, floor washing/cleaning, gardening/horticulture etc;
- 19 That, the quality of treated sewage of STP shall have to comply with the following standards (whichever applicable);

Sl No.	Parameter	Limiting concentration in mg/l, except pH and Fecal Coliform
1	pH	5.5-9.0
2	BOD	10
3	Total Suspended Solids (TSS)	20
4	COD	50
5	Nitrogen-Total	10
6	Phosphorus-Total for discharge into Ponds, Lakes	1.0
7	Fecal Coliform (FC) (Most Probable Number per 100 milliliter, MPN/100 ml)	Desirable-100 Permissible-230

- 20 That, sludge generated from the STP will be dried and later it will be used as manure in agriculture and for green belt development/gardening/horticulture;
- 21 That, they shall comply with the provisions (whichever applicable) of the Solid Waste Management Rules, 2016. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with authorized recyclers. Organic waste compost/vermiculture pit with a minimum capacity of 0.3 kg/person per day must be installed;
- 22 That, segregation of dry (in blue bin), wet (in green bin) and domestic hazardous waste (in black bin) must be ensure; wet waste must be composted inside the premises and dry & domestic hazardous waste shall be handed over to the local body;
- 23 That, non-biodegradable waste and dry waste like rejected corrugated cardboard, waste paper etc may be handed over to the recyclers registered with Bihar State Pollution Control Board;

- 24 That, they shall comply with the provisions (whichever applicable) of the E-Waste
(Management) Rules, 2016. The e-waste generated shall be disposed off by handing over
to the authorized collection centre and a record shall be maintained;
- 25 That, they shall comply with the provisions (whichever applicable) of the Plastic Waste
Management Rules, 2016. They will make effort to discourage the use of plastics so that
minimum generation of plastics wastes to be taken place;
- 26 That, the environmental statement for each financial year ending the 31st Sept., in Form-V
as is amended to be submitted by the proponent to the Board as prescribed in the
Environment (Protection) Rules, 1986;
- 27 That, they shall make provisions for display of data outside main factory gate about
quantity and quality of water discharge and air emission along with solid waste generated
within the factory premises;
- 28 That, compliance report of above consent conditions shall be submitted quarterly to the
Board; and
- 29 That, notwithstanding any thing stated above, the applicant unit shall abide by all the
provisions of the environmental laws including policies and guidelines made there under;

To,

Sri Raj Kumar Pandey, CEO,
M/s Nabinagar Super Thermal Power Project, (3x660MW),
Vill-Majhiyawan, P.O.-Ankorha,
Distt.-Aurangabad

 15/6/20
(S. Chandrasekar)
Member Secretary

Monitoring Report of M/s NTPC Nabinagar
CTO Compliance Status as observed during the inspection on 28.10.2024

	<u>EMISSION CONSENT ORDER</u>	<u>Comment</u>	<u>Present status</u>
1	The unit shall complete the installation of one silo in all respects for ensuring collection of dry fly ash by 30 th June, 2021 to ensure its use by the concerned users and remaining within one year.	Two Silo completed	Remaining two will be completed by Dec. 2024. Present DFA utilisation is 38%. There is very less demand due to two thermal power plant
2	The unit shall install online stack emission monitoring system for stack-2 (unit-4) and ensure its connectivity with CPCB/SPCB after commercial operation of unit # 4.	complied	completed
3	The unit shall comply with new emission standard notified by MoEF& CC, dated- 07.12.2015 (PM: 30Mg/Nm ³ ; SO ₂ : 100mg/Nm ³ ; NO _x : 100mg/Nm ³ and Hg: 0.03mg/Nm ³).	shall be complied as per timeline given by MoEF&CC	Contract awarded, work in progress
4	The unit shall develop dust suppression system and plantation on contingent ash dyke after covering and compacting with soil to avoid fugitive emission due to wind in the vicinity.	all ash of contingent ash dyke has been utilised	completed
5	The unit shall install flue gas desulphurization (FDG) System by December 31, 2022 to comply SO ₂ emission level.	Dec-26	Contract awarded, work in progress
6	The unit shall develop plantation in accordance with EC.	noted	1,43,900 has already been planted.
7	The unit shall comply all the conditions of EC & CTOs and submit the report of to the Board in addition with the concerned authority for EC (MoEF& CC) half yearly.	being complied	complied
8	The unit shall ensure utilization of fly ash as per the guidelines/notification issued by MoEF& CC Govt. of India.	noted	shall be complied
9	The unit shall submit Environmental Statement for the financial year ending the 31st March in Form V on or before 30th Sept every year	noted	complied

	<u>DISCHARGE CONSENT ORDER</u>	<u>Comment</u>	<u>Present status</u>
1	The unit shall complete the construction of planned ash dyke with HDPE/LDPE lining or any other suitable impermeable media by established technology within six months or submit exemption from MoEF&CC, Govt. of India.	Ash pond is constructed as per EC mandate envisaged by our Corporate Centre	Lagoon 1 construction is completed and Lagoon 2 is under progress. Ash pond soil permeability is also very less. As it is not been mentioned in EC letter for exemption is submitted in MoEF&CC office New Delhi
2	The unit shall use liquid Waste Water Treatment Plant (LWWTP) for ensuring zero liquid discharge.	already complied	LWWTP is under service
3	The unit shall comply Specific Water Consumption (SWC) maximum of 3.0 m ³ /MWh in compliance of MoEF& CC Govt. of India dated- 28.06.2018.	already complied	less than 3.0 m ³ /MWH
4	The unit shall comply all the conditions of EC & CTO's and submit the report of to the Board in addition with the concerned authority for EC (MoEF& CC) half yearly.	already complied	complied
5	The unit shall ensure utilization of fly ash as per the guidelines/notification issued by MoEF& CC Govt. of India.	noted	shall be complied
6	The unit shall submit Environmental Statement for the financial year ending the 31st March in Form-V on or before the 30th September every year.	noted	complied
7	The unit shall ensure the operation of STP within six months and treated water shall conform to the prescribed standards (pH: 6.5-9, BOD: 30mg/L, TSS: <100mg/L & FC <100MPN/100ML).	commissioned	completed
8	The Unit shall monitor Sone river quality in U/S and D/S with reference to intake point	complied	completed

**BY SPEED POST**

No. J- 13012/ 16/2003.IA-II(T)
 Government of India/ Bharat sarkar
 Ministry of Environment & Forests
 (Paryavaran Aur Van Mantralaya)

Paryavaran Bhawan,
 CGO Complex, Lodi road,
 New Delhi-110003
 Dated: 3rd August, 2004

To,

Shri M.H.Rao,
 DGM(Env.Engg.),
 National Thermal Power Corporation Ltd.,
 Engineering Office Complex,
 Plot No. A-8A, Sector,
 Post No. 13,
 NOIDA-201 301, Uttar Pradesh.

Sub: 4x250 MW Nabinagar Captive Thermal Power Project near village
 Dhundwa, district Aurangabad, Bihar of M/s National Thermal Power
 Corporation Limited (NTPC). - Environmental clearance reg.

Sir,

The undersigned is directed to refer to your communications no.
 CC:ESE:0270:2003;GEN:02T dated 22.10.03, 23.1.04, 24.03.04, 21.04.04 &
 24.05.04 on the above mentioned subject.

2. M/s NTPC proposed to set up a 4x250 MW coal based new power project under joint venture with Indian Railways near Village Dhundwa in Aurangabad, Bihar. This power project is a captive power plant and will provide power to Indian Railways. Total land required is 1700 acres. No forest land is involved. Kaimur Sanctuary is at 6 km away towards western side from the plant site. Coal requirement is 5 MTPA and will be supplied from North Karanpura of Central Coalfields Mine. Ash and sulphur will be 40-47% & 0.36 - 0.50% respectively. Calorific value will be 2900-3800 Kcal/kg. Ash generation will be 5500 TPD of both fly and bottom ash. Water requirement will be 4295 m³/hr and will be met from River Sone. 320 Families will get affected. 100 m wide greenbelt all around the main plant will be developed covering an area of 110 acres. Total cost of the

project is Rs 4977.00 Crores which includes Rs. 428.00 crores for environmental protection measures.

3. The environmental clearance for the above project is hereby accorded subject to implementation of following terms and conditions:

- i) All the conditions stipulated by Bihar Pollution Control Board vide their letter no. T-2130 dated 8.4.04 should be strictly implemented.
- ii) Land requirement should not exceed 1700 acres. Copy of the R&R plan and package of compensation for 320 families should be submitted to the Ministry before starting the work on the project.
- iii) Coal requirement is estimated at 5.00 MTPA having 40-47% ash content and 0.36-0.50% Sulphur content. Copy of confirmed coal linkage should be submitted to the Ministry within three months from the date of issue of this clearance letter.
- iv) Two twin flue stacks of 220 m height each shall be provided with continuous online monitoring equipment. Exist velocity of 20-25 m/sec should be maintained.
- v) High efficiency Electrostatic Precipitator(ESP) having efficiency of 99.9% should be installed to limit outlet SPM emission of 100 mg/Nm³.
- vi) Ash generation will be 5500 TPD of both fly and bottom ash. Ash generated should be utilised as per provisions of the notification on Fly Ash Utilisation issued by the Ministry in September, 1999 and its amendments. By the end of 9th year full fly ash utilisation should be ensured.
- vii) Water requirement should not exceed 4295 m³/hr. Waste water should be recycled and used in the plant. Copy of confirmed water withdrawal should be submitted to the Ministry within three months from the date of issue of this clearance letter.
- viii) Care has to be taken that the runoff may so guided so that the local rain fed shallow reservoir, shallow rice terraces are not deprived of the surface runoff and a very careful Geo-hydrological mapping and designing has to be taken up to ensure that the local cultivation in the neighborhood of the power plant is not adversely affected due to altered hydrological regime. The Project authorities should get this done by a professionally competent authority before commencing construction work and submit a copy of the same to MoEF within three months from the date of issue of this letter.

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- ix). The distance from the HFL to boundary of ash pond must be minimum 600 m and out of the 600 m, a 100 m wide green belt around the ash pond should be developed.
- x). A systematic management of ash pond is required. The ash pond should be partitioned into compartments. The filling of the ash pond should first start from the site close to the river end. Plantation should be taken up along the set back area whenever dyke height is increased.
- xi). Garland drain of sufficient capacity should be provided around ash pond to prevent any over flow of water to the river. Seepage water from the garland drain should be pumped back and recycled.
- xii). Special arrangements should be made for the river bank protection to prevent bank erosion of the river all along the project area. Protection measures should be taken for a length of 2.5 Km upstream of the project. The length of the bank downstream which needs similar protection has not been determined. The Project authorities should undertake expeditiously all the bank protection measures and to maintain the protective structure in good condition throughout the life of the project.
- xiii). The riverbank embankment should be taken early along with the site development.
- xiv). A systematic water harvesting plan should be prepared for surface storage of water within the plant area so as to minimise the anticipated withdrawal of river water.
- xv). A ground water monitoring station be set up between the ash pond and the river front. Regular monitoring of water quality including heavy metals should be undertaken around ash dyke and the project area to ascertain the change in the water quality, if any, due to leaching of contaminants from ash disposal area.
- xvi). While planning the layout of the plant, care should be taken that the neighboring villages are not subjected to undue noise, coal dust or any adverse environmental disturbances.
- xvii). A proper planning and site evaluation should be based on satellite imageries rather than the old Survey of India Toposheets for a better idea of the current status.
- xviii). Noise level should be limited to 75 Leq and regular maintenance of equipment be undertaken. For people working in the area of generator and other high noise area, earplug should be provided.

- xix). A 100 m greenbelt should be developed all around the power plant covering an area of 110ha.
- xx). Regular monitoring of the air quality should be carried out in and around the power plant and records be maintained. Periodic six monthly report should be submitted to this Ministry.
- xxi). For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant should be ensured.
- xxii). All other mitigative measures shall be taken as enumerated in Chapter 5 of the EIA report.
- xxiii). The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.mec.in>.
- xxiv). A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.
- xxv). Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards should be submitted to this Ministry/ Regional Office/CPCB/SPCB.
- xxvi). Regional Office of the Ministry of Environment & Forests located at Bhubaneswar will monitor the implementation of the stipulated conditions. Complete set of Environmental Impact assessment Report and Management Plan should be forwarded to the Regional Office for their use during monitoring.
- xxvii). Separate funds should be allocated for implementation of environmental protection measures alongwith item-wise break-up. These cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.
- xxviii). Full cooperation should be extended to the Scientists/Officers from the Ministry/Regional Office of the Ministry at Bhubaneswar/the CPCB/ the SPCB who would be monitoring the compliance of environmental status.

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4. The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.
5. The environmental clearance accorded shall be valid for a period of 5 years for construction/operation of the power plant. In case, if the project authorities fails to do so within this stipulated period, this environmental clearance shall stand lapsed automatically.
6. In case of any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.
7. The above stipulations would be enforced among others under the Water(Prevention and Control of Pollution) Act,1974, the Air(Prevention and Control of Pollution) Act,1981,the Environment (Protection) Act,1986, Hazardous Wastes (Management and Handling) Rules,1989 and its amendments, the Public Liability Insurance Act,1991 and its amendments, the Environment Impact assessment Notification of January,1994 and its amendments.


(A. DURAISAMY)
DIRECTOR

Copy to:

1. Secretary,Ministry of Power,Shram Shakti Bhawan,Rafi Marg,New Delhi-110001.
2. Secretary(Environment & Forests),Government of Bihar,Patna-800 023.
3. Chairman, Central Electricity Authority, Sewa Bhawan,R.K.Puram,New Delhi-110066.
4. Chairman, Bihar Pollution Control Board, Beltron House ,2nd floor, Lal Bahadur Shastri Nagar,Patna-800 023 with respect to display a copy of the clearance letter at the Regional Office,District Industries Centre and Collector's office for 30 days.

5. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
6. Chief Conservator of Forests, Eastern Regional Office, Ministry of Environment & Forests, 194, Kharvela Nagar, Bhubaneswar-751001.
7. Director(EI), MOEF.
8. Guard file.
9. Monitoring file.


(A.DURAISAMY)
DIRECTOR

Monitoring Report of BRBCL, AurangabadCompliance Status of Environmental Norms Stipulated in Environmental Clearance for Thermal Power Project (4x250MW) of
BRBCL as observed during monitoring on 28.10.2024

S.No	STIPULATIONS	Compliance status
i	All the conditions stipulated by Bihar Pollution Control Board vide their letter no. T-2130 dated 08.04.2004 should be strictly implemented.	Being complied. All the conditions stipulated by BSPCB are being complied and report being submitted.
ii	Land requirement should not exceed 1700 Acres. Copy of R&R plan and package of compensation for 320 families should be submitted to the Ministry before starting the work on the project.	Complied Total land acquired by BRBCL is 1526 Acres. R&R policy has been submitted. Total amount paid against land compensation till date is Rs 324.46 Crores as stated.
iii	Coal requirement is estimated at 5.0 MTPA having 40-47% ash content and 0.36-0.50% Sulphur content. Copy of confirmed coal linkage should be submitted to the Ministry within three months from the date of issue of this clearance letter.	Complied. Copy of confirmed linkage letter has been submitted.

iv	Two twin flue stacks of 220m height each shall be provided with continuous online monitoring equipment. Exit velocity of 20-25m/sec should be maintained.	Complied. Two twin flue stacks of 220 m height are provided with continuous online monitoring equipment and connected to CPCB&BSPCB SERVER. Exit velocity is being maintained in range of 20-25 m/sec as stated.
v	High efficiency Electrostatic Precipitator (ESP) having efficiency of 99.9% should be installed to limit outlet SPM emission of 100mg/Nm ³ .	Being complied. All four units are having ESP with 99.999% efficiency as stated.

vi	<p>Ash generation will be 5500 TPD of both fly and bottom ash.</p> <p>Ash generated should be utilised as per provisions of the notification on Fly Ash Utilisation issued by the Ministry in September, 1999 and its amendments. By the end of 9th year full fly ash utilisation should be ensured.</p>	<p>Being complied.</p> <p>There is provision for Dry and wet disposal of Fly ash and wet disposal of Bottom ash. Provisions of the notification on Fly Ash Utilisation are being complied. Ash utilization FY wise is:-</p> <ol style="list-style-type: none"> 1. 2021-22-9.12 LMT, 2. 2022-23-13.63 LMT, 3. 2023-24-14.32 LMT . <p>Efforts are being made to achieve 100% as per new policy as stated.</p>
vii	<p>Water requirement should not exceed 4295 m³/hr. Waste water should be recycled and used in the plant. Copy of confirmed water withdrawal should be submitted to the Ministry within three months from the date of issue of this clearance letter.</p>	<p>Being complied.</p> <p>For FY 2023-24 average water requirement was approx, 2132.57 m³/hr. Water is being recycled to the maximum extent. Present specific water consumption is less than 3.0 M³/MWH. Water agreement has been signed with Bihar State Government Water Resource Department and submitted to this office.</p>

viii	<p>Care has to be taken that the runoff may so guided so that the local rain fed shallow reservoir, shallow rice terraces are not deprived of the surface runoff and a very careful Geo-hydrological mapping and designing has to be taken up to ensure that the local cultivation in the neighbourhood of the power plant is not adversely affected due to altered hydrological regime. The Project authorities should get this done by a professional competent authority before commencing construction work and submit a copy of the same to MoEF within three months from the date of issue of this letter.</p>	<p>Being complied.</p> <p>Geohydrological mapping report has been submitted by IIT Roorkee dated. No adverse effect has been noted in surrounding villages as stated.</p>
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ix	<p>The distance from the HFL to the boundary of ash pond must be minimum 600m and out of 600m, a 100m wide green belt around the ash pond should be developed.</p>	<p>Read s below:</p> <p>Requisite distance between HFL to boundary exists (more than 600 m) and provision has been kept for green belt of 100 m wide around ash pond . Presently ash pond construction is in progress. Green belt development has started and is being done phase wise.</p>
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	<p>A systematic management of ash pond is required. The ash pond should be partitioned into compartments. The filling of ash pond should first start from the site close to the river end. Plantation should be taken up along the set back area whenever dyke height is increased.</p>	<p style="text-align: center;">Read s below:</p> <p>1. Ash pond is constructed as per design as stated. However during visit of MoEFCC officer dt:22.03.2018 and letter issued vide ref no 105-23/04/EPE/2274 dt:30.05.18 a new condition was laid for lying HDPE layer in Ash Pond.</p> <p>2.Lagoon 1 construction is completed and Lagoon 2 is under construction. Ash pond soil permeability is also very less. As it has not been mentioned in EC a letter has been submitted in MoEFCC for exemption from new condition as stated.</p>
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xi	<p>Garland drain of sufficient capacity should be provided around ash pond to prevent any overflow of water to the river. Seepage water from the garland drain should be pumped back and recycled.</p>	<p>Read s below:</p> <p>Provision exist for the same in ash dyke being constructed. The ash dyke will be constructed phase wise.</p>
xii	<p>Special arrangements should be made for the river bank protection to prevent bank erosion of the river all along the project area. Protection measures should be taken for a length of 2.5 Km upstream of the project. The length of the bank downstream which needs similar protection has not been determined. The Project authorites should undertake expeditiously all the bank protection measures and to maintain the protective structure in good condition throughout the life of the project.</p>	<p>Read as below:</p> <p>Complete land for makeup water system has been acquired. River bank protection will be done along with permanenet make up water corridor completion as stated. CWPRS has carried study, Final report has been submitted .Scheme finalization is under progress. Engineering process is under progress due to change in location.Two studies are under progress-reports have been received as stated.</p>

xii	The river bank embankment should be taken early along with the site development.	Mentioned in above point
xiv	A systematic water harvesting plan should be prepared for surface storage of water within the plant area so as to minimise the anticipated withdrawal of river water.	<p>Complied.</p> <p>Provision exists for the same with LETP, CSSP and AWRS to minimise withdrawal of water from river. As water table is very high in this area as stated in the report. A study for effective rainwater utilisation has been conducted and report has been submitted by the consultant in this regard.</p>
xv	A ground water monitoring station to be set up between the ash pond and the river front. Regular monitoring of water quality including heavy metals should be undertaken around ash dyke and the project area to ascertain the change in the water quality, if any, due to leaching of contaminants from the ash disposal area.	<p>Complied.</p> <p>Provision has been made for ground water quality measurement around ash dyke in the form of hand pump/well exists. The same is being utilised for regular monitoring (by MoEF/CPCB approved agencies) of the ground water quality as stipulated and values are within limits.</p>

xvi	While planning the layout of the plant, care should be taken that the neighbouring villages are not subjected to undue noise, coal dust or any adverse environmental disturbances.	<p>Complied.</p> <p>Taken care during plant design stage. Plant design meets various enviromental norms as stated.</p>
xvii	A proper planning and site evaluation should be based on satellite imageries rather than the old Survey of India Toposheets for a better idea of the current status.	<p>Complied.</p> <p>Satellite imageries have been used.</p>
xviii	Noise level should be limited to 75 Leq and regular maintenance of equipment be undertaken. For people working in the are of generator and other high noise area, earplug should be provided.	<p>Complied.</p> <p>Noise values are within limits.</p>

xix	A 100 m green belt should be developed all around the power plant covering an area of 110 acres/ha.	Partially complied. Provision has been kept around plant area for development of green belt. Green belt development has been started and is being done progressively. As stated, plantation has been done in 143 acres .
xx	Regular monitoring of the air quality should be carried out in and around the power plant and records be maintained. Periodic six monthly report should be submitted to Ministry.	Being Complied. Air quality is being monitored with 4 online AAQMS stations. Besides manual monitoring is being done. Values are within limits.
xxi	For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant should be ensured.	Being Complied. Regular water sprinkling is being done to control fugitive dust in the plant.
xxii	All other mitigate measures shall be taken as enumerated in Chapter 5 of the EIA report.	Complied. Mitigating measures for construction phase have been implemented and measures for operational phase are part of design as stated which includes recycling water, plantation etc.

xxiii	The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the state Pollution Control Board/ Committee and may also be seen at the website of the Ministry of Environment and Forest at http://envfor.nic.in .	Complied as stated in the report
xxiv	A separate environmental monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguard.	Being Complied. Environmental monitoring cell has been established.
xxv	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguard should be submitted to this Ministry/ Regional Office /CPCB/SPCB.	Being complied. Half yearly report on the status of implementation of the stipulated conditions and environmental safeguard have been submitted to BSPCB, Patna and regional office, M o E F & C C , Ranchi.
xxvi	Regional office of the Ministry of Environmental & Forest located at Bhubaneswar will monitor the implementation of the stipulated conditions. Complete set of Environmental Impact Assessment Report and management plan should be forwarded to the Regional Office for their use during monitoring.	Being Complied. Above project was monitored by Sh. Sandeep Nandi Scientist B on 28.10.2024

xxvii	Separate fund should be allocated for implementation of environmental protection measures along with item wise break-up. These cost should be included as part of the project cost. The funds earmarked for the environmental protection measures should not be diverted for other purposes and year wise expenditure should be reported to the Ministry.	Being Complied. As per Feasibility report 344.45 Cr marked for various enviromental protection measures. Total estimated expenditure is approximately more than 1500 crores. Funds earmarked for the environmental protection measures are not being diverted for other purposes and year wise expenditure is being submitted.
xxviii	Full cooperation should be extended to the Scientists/Officers from the Ministry/Regional Office of the Ministry at Bhubaneswar/ the CPCB/ the SPCB who would be monitoring the compliance of environmental status.	Being Complied.

As per monitoring done on 28.10.2024 by the undersigned, and review of monitored data reports submitted along with the half yearly EC compliance report for period 01.04.2024 to 30.09.2024, the following partially complied condition has been detected, and this have been highlighted in bold in above report, and is listed as follows:-

1. Provision has been kept around plant area for development of green belt. Green belt development has been started and is being done progressively.

बिहार राज्य प्रदूषण नियंत्रण बोर्ड Bihar State Pollution Control Board

NOC under sections 25 & 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under section 21 of the Air (Prevention & Control of Pollution) Act, 1981.

Reference application no. 5092 dated 10.10.03 of Mr. Vijay Krishna Das, DGM - NTPC, Eastern Region, Head Quarter, Loknayak Jal Prakash Bhawan, Dakbungalow Road, Patna - 1 (on behalf of proposed Rail Biljee Company, a joint venture Company to be formed by NTPC and Ministry of Railways) for establishment/ construction of coal based Nabinagar Thermal Power Plant (4x250)

2 After considering:

- (i) The fact stated in their application, Feasibility Report and Rapid EIA-Report
- (ii) Bihar State Pollution Control Board's notification no. 26, dated 8.11.2003.
- (iii) Provisions of the Water & the Air Act,
- (iv) Related Public hearing dated 5.4.04

3 NOC in favour of the site and the project stated above is hereby accorded subject to the following conditions.

- (i) The unit shall obtain consent to operate under sections 25 & 26 of the Water Act, 1974 and section 21 of the Air Act, 1981, prior to commissioning of the plant from Pollution Control Board.
- (ii) The effluent (Domestic & Trade) and emission, if any shall conform to the standard prescribed by the Board.
- (iii) The height of exhaust pipe of the D.G. set shall be as prescribed by the C.P.C. Board and the noise level shall be within the prescribed limit.
- (iv) Minimum height of the proposed stack shall be 220 meter with porch and platform in each stream as per norms of the C.P.C. Board.
- (v) Appropriate capacity of E.S.P. shall be provided to achieve standard prescribed by the Board i.e. 100 mg/Nm³
- (vi) Appropriate measures shall be taken to control fugitive dust emission within the plant including ash pond areas.

Head Office : Beltron Bhawan, 2nd Floor, Lal Bahadur Shastri Nagar, Patna - 800 023, EPABX-2281260, 2282265
Chairman : 2281775, Fax : 0612-2281050 Member-Secretary : 2281260, Telefax-2291709
E-mail - bapcb@bih.nic.in Website - www.biharapcb.com

Beltron Bhawan : 2nd Floor, L. B. S. Nagar, Patna - 800 023
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Patna : Beltron Bhawan, 2nd Floor, Lal Bahadur Shastri Nagar,
Patna - 800 023, EPABX-2281260, 2282265
Computer - 0612-2282763

Bogusahi : Beltron Industrial Area, Thirath,
Bogusahi - 831101 EPABX-06243-023297

Muzaffarpur : Semi Syed Ali Road, Technical Chowk,
Muzaffarpur - 842001 EPABX-0621-2247814



बिहार राज्य प्रदूषण नियंत्रण बोर्ड Bihar State Pollution Control Board

- (xviii) Compliance report of above conditions shall be submitted to the Board quarterly.
- (xix) Tree plantation shall be done in 100 m width all around the boundary and ash pond area.
- (xx) Any other condition as prescribed from time to time by Board.
- (xai) Bihar State Pollution Control Board reserves the option to revise and add other conditions, if necessary, for protection of environment in general and for pollution control in particular.
- (xxii) The present NOC should not be construed as an assurance for granting consent to operate the proposed plant and is subject to compliance of all the conditions noted above.
- (xxiii) This NOC is valid for a period of 36 months from date of issue.

Sd/-
(I.S. SINGH)
Member-Secretary

Memo No. T-2130

Date 8.4.04

Copy forwarded to Mr. V.K. Das, DGM-NP M/s National Thermal Power Corporation, Eastern Region, Head Quarter, Loknayak Jai Prakash Bhawan, Dakbungalow Road, Patna-1 / Commissioner-cum-Secretary Environment and Forest, Govt. of Bihar / Regional Officer/Patna/ Sri J.K.P. Singh, Incharge, computer section for information and necessary action.

(Signature)
(I.S. SINGH) 08/04/04
Member-Secretary

<p>Head Office : Bellron Bhawan, 2nd Floor, Lal Bahadur Shastri Nagar, Patna - 800 023, EPABX-2281260, 2282285 Chairman : 2281775, Fax : 0612-2281030 Member-Secretary : 2281260, Telefax-2281708 E-mail : bepcb@bih.nic.in Website : www.biharepcb.com</p> <p>Patna : Bellron Bhawan, 2nd Floor, Lal Bahadur Shastri Nagar, Patna - 800 023, EPABX-2281260, 2282285 Computer : 0612-2281781</p>	<p>Begusar : Bakuni Industrial Area, Tanchi, Begusar - 861101 or 06143-22329</p> <p>Muzaffarpur : Sandi Syed Ali Road, Techno Chowk, Muzaffarpur - 842001 or 0621-22176</p>
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Ref. No- 783

Patna, dated- 17.6.2021

EMISSION CONSENT ORDER

With reference to the application ID- 4246584, dated 13.01.2021 of M/s BRBCL (4*250 MW) Nabinagar, H Type Office, Nabinagar, Dist.- Aurangabad- 824301 for consent under sections 21 of the Air (Prevention & Control of Pollution) Act, 1981, they are granted consent to operate their plant of BRBCL, Nabinagar, Dist.- Aurangabad- 824301 unit # 1, 2, 3, 4 capacity 4*250 MW for the period upto 12.01.2026 with the following conditions:-

1. That, he/they shall not make any alteration, addition, deletion or modification in the plant without the prior clearance from the Board and shall also abide by the obligations under sections 22,23 and 31A of the Air (Prevention & Control of Pollution) Act,1981 and further shall extend co-operation to the Board in performing its functions entrusted under sections 24,25 and 26 of the Act;
2. That, he/they shall comply with the requirements of rule 14 of the Environment(Protection) Rules, 1986; rules 4,5,7,9,10 and 11 of the Hazardous & Other Wastes (Management and Trans-boundary Movement), Rules,2016 ; rules 4,5,7,8,10,11,12,13,15,17 and 18 of the Manufacture, Storage and Import of Hazardous Chemical Rules,1989; and the provisions of the Public Liability Insurance Act,1991, whichever is applicable;
3. That, he/they shall monitor his/their emission(s) and the ambient air quality from representative point regularly and shall maintain its quality in conformity with Board's standards and shall produce its proof, as and when asked for;
4. That, he/they shall submit application for consent again 30 days before the expiration of the period of consent i.e. 11.01.2026 or within 30 days from the date of receipt of this order, whichever is applicable.
5. *The unit shall complete the installation of one silo in all respects for ensuring collection of dry fly ash by 30th June, 2021 to ensure its use by the concerned users and remaining within one year.*
6. *The unit shall install online stack emission monitoring system for stack-2 (unit-4) and ensure its connectivity with CPCB/SPCB after commercial operation of unit # 4.*
7. *The unit shall comply with new emission standard notified by MoEF&CC, dated- 07.12.2015 (PM: 30Mg/Nm³; SO₂: 100mg/Nm³; NOx: 100mg/Nm³ and Hg: 0.03mg/Nm³).*
8. *The unit shall develop dust suppression system and plantation on contingent ash dyke after covering and compacting with soil to avoid fugitive emission due to wind in the vicinity.*
9. *The unit shall install flue gas desulphurization (FDG) System by December 31, 2022 to comply SO₂ emission level.*
10. *The unit shall develop plantation in accordance with EC.*
11. *The unit shall comply all the conditions of EC & CTOs and submit the report of to the Board in addition with the concerned authority for EC (MoEF&CC) half yearly.*
12. *The unit shall ensure utilization of fly ash as per the guidelines/notification issued by MoEF&CC Govt. of India.*
13. *The unit shall submit Environmental Statement for the financial year ending the 31st March in Form-V on or before the 30th September every year.*

To,

Sri C Sivakumar
M/s BRBCL (4*250 MW) Nabinagar
H Type Office, Nabinagar
Dist.- Aurangabad- 824301


(S. Chandrasekar)
Member Secretary



BIHAR STATE POLLUTION CONTROL BOARD

Parivesh Bhawan, NSB-2, Patliputra Industrial Area
Patliputra, Patna - 800 010

Ref no- 784

Patna, dated- 17-6-2021

DISCHARGE CONSENT ORDER

With reference to the application ID- 4246584, dated 13.01.2021 of M/s BRBCL (4*250 MW) Nabinagar, H Type Office, Nabinagar, Dist.- Aurangabad- 824301 for consent under sections 25/26 of the Water (Prevention & Control of Pollution) Act 1974, they are granted consent to bring into use their new outlet(s) for discharge of trade effluent and/or domestic sewage operate his/her plant of BRBCL, Nabinagar, Dist.- Aurangabad- 824301 unit # 1, 2, 3, 4 capacity 4*250 MW for the period upto 12.01.2026 with the following conditions -

- 1 That, he/they shall not make any alteration, addition, deletion or modification in the plant without the prior clearance from the Board and shall also abide by the obligations under sections 24, 31 and 33A of the Water (Prevention & Control of Pollution) Act, 1974 and further shall extend co-operation to the Board in performing its functions entrusted under sections 20, 21, 23, 30 and 32 of the Act.
- 2 That, he/they shall comply with the provisions of the rule 14 of the Environment (Protection) Rules, 1986, provisions of the Hazardous & Other Wastes (Management & Trans-boundary Movement) rules, 2016, rules 4, 5, 7, 8, 10, 11, 12, 13, 15, 17 and 18 of the Manufacture, Storage and Import of Hazardous Chemical Rules 1989, and the provisions of the Public Liability Insurance Act 1991 whichever is applicable.
- 3 That, he/they shall monitor his/their effluent(s) regularly and maintain its quality in conformity with Board's standards and shall produce its proof as and when asked for.
- 4 That, he/they shall submit application for consent again 30 days before the expiration of the period of consent i.e. 11.01.2026 or within 30 days from the date of receipt of this order, whichever is applicable.
- 5 The unit shall complete the construction of planned ash dyke with HDPE/LDPE lining or any other suitable impermeable media by established technology within six months or submit exemption from MoEF&CC, Govt. of India.
- 6 The unit shall use liquid Waste Water Treatment Plant (LWWTP) for ensuring zero liquid discharge.
- 7 The unit shall comply Specific Water Consumption (SWC) maximum of 3.0 m³/MWh in compliance of MoEF&CC GoI Notification dated- 28.06.2018.
- 8 The unit shall comply all the conditions of EC & CTOs and submit the report of to the Board in addition with the concerned authority for EC (MoEF&CC) half yearly.
- 9 The unit shall ensure utilization of fly ash as per the guidelines/notification issued by MoEF&CC Govt. of India.
- 10 The unit shall submit Environmental Statement for the financial year ending the 31st March in Form-V on or before the 30th September every year.
- 11 The unit shall ensure the operation of STP within six months and treated water shall conform to the prescribed standards (pH: 6.5-9, BOD: 30mg/L, TSS: <100mg/L & FC <100MPN/100ml).
- 12 The unit shall monitor Sone river water Quality in U/S & D/S with reference to water intake point.

To



Sri C Sivakumar
M/s BRBCL (4*250 MW) Nabinagar
H Type Office, Nabinagar
Dist - Aurangabad- 824301


(S. Chandrasekar)
Member Secretary

Monitoring Report of M/s BRBCL Nabinagar
CTO Compliance Status as observed during the inspection on 28.10.2024

	<u>EMISSION CONSENT ORDER</u>	<u>Comment</u>	<u>Present status</u>
1	The unit shall complete the installation of one silo in all respects for ensuring collection of dry fly ash by 30 th June, 2021 to ensure its use by the concerned users and remaining within one year.	Two Silo completed	Remaining two will be completed by Dec. 2024. Present DFA utilisation is 38%. There is very less demand due to two thermal power plant
2	The unit shall install online stack emission monitoring system for stack-2 (unit-4) and ensure its connectivity with CPCB/SPCB after commercial operation of unit # 4.	complied	completed
3	The unit shall comply with new emission standard notified by MoEF& CC, dated- 07.12.2015 (PM: 30Mg/Nm ³ ; SO ₂ : 100mg/Nm ³ ; NO _x : 100mg/Nm ³ and Hg: 0.03mg/Nm ³).	shall be complied as per timeline given by MoEF&CC	Contract awarded, work in progress
4	The unit shall develop dust suppression system and plantation on contingent ash dyke after covering and compacting with soil to avoid fugitive emission due to wind in the vicinity.	all ash of contingent ash dyke has been utilised	completed
5	The unit shall install flue gas desulphurization (FDG) System by December 31, 2022 to comply SO ₂ emission level.	Dec-26	Contract awarded, work in progress
6	The unit shall develop plantation in accordance with EC.	noted	1,43,900 has already been planted.
7	The unit shall comply all the conditions of EC & CTOs and submit the report of to the Board in addition with the concerned authority for EC (MoEF& CC) half yearly.	being complied	complied
8	The unit shall ensure utilization of fly ash as per the guidelines/notification issued by MoEF& CC Govt. of India.	noted	shall be complied
9	The unit shall submit Environmental Statement for the financial year ending the 31st March in Form V on or before 30th Sept every year	noted	complied

	<u>DISCHARGE CONSENT ORDER</u>	<u>Comment</u>	<u>Present status</u>
1	The unit shall complete the construction of planed ash dyke with HDPE/LDPE lining or any other suitable impermeable media by established technology within six months or submit exemption from MoEF&CC, Govt. of India.	Ash pond is constructed as per EC mandate envisaged by our Corporate Centre	Lagoon 1 construction is completed and Lagoon 2 is under progrss. Ash pond soil permeability is also very less. As it is not been mentioned in EC letter for exemption is submitted in MoEF&CC office New Delhi
2	The unit shall use liquid Waste Water Treatment Plant (LWWTP) for ensuring zero liquid discharge.	already complied	LWWTP is under service
3	The unit shall comply Specific Water Consumption (SWC) maximum of 3.0 m3/MWh in compliance of MoEF& CC Gol Nofification dated- 28.06.2018.	already complied	less than 3.0 m3/MWH
4	The unit shall comply all the conditions of EC & CTO's and submit the report of to the Board in addition with the concerned authority for EC (MoEF& CC) half yearly.	already complied	complied
5	The unit shall ensure utilization of fly ash as per the guidelines/notification issued by MoEF& CC Govf. of India.	noted	shall be complied
6	The unit shall submit Environmental Statement for the financial year ending the 31th March in Form-V on or before the 30th September every year.	noted	complied
7	The unit shall ensure the operation of STP within six months and treated water shall conform to the prescribed standards (pH: 6.5-9, BOD: 30mg/L, TSS: <100mg/L & FC <100MPN/100ML).	commissioned	completed
8	The Unit shall monitor Sone river quality in U/S and D/S with reference to intake point	complied	completed

  National Accreditation Board for
Testing and Calibration Laboratories

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INSTITUTE OF MINING AND FUEL RESEARCH**

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**"General Requirements for the Competence of Testing &
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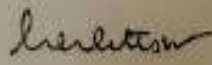
Certificate Number: TC-10435
Issue Date: 22/03/2022 Valid Until: 21/03/2024

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity: CSIR- Central Institute of Mining and Fuel Research

Signed for and on behalf of NABL




N. Venkateswaran
Chief Executive Officer



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची-834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 19.06.2023 TO 01.07.2023

LOADING END ANALYSIS REPORT

Date:04-08-2023

Test Report No.-CIMFR/INMCR/PS/BACH/NPGA/ R/NE-JULY/2023/16
Name of Coal Company- Central Coalfield Ltd.
Loading Area/Siting- Sachin (Piperwar Area)

Power Utility-NTPC-NRCA
Date of start of analysis-26.07.2023
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

38%
27.3°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM%	ASH%	GCV (kcal/kg)	
1	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0219/WC	19-06-2023	21-06-2023	26-06-2023	3945.00	161003714	19-06-2023	11.1	24.8	4761.24	8.0	25.6	4906	-
2	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0221/WC	20-06-2023	21-06-2023	26-06-2023	3865.14	161003715	20-06-2023	10.8	22.1	5040.79	8.0	22.8	5199	86
3	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0240/WC	26-06-2023	03-07-2023	05-07-2023	3784.68	161003732	26-06-2023	8.0	35.0	4151.00	6.9	35.4	4201	-
4	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0241/WC	26-06-2023	03-07-2023	05-07-2023	3894.73	161003733	26-06-2023	8.5	29.9	4561.25	7.1	30.4	4631	-
5	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0247/WC	28-06-2023	03-07-2023	05-07-2023	3887.63	161003736	28-06-2023	8.5	31.2	4450.86	6.9	31.7	4529	-
6	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0249/WC	28-06-2023	03-07-2023	05-07-2023	3772.32	161003737	29-06-2023	8.6	30.4	4413.03	6.6	31.1	4510	-
7	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0251/WC	29-06-2023	04-07-2023	05-07-2023	3758.04	161003739	29-06-2023	8.0	33.9	4288.53	6.3	34.5	4368	-
8	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0252/WC	29-06-2023	04-07-2023	05-07-2023	3692.93	161003740	30-06-2023	8.1	33.6	4291.74	6.5	34.2	4366	-
9	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0257/WC	01-07-2023	04-07-2023	05-07-2023	3729.52	161003742	01-07-2023	7.2	39.4	3899.27	5.4	40.2	3975	-

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5865-15, EN as per IS 1350 (Part-I)- 1984 Reaffirmed 2013 (Bisulphuric) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) Name of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested, Reserve part of the sample will be destroyed after three months.

04/08/2023

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, R.C. Ranchi



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची-834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI-834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 19.06.2023 TO 01.07.2023

LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Date:04-08-2023

Test Report No.-CIMFR/RNC/TPS/BACH/NPGA/ JUNE-JULY/2023/16
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding-Bachra (Piperwar Area)

Power Utility-NTPC-NPGA
Date of start of analysis -28.07.2023
Product tested - Coal Sample

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			TM%
					R.R. Quantity (MT)	R.R.No./F. Note No.	R.R. Date	
1	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0219/WC	19-06-2023	21-06-2023	26-06-2023	3945.00	161003714	19-06-2023	11.0
2	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0221/WC	20-06-2023	21-06-2023	26-06-2023	3865.14	161003715	20-06-2023	10.2
3	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0240/WC	26-06-2023	03-07-2023	05-07-2023	3784.68	161003732	26-06-2023	12.4
4	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0241/WC	26-06-2023	03-07-2023	05-07-2023	3894.73	161003733	26-06-2023	12.3
5	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0247/WC	28-06-2023	03-07-2023	05-07-2023	3887.63	161003736	28-06-2023	12.7
6	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0249/WC	28-06-2023	03-07-2023	05-07-2023	3772.32	161003737	29-06-2023	12.5
7	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0251/WC	29-06-2023	04-07-2023	05-07-2023	3758.04	161003739	29-06-2023	12.0
8	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0252/WC	29-06-2023	04-07-2023	05-07-2023	3692.93	161003740	30-06-2023	13.1
9	CCL/BACH/NTPC-JV/NABINAGAR/NPGA/0257/WC	01-07-2023	04-07-2023	05-07-2023	3729.52	161003742	01-07-2023	12.9

* Customer Provided Information
Note

- (i) Sample collected as per FSA.
(ii) Testing Method followed - Total Moisture as per IS 1350 (Part-II), 1984 Reaffirmed 2013
(iii) None of the experiment is performed by external service provider.
(iv) This report should not be replicated or reproduced.
(v) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K.Saini)

[Authorized Signatory]
CSIR-CIMFR, RC, RANCHI

91

Sample ID:	T-11376-	Instrument MAC:	00:60:0C:85:11:A1
Method:	Dynamic	Date:	Fri Jul 28 14:11:06 2023
Mode:	Determination	Type:	Final
Initial Temp:	29.9501	Bomb ID:	1
Jacket Temp:	30.0955	EE Value:	946.993
Weight:	0.4938	Temp. Rise:	5.9229
Fuse:	50.0000	Spike Weight:	0.5053
Sulfur:	0.6400	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	4761.24
		Units:	cal/g

Shubh
28/7/23

~~Shubh~~
01/8/23

CCL|BACH|NTPC-JV|NABINAHAR|NPGA|0219|WC

$\frac{1}{0.4/08/23}$

92

Sample ID:
Method:
Mode:
Initial Temp:
Jacket Temp:
Weight:
Fuse:
Sulfur:
Units Multiplier:

T-11378
Dynamic
Determination
30.1373
30.1823
0.9950
50.0000
0.6700
1

Instrument MAC: 00:60:0C:85:11:A1
Date: Wed Jul 26 15:22:34 2023
Type: Final
Bomb ID: 1
EE Value: 948.985
Temp. Rise: 5.3622
Spike Weight: 0.0000
Acid: 8.0000

Gross Heat:
Units: **5040.79**
cal/g

Done by
Reed
26/7/23


RHH

CCL|BACH|NTPE-JV|NABINAGAR|NPGA|0221|WC

16
04/08/23

Sample ID:	T-12256	Instrument MAC:	00:60:00:85:14:4E
Method:	Dynamic	Date:	Mon Jul 31 13:40:22 2023
Mode:	Determination	Type:	Final
Initial Temp:	29.8418	Bomb ID:	1
Jacket Temp:	30.0162	EE Value:	938.620
Weight:	0.9953	Temp. Rise:	4.4759
Fuse:	50.0000	Spike Weight:	0.0000
Sulfur:	0.5200	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	4151.00
		Units:	cal/g

Madhulika
3117123

CCL/BACH/HTPC-JV/NABINAGAR/NPOTA/0240/WC

SA
01/8/23

by 04/08/23

Sample ID:	T-12257	Instrument MAC:	00:60:0C:85:14:4E
Method:	Dynamic	Date:	Mon Jul 31 13:49:34 2023
Mode:	Determination	Type:	Final
Initial Temp:	29.7700	Bomb ID:	1
Jacket Temp:	30.0071	EE Value:	938.620
Weight:	0.9984	Temp. Rise:	4.9265
Fuse:	50.0000	Spike Weight:	0.0000
Sulfur:	0.5400	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	4561.25
		Units:	cal/g

Madhulika

31/7/23

01/8/23

CCL/BACH/NTPC-JV/NABINAGAR/NPUIA/0241/WC

16/04/2023

Sample ID:**T-12263**

Method:

Dynamic

Mode:

Determination

Initial Temp:

30.1073

Jacket Temp:

30.0518

Weight:

0.9989

Fuse:

50.0000

Sulfur:

0.5100

Units Multiplier:

1

Instrument MAC:

00:60:0C:85:11:94

Date:

Mon Jul 31 13:49:23 2023

Type:

Final

Bomb ID:

1

EE Value:

935.072

Temp. Rise:

4.8290

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**4450.86**

Units:

cal/g

Madhulika
31/7/23

CCL/BACH/NTPC-JV/NABINAGAR/NPURA/0247/WC 0118125
6/04/08/23

Sample ID:	T-12265	Instrument MAC:	00:60:0C:85:11:94
Method:	Dynamic	Date:	Mon Jul 31 14:07:59 2023
Mode:	Determination	Type:	Final
Initial Temp:	30.0303	Bomb ID:	1
Jacket Temp:	30.0301	EE Value:	935.072
Weight:	0.9949	Temp. Rise:	4.7701
Fuse:	50.0000	Spike Weight:	0.0000
Sulfur:	0.5300	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	4413.03
		Units:	cal/g

Madhukha
31/7/23

CCL / BACH / NTPC-3V / NABINAGAR / NPDA / 0249 / 0118/23

4/04/08/23

Sample ID:	T-12267	Instrument MAC:	00:60:0C:85:11:94
Method:	Dynamic	Date:	Mon Jul 31 12:25:31 2023
Mode:	Determination	Type:	Final
Initial Temp:	29.9617	Bomb ID:	1
Jacket Temp:	30.0521	EE Value:	935.072
Weight:	0.9943	Temp. Rise:	4.6351
Fuse:	50.0000	Spike Weight:	0.0000
Sulfur:	0.5400	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	4288.53
		Units:	cal/g

Neha
31/7/23

31/7/23

CCL / BACH / NTPC-JV / NABINAGAR / NPURA / 0251 / WC

16
04/08/23

98

Sample ID:	T-12268	Instrument MAC:	00:60:0C:85:11:94
Method:	Dynamic	Date:	Mon Jul 31 12:34:09 2023
Mode:	Determination	Type:	Final
Initial Temp:	30.0105	Bomb ID:	1
Jacket Temp:	30.0694	EE Value:	935.072
Weight:	0.9909	Temp. Rise:	4.6238
Fuse:	50.0000	Spike Weight:	0.0000
Sulfur:	0.5800	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	4291.74
		Units:	cal/g

Neha
31/7/23
31/7/23

CCL / BACH / NTPC-JV / NABINAGAR / NPGA / 0252 / WC

de
04/08/23

Sample ID:

Method:
Mode:
Initial Temp:
Jacket Temp:
Weight:
Fuse:
Sulfur:
Units Multiplier:

T-12273

Dynamic
Determination
29.4729
30.0329
0.9952
50.0000
0.4800
1

Instrument MAC:

00:60:0C:85:11:A1

Date:

Mon Jul 31 12:18:40 2023

Type:

Final

Bomb ID:

1

EE Value:

946.993

Temp. Rise:

4.1704

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**3899.27**

Units:

cal/g

Neha
31/7/23

~~31~~
31/7/23

CCL/BACH/NTPC-DV/NABINAGAR/NPQA/0257/WC

W
04/08/23



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 17.06.2023 TO 17.07.2023

LOADING END ANALYSIS REPORT

Test Report No.: CCL/NTPC/JV/NABINAGAR/NPGA/0294/WC
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Siding: Barua (Bharua) Field

From: CCL/NTPC/JV/NPGA
Date of start of analysis: 04.08.2023
Product tested: Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

Date: 17-08-2023
SSR: 28.7°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM %	ASH %	GCV (kcal/kg)	
1	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0294/WC	27-06-2023	03-07-2023	05-07-2023	3893.55	161003734	27-06-2023	8.2	32.2	4357.41	7.0	32.6	4414	-
2	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0289/WC	12-07-2023	17-07-2023	19-07-2023	3735.77	161003768	12-07-2023	9.8	20.4	5225.82	8.5	20.7	5301	-
3	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0290/WC	12-07-2023	17-07-2023	19-07-2023	3701.68	161003769	12-07-2023	9.5	20.5	5247.45	8.2	20.8	5323	-
4	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0291/WC	13-07-2023	17-07-2023	19-07-2023	3663.76	161003770	13-07-2023	9.7	20.5	5238.60	8.6	20.7	5302	-
5	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0293/WC	13-07-2023	17-07-2023	19-07-2023	3819.42	161003772	13-07-2023	9.6	20.6	5206.33	8.3	20.9	5281	-
6	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0296/WC	14-07-2023	17-07-2023	19-07-2023	3889.42	161003775	14-07-2023	9.5	22.7	5060.38	7.9	23.1	5150	-
7	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0300/WC	16-07-2023	17-07-2023	19-07-2023	3768.03	161003778	16-07-2023	9.9	19.8	5289.52	8.9	20.0	5348	-
8	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0302/WC	16-07-2023	17-07-2023	19-07-2023	3666.14	161003779	16-07-2023	9.1	22.6	5149.68	8.0	22.9	5212	-
9	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0303/WC	16-07-2023	17-07-2023	19-07-2023	3704.58	161003781	16-07-2023	10.0	19.6	5260.59	8.7	19.9	5337	-
10	CCL/BACH/NTPC/JV/NABINAGAR/NPGA/0304/WC	17-07-2023	17-07-2023	19-07-2023	3617.05	161003782	17-07-2023	9.8	20.6	5244.00	8.7	20.9	5308	-

* Customer Provides Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/npco-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per IS 3.

(ii) Testing Method followed: ISO 8 Moisture as per ASTM D-792-11 & CCI as per ASTM D-5865-19, LHA as per IS 1350 Part-II: 1984 Modified: 2015 (Gross/Net) value has been put in the blank column as determined in the laboratory following (ASTM D 4239-18).

(iii) State of the experiment is performed by external service provider.

(iv) This report should not be replicated or reproduced.

(v) The result stated in the sample tested, however part of the sample will be destroyed after three months.

[Dr. A.K. Saha]
(Authorized Signatory)
CSIR-CIMFR, R.C. BARUA

17/08/2023



सीएसआईआर-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकिम, रांची-834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKI M, RANCHI-834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 27.06.2023 TO 17.07.2023

LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Date: 17-08-2023

Test Report No.-CIMFR/RNC/TPS/BACH/NPGA/ JUNE-JULY/2023/19
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding-Bachra (Pigwar Area)

Power Utility-NTPC-NPGA
Date of start of analysis 08.08.2023
Product tested - Coal Sample

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			TM%
					R.R. Quantity (Mt)	R.R.No./F. Note No.	R.R. Date	
1	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0244/WC	27-06-2023	03-07-2023	05-07-2023	3893.55	161003734	27-06-2023	12.8
2	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0289/WC	12-07-2023	17-07-2023	19-07-2023	3735.77	161003768	12-07-2023	13.1
3	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0290/WC	12-07-2023	17-07-2023	19-07-2023	3701.68	161003769	12-07-2023	12.7
4	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0291/WC	13-07-2023	17-07-2023	19-07-2023	3663.26	161003770	13-07-2023	12.8
5	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0293/WC	13-07-2023	17-07-2023	19-07-2023	3819.42	161003772	13-07-2023	13.2
6	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0296/WC	14-07-2023	17-07-2023	19-07-2023	3889.42	161003775	14-07-2023	12.4
7	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0300/WC	16-07-2023	17-07-2023	19-07-2023	3768.03	161003778	16-07-2023	12.7
8	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0302/WC	16-07-2023	17-07-2023	19-07-2023	3666.14	161003779	16-07-2023	13.2
9	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0303/WC	16-07-2023	17-07-2023	19-07-2023	3704.58	161003781	16-07-2023	13.4
10	CCL/BACH/NTPC-IV/NABINAGAR/NPGA/0304/WC	17-07-2023	17-07-2023	19-07-2023	3617.05	161003782	17-07-2023	13.1

* Customer Provided Information

Note

- Sample collected as per ISA.
- Testing Method followed - Total Moisture as per IS 1350 (Part-II), 1989 Reaffirmed 2013
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, R.C, RANCHI

17/08/2023

102

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-12260-

Dynamic

Determination

29.5966

30.0355

0.9937

50.0000

0.5100

1

Instrument MAC:

Date:

Type:

Bomb ID:

EE Value:

Temp. Rise:

Spike Weight:

Acid:

Gross Heat:

Units:

00:60:00:85:11:A1

Fri Aug 4 13:46:13 2023

Final

1

957.137

4.5964

0.0000

8.0000

4357.41

cal/g

Sheela
01/8/2310/8
17-08-23

CCL / BACH / NTPC - JV / NABINAGAR / NPQA / 0244 / WC

10/8
17-08-23

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-14030

Dynamic

Determination

29.5782

30.0035

0.9979

50.0000

0.5200

1

Instrument MAC:

00:60:0C:85:11:A1

Date:

Fri Aug 11 07:09:00 2023

Type:

Final

Bomb ID:

1

EE Value:

957.137

Temp. Rise:

5.5212

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5225.82**

Units:

cal/g

Neharika
11-08-23

CEL | BACH | NTPC JV | NABINACAR | NPGA | 0283/wcl/12
12-08-23

12-08-23

Sample ID:

Method:
Mode:
Initial Temp:
Jacket Temp:
Weight:
Fuse:
Sulfur:
Units Multiplier:

T-14031

Dynamic
Determination
29.4598
29.9910
0.9963
50.0000
0.5300
1

Instrument MAC: 00:60:0C:85:11:A1

Date: Fri Aug 11 07:18:46 2023

Type: Final

Bomb ID: 1

EE Value: 957.137

Temp. Rise: 5.5352

Spike Weight: 0.0000

Acid: 8.0000

Gross Heat:**5247.45**

Units:

cal/g

Neharika
11.08.23

MS
11.08.23

CCL/BACH/NTPC-IV/NABINAGAR/NPCA {0290} WC

MS
13.08.23

Sample ID:

Method:
Mode:
Initial Temp:
Jacket Temp:
Weight:
Fuse:
Sulfur:
Units Multiplier:

T-14032

Dynamic
Determination
29.5905
29.9990
0.9923
50.0000
0.5400
1

Instrument MAC:

00:60:0C:85:11:A1

Date:

Fri Aug 11 07:28:57 2023

Type:

Final

Bomb ID:

1

EE Value:

957.137

Temp. Rise:

5.5043

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5238.60**

Units:

cal/g

Neharika
11.08.23

Mishra
11.08.23

CCL | BACH | NTPC-JV | NABINAGAR | NPCA | 0291 | WC

Mishra
17.08.23

Sample ID:

Method:
Mode:
Initial Temp:
Jacket Temp:
Weight:
Fuse:
Sulfur:
Units Multiplier:

T-14034

Dynamic
Determination
29.7929
30.0179
0.9935
50.0000
0.5300
1

Instrument MAC:

00:60:0C:85:11:A1

Date:

Fri Aug 11 07:49:24 2023

Type:

Final

Bomb ID:

1

EE Value:

957.137

Temp. Rise:

5.4771

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5206.33**

Units:

cal/g

Neharika
11.08.23

CU/BACH/NTPL-3V/NABINAGAR/NPCA/0293/wc *11.08.23*

11.08.23

107

Sample ID:

Method:
Mode:
Initial Temp:
Jacket Temp:
Weight:
Fuse:
Sulfur:
Units Multiplier:

T-14037

Dynamic
Determination
30.3644
30.1781
0.9996
50.0000
0.5400
1

Instrument MAC: 00:60:0C:85:11:94

Date: Fri Aug 11 10:14:46 2023

Type: Final

Bomb ID: 1

EE Value: 935.072

Temp. Rise: 5.4846

Spike Weight: 0.0000

Acid: 8.0000

Gross Heat:

5060.38

Units: cal/g

Saba
11-8-23
118ms

CCL | BACH | NTPC-JV | NABINACAR | NPGA | 0296 | WC

118
17-28-23

108

Sample ID:	T-14041	Instrument MAC:	00:60:0C:85:11:94
Method:	Dynamic	Date:	Fri Aug 11 10:59:17 2023
Mode:	Determination	Type:	Final
Initial Temp:	30.5443	Bomb ID:	1
Jacket Temp:	30.3013	EE Value:	935.072
Weight:	0.9939	Temp. Rise:	5.6972
Fuse:	50.0000	Spike Weight:	0.0000
Sulfur:	0.5400	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	5289.52
		Units:	cal/g

Saba
11-8-23
11/8/23

CCL | BACH | NTPC-JV | NABINAGAR | NPCA | 0300 | WC

102
17-08-23

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-14043

Dynamic

Determination

30.5968

30.3392

0.9983

50.0000

0.5100

1

Instrument MAC:

00:60:0C:85:11:94

Date:

Fri Aug 11 11:23:42 2023

Type:

Final

Bomb ID:

1

EE Value:

935.072

Temp. Rise:

5.5722

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5149.68**

Units:

cal/g

Saba
11-8-23
11/8/23

CL | BACH | NTPC-JV | NABINAGAR | NPCA | 0302 | WK

13/8
17-08-23

110

Sample ID:

Method:
Mode:
Initial Temp:
Jacket Temp:
Weight:
Fuse:
Sulfur:
Units Multiplier:

T-14044

Dynamic
Determination
30.4364
30.2329
0.9925
50.0000
0.5300
1

Instrument MAC:

00:60:0C:85:11:A1

Date:

Fri Aug 11 11:59:26 2023

Type:

Final

Bomb ID:

1

EE Value:

957.137

Temp. Rise:

5.5279

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:

5260.59

Units:

cal/g

Saba
11-8-23
11/8/23

COL | BACH | NTPC-JV | NABINAGAR | NPCA | 0303 | WC

1
12-08-23

111

Sample ID:**T-14045**

Method:

Dynamic

Mode:

Determination

Initial Temp:

30.2125

Jacket Temp:

30.1385

Weight:

0.9967

Fuse:

50.0000

Sulfur:

0.5200

Units Multiplier:

1

Instrument MAC:

00:60:0C:85:11:94

Date:

Fri Aug 11 11:49:41 2023

Type:

Final

Bomb ID:

1

EE Value:

935.072

Temp. Rise:

5.6641

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5244.00**

Units:

cal/g

Seiba
11-8-23
11/8/23

CEL | BARN | NTPC-TV | NABINAGAR | NPGA | 0304 | WC

10/8
17-08-23



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 28.06.2023 TO 29.06.2023

LOADING END ANALYSIS REPORT

Date: 05-09-2023

Test Report No.-CIMFR/RNC/TPS/BCBM/NPGA/JUNE/2023/07

Name of Coal Company- Central Coal Field Ltd.

Loading Area/Siding-BALUMATH

Power Utility- NTPC NPGA

Date of start of analysis - 29.08.2023

Product tested - Coal Sample

Relative Humidity of laboratory:

Temperature of laboratory:

59%

28.5 °C

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analyzed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M.T.	ASH %	GCV (kcal/kg)	MT%	ASH%	GCV (kcal/kg)	
1	CCL/BALUMATH/NTPC JV/NABINAGAR/NPGA/0157/G-11	28-06-2023	03-08-2023	07-08-2023	4043.70	1610007310	29-06-2023	8.6	33.0	4388.83	7.6	33.4	4437	6
2	CC/BALUMATH/NTPC JV/NABINAGAR/NPGA/0159/G-11	29-06-2023	03-08-2023	07-08-2023	4036.20	161000732	30-06-2023	8.8	32.1	4218.92	7.9	32.4	4261	6

* Customer provided information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-stations/coal-grades, www.coal.gov.in/major-stations/coal-grades)

Note:

(i) Sample collected as per ISX.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5885-15; EM as per IS 1350 (Part I): 1986 Reaffirmed 2013.

(iii) Sulfur (%) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-14).

(iv) None of the measurement is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.R. Saini)

(Authorized Signatory)

CSIR-CIMFR, RANCHI

05/09/2023



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 28.06.2023 TO 29.06.2023

LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Date:05-09-2023

Test Report No.-CIMFR/RNC/TPS/BCBM/NPGA/JUNE/2023/07

Name of Coal Company- Central Coal Field Ltd.

Loading Area/Siding-BALUMATH

Power Utility- NTPC-NPGA

Date of start of analysis -29.08.2023

Product tested - Coal Sample

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			TM%
					R.R. Quantity (Mt)	R.R.No./F. Note No.	R.R. Date	
1	CCL/BALUMATH/NTPC-JV/NABINAGAR/NPGA/0157/G-11	28-06-2023	03-08-2023	07-08-2023	4043.70	161000730	29-06-2023	10.5
2	CCL/BALUMATH/NTPC-JV/NABINAGAR/NPGA/0159/G-11	29-06-2023	03-08-2023	07-08-2023	4036.20	161000732	30-06-2023	13.6

* Customer Provided Information

Note

- Sample collected as per FSA.
- Testing Method followed - Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2013
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

05/09/2023

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-16561

Dynamic

Determination

29.8003

30.0530

0.9909

50.0000

0.5200

1

Instrument MAC:

00:60:0C:85:11:A1

Date:

Tue Aug 29 13:52:44 2023

Type:

Final

Bomb ID:

1

EE Value:

953.615

Temp. Rise:

4.6334

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**4388.83**

Units:

cal/g

Madhuika
29/8/23

CEL/BALU MATH / NTPC-IV / NABINAGAR / NPCA / DIST

/G-11

4/05/09/23

JSH
04.09.23

Sample ID:

Method:
Mode:
Initial Temp:
Jacket Temp:
Weight:
Fuse:
Sulfur:
Units Multiplier:

T-16563

Dynamic
Determination
29.9462
30.0132
0.9960
50.0000
0.5200
1

Instrument MAC:

00:60:0C:81:07:1F

Date:

Tue Aug 29 03:59:04 2023

Type:

Final

Bomb ID:

1

EE Value:

929.396

Temp. Rise:

4.5962

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**4218.92**

Units:

cal/g

Nikita
29/08/23

028
04.09.23

CC/ BALUMATH / NTPC JV / NABINAGAR / NPCA / OISS / G-1

05/09/23

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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RESEARCH CENTRE - RANCHI, POST - NAMKUL, RANCHI-834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 01.07.2023 TO 09.07.2023

LOADING END ANALYSIS REPORT

Test Report No.: C/1074/2023/CS/NC/MS/CL/01/07/2023/18
Name of Coal Company: Central Coal Field Ltd.
Loading Area/ Sliding: BSCF (Baramba Area)

Printer (http://www.cimfr.org)
Date of start of analysis: 04-08-2023
Product tested: Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

Date: 14-08-2023
34%
23.1°C

SL. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/RCM/NTPC-JV/NABINAGAR/NPGA/0180/G-9	01-07-2023	06-07-2023	11-07-2023	3978.34	161001462	02-07-2023	9.1	26.4	4749.26	7.7	26.8	4822	G10
2	CCL/RCM/NTPC-JV/NABINAGAR/NPGA/0181/G-11	02-07-2023	11-07-2023	14-07-2023	3699.82	161001463	02-07-2023	7.6	35.8	4057.75	6.1	36.4	4124	G11
3	CCL/RCM/NTPC-JV/NABINAGAR/NPGA/0183/G-11	08-07-2023	13-07-2023	14-07-2023	3456.33	161001465	09-07-2023	7.8	33.0	4156.46	7.0	34.2	4193	G11
4	CCL/RCM/NTPC-JV/NABINAGAR/NPGA/0185/G-11	09-07-2023	13-07-2023	14-07-2023	3017.20	161001466	09-07-2023	7.2	37.8	3893.39	7.5	37.7	3881	G12

* Customer provided information

** Grade as per the website of the Ministry of coal (www.coal.mca.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed: Ash R. Moisture as per ASTM D-7582-13 & GCV as per ASTM E-455-19, TGA as per IS 1350 (part-1): 1984 Reaffirmed 2013

(iii) Ash(R) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced

(vi) The GCV related to the sample tested. Residue part of the sample will be analyzed after three months.

(Dr. R.K. Saha)
(Authorized Signature)
CSIR-CIMFR, RANCHI

14/08/2023

END OF TEST REPORT

PAGE 1 OF 4



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI-834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 01.07.2023 TO 09.07.2023
LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Date: 14-08-2023

Test Report No.-CIMFR/RNC/TPS/RCM/NPGA/JULY/2023/19
Name of Coal Company- Central Coal Field Ltd.
Loading Area/ Siding : RCM (Piperwar Area)

Power Utility-NTPC NPGA
Date of start of analysis -04-08-2023
Product tested - Coal Sample

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			TMC
					R.R. Quantity (Mt)	R.R.No./F. Note No.	R.R. Date	
1	CCL/RCM/NTPC-JV/NABINAGAR/NPGA/0180/G-9	01-07-2023	06-07-2023	11-07-2023	3978.34	161001462	02-07-2023	12.4
2	CCL/RCM/NTPC-JV/NABINAGAR/NPGA/0181/G-11	02-07-2023	11-07-2023	14-07-2023	3699.81	161001463	02-07-2023	12.1
3	CCL/RCM/NTPC-JV/NABINAGAR/NPGA/0183/G-11	08-07-2023	13-07-2023	14-07-2023	3456.33	161001465	09-07-2023	12.9
4	CCL/RCM/NTPC-JV/NABINAGAR/NPGA/0184/G-11	09-07-2023	13-07-2023	14-07-2023	3817.70	161001466	09-07-2023	12.8

* Customer Provided information

Note

- Sample collected as per ISA.
- Testing Method followed - Total Moisture as per IS 1350 (Part-II, 1984 Reaffirmed 2013)
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K.Saini)
(Authorized Signatory)
CSIR-CIMFR, RCI, RANCHI

14081023

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-जामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - JAMKUM, RANCHI - 834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 26.10.2023

LOADING END ANALYSIS REPORT

Date: 29-01-2024

Test Report No. - CIMFR/MNC/TTS/PLCP/MRGA/ OCT/2023/03
Name of Coal Company - Central Coal Field Ltd.
Loading Area/Plant - PHULBATHA

Power Utility - Nabnagar Super Thermal Power Project,
Date of start of analysis - 23.01.2024
Product tested - Coal Sample

Reference Humidity of laboratory:
Temperature of laboratory:

Sat
26.7°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Brake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/Kg)	Mo%	ASH%	GCV (Kcal/Kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/MPGA/01067/G-9	26-10-2023	10-11-2023	14.11.2023	4022.43	161001776	27-10-2023	6.2	30.7	4530.48	7.5	30.3	4468	G10

* Customer Provided Information
** Grade as per the website of the Ministry of coal [www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades]
Note:
(i) Sample collected as per F54.
(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5885-19, FM as per IS 1350 (Part-II): 1980 Reaffirmed 2013 (Revised 2013) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
(iv) Name of the experiment is performed by external service provider.
(vi) This report should not be replicated or reproduced.
(vii) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M. K. Saha)
[Authorized Signatory]
CSIR-CIMFR, INC, RANCHI

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI - 834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 26.10.2023

LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Date: 29-01-2024

Test Report No.-CIMFR/RMC/TPS/PLCP/NPGA/ OCT/2023/03
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-PHULBASIA

Power Utility- Nabinagar Super Thermal Power Project,
Date of start of analysis - 23.01.2024
Product tested - Coal Sample

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			TM%
					R.R. Quantity (mt)	R.R.No./ F. Note No.	R.R. Date	
1	CCL/PLCP/NTPC-JV/NABINAGAR/NPGA/01067/G-9	26-10-2023	10-11-2023	14.11.2023	4022.43	161001776	27-10-2023	12.5

* Customer Provided Information

Note

- Sample collected as per FSA.
- Testing Method followed - Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2013
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

[Signature]
29/01/2024



सीएसआईआर-केंद्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान संस्थान)

बारवा रोड, धनबाद - 826 015, झारखण्ड, भारत

एक आई एस ओ 9001 प्रमाणित संस्थान

CSIR-Central Institute of Mining and Fuel Research

(Council of Scientific and Industrial Research)

Barwa Road, Dhanbad - 826015, Jharkhand, India

An ISO 9001 Certified Institute

TC-10435
TEST REPORT

Date of issue: 12.09.2023

LAB NAME : Coal Characterisation Lab. (RQA)
ULIR No.-TC-104352300013760F
LOADING END ANALYSIS REPORT
Test Report No.- CIMFR-DHN/TPS-LD/SEPT/23-24/3760A
Name of Coal Company-BIHARAT COKING COAL LIMITED
Loading Area/Siding-BACHOLA, KKC LINK
Name of Power Utility- NPGA, NPGC
Duration of Performance of Analysis : 07.09.2023 to 11.09.2023
Test Material : CDAL

Relative Humidity of laboratory(%) : 51.8
Temperature of laboratory(°C) : 35.6

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample received at laboratory	Railway Rules NGIL			Air-dried basis			Equilibrated moisture basis (90% RH & 40°C)			Analysed Grade
					RH Quantity (Mt)	R.R.No./ E. Note No.	R.R. Date	M %	ASH%	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	TPS/L12591 POCP-W-V	17.03.2023	17.07.2023	19.07.2023		285368		1.1	29.9	5652.38	1.1	29.9	5632	G6
2	TPS/L12593 BOCP-W-IV	17.03.2023	17.07.2023	19.07.2023		285358		1.0	34.9	5171.38	0.9	34.9	5177	G8

Note:

- Sample collected as per ISA by CSIR-CIMFR.
- Ash, Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (90% RH & 40°C) as per IS 1250 (Part-I), 1984 Reaffirmed 2019.
- Gross calorific value (GCV; air-dried) as per ASTM D 5885-19
- Note of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

Signature of Authorized Signatory
12.9.23

(Signature of Authorized Signatory)

सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR Central Institute Of Mining & Fuel Research
East, Of India, Dhanbad
P.O.- F.R.L. PIN-828105, Jharkhand

End of Report

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Ranchi : ☎ +91-651-2461392, Roorkee : ☎ +9101332-276998

Website : www.cimfr.nic.in



सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)

बनवा रोड, धनबाद - 826015, झारखण्ड, भारत

एक आईएसओ 9001 प्रमाणित संस्थान

CSIR-Central Institute of Mining and Fuel Research

(Council of Scientific and Industrial Research)

Banwa Road, Dhanbad - 826015, Jharkhand, India

An ISO 9001 Certified Institute



Date of Issue: 12.09.2023

TEST REPORT

LAB NAME : Coal Characterisation Lab (RQA)

LOADING AND ANALYSIS REPORT

Test Report No:- CIMFR/DHE/TPS/LD/SEPI/24-24/13766 B

Name of Coal Company: BHARAT COOKING COAL LIMITED

Loading Area/Siding: BARORA, KKC LINK

Name of Power Utility: NPGA, NPGC

Test Material : COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Business Rules MGR			Total Moisture %
			RR Quantity (MT)	R.H.No./ P. Note No.	R.H. Rate	
1	TPSL12592 DOKP-W-V	27.03.2023		255358		3.4
2	TPSL12593 DOKP-W-IV	27.03.2023		255358		3.6

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
(ii) Total Moisture as per IS 1356 (Part-I), 1984 Reaffirmed 2019
(iii) Name of the experiment is performed by external service provider
(iv) This report should not be replicated or reproduced

Signature
12.9.23

(Signature of Authorized Signatory)

सी० एस० आई० आर०-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान

CSIR-Central Institute Of Mining & Fuel Research

Govt. Of India, Dhanbad

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सीएसआईआर-केंद्रीय खनन एवं अनुसंधान संस्थान

CSIR-Central Institute of Mining and Fuel Research

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बनारस रोड, धनबाद - 826 015, झारखण्ड, भारत
एक ISO 9001 प्रमाणित संस्थान

(Council of Scientific and Industrial Research)
Banwa Road, Dhanbad - 826015, Jharkhand, India
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TC-30415



Date of Issue: 23.08.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)
ULR No.-TC-104352300012561F
LOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/LD/AUG/23-24/12561 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding, NIGAH, NIGAH WHARFWALL
Name of Power Utility- NEPC, NABINAGAR (NTPC, VINDHYACHAL)
Duration of Performance of Analysis: 14.08.2023 to 22.08.2023
Test Material: COAL

Relative Humidity of laboratory (%): 52.1
Temperature of laboratory (°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receipt at laboratory	Railway Rule/ MGB			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					HR Quantity (MT)	R.R.No./ F. No. No.	R.R. Date	HR %	ASDR %	GCV (Kcal/kg)	HR %	ASDR %	GCV (Kcal/kg)	
1	TPS/L11068	01.07.2023	02.07.2023	07.07.2023		000075		7.4	24.8	5001.36	8.5	24.5	4912	G8
2	TPS/L11069	01.07.2023	02.07.2023	07.07.2023		000076		7.8	24.3	5046.23	8.6	24.0	4992	G8
3	TPS/L11076	02.07.2023	04.07.2023	07.07.2023		000077		6.6	27.0	4916.15	7.6	26.7	4863	G9

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Ash, Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (60% RH & 40°C) as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- Gross calorific value (GCV: air-dried) as per ASTM D 5865-19
- Name of the experiment is performed by external service provider
- This report should not be replicated or reproduced

(Signature of Authorized Signatory)

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TEST REPORT

Date of Issue: 23.04.2023

LAB NAME: Coal Characterisation Lab. (RQA)
LOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DIN/TPS/LD/AL/G/23-24/12461 B
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- NIGAH, NIGAH WHARFWALL
Name of Power Utility- NTPC, NABINAGAR (NTPC, VINDHYACHAL)
Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Rake/NGH			Total Moisture %
			RK Quantity (MT)	RJRN/ F No./No.	W H Date	
1	TPSL11068	01.07.2023		000075		14.5
2	TPSL11069	01.07.2023		000076		15.2
3	TPSL11075	03.07.2023		000077		15.2

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

(Signature of Authorized Signatory)

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Website : www.cimfr.nic.in



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TC-10435

TEST REPORT

Date of issue: 28.02.2024

LAB NAME: Coal Characterisation Lab. (RQA)

UTR No.-TC-104352300024135F

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/LINFEB/23-24/24135 A

Name of Coal Company-NORTHERN COALFIELDS LIMITED

Loading Area/Siding- DUDHICHUA, DUDHICHUA WHARF WALL

Name of Power Utility- NTPC, NABINAGAR (NTPC, YENDHIYACHAL)

Duration of Performance of Analysis: 22.02.2024 to 27.02.2024

Test Material: COAL

Sl. No	Sample Id	Date of Sampling (Laboratory)	Date of preparation	Date of sample receiving at Laboratory	Railway Rule/ MGB			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysis Grade
					RR Quantity (MT)	R.R.No.	R.R. Desc	M %	ASDR %	GCV (Kcal/kg)	M %	ASDR %	GCV (Kcal/kg)	
						F. Para No.								
1	TPS/L22996	14.10.2023	18.10.2023	21.10.2023		2000017		8.8	13.9	5051.93	8.1	14.3	5091	G8
2	TPSL23001	15.10.2023	19.10.2023	21.10.2023		2000222		8.1	27.9	4794.62	8.0	27.9	4770	G8
3	TPS/L23884	15.10.2023	19.10.2023	21.10.2023		2000125		8.2	26.6	4863.88	8.0	26.7	4874	G9
4	TPSL23886	16.10.2023	19.10.2023	21.10.2023		2000227		7.9	28.9	4892.11	7.7	27.0	4892	G8

Notes:

Relative Humidity of Laboratory (%): 52.0
Temperature of Laboratory (°C): 22.5

Notes:

- Sample collected as per FSA by CSIR-CIMFR
- Asb. Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (60% RH & 40°C) as per IS 1350 (Part I), 1964 Reaffirmed 2019
- Gross calorific value (GCV) (air-dried) as per ASTM D 5865-19
- Note of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

Subodh Kumar
28.2.24

(Signature of Authorized Signatory)

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Govt. Of India, Dhanbad
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TEST REPORT

Date of Issue: 28.02.2024

LAB NAME: Coal Characterisation Lab. (BQA)

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/LD/FEB/23-24/24135 B

Name of Coal Company-NORTHERN COAL FIELDS LIMITED

Loading Area/Siding- DUDHICHA, DUDHICHA WHARF WALL

Name of Power Utility- NTPC, NABINAGAR (NTPC, VENDHYACHAL)

Test Material: COAL

Sl. No	Sample ID	Date of Sampling (Collection)	Railway Rate/ MGR			Total Moisture %
			Kit Quantity (MT)	R.R. No./	R.R. Date	
				F. Note No.		
1	TPS/L22996	14.10.2023		2000217		15.9
2	TPS/L23001	15.10.2023		2000222		15.6
3	TPS/L23004	15.10.2023		2000225		15.8
4	TPS/L23006	16.10.2023		2000227		16.1

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
(ii) Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019
(iii) None of the experiment is performed by external service provider
(iv) This report should not be replicated or reproduced

Signature
28.2.24

(Signature of Authorized Signatory)

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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 14.05.2023

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TPS/NPGA/MAY/2023/07
Name of Coal Company- Mahanadi Coal Field Ltd.
Loading Area/Siding-Lakhanpur Area-BOCM

Power Utility-NTPC JV NSTPS
Date of start of analysis - 28.06.2023
Product tested - Coal Sample

Date :30-06-2023

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	MCL/BOCM-7/05/2023/NPGA11(L)/G-14	14-05-2023	15-05-2023	19-05-2023	3760.49	162008642	15-05-2023	5.3	43.3	3478.67	7.9	42.1	3383	G14

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

Dr. S.K. Workade
30/6/23
(Dr. S.K. Workade)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI



127

सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान

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CSIR- CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 14.05.2023

LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Test Report No.-CIMFR/RNC/TPS/NPGA/MAY/2023/07

Power Utility-NTPC JV NSTPS

Name of Coal Company- Mahanadi Coal Field Ltd.

Date of start of analysis - 28.06.2023

Date :30-06-2023

Loading Area/Siding-Lakhanpur Area- BOCM

Product tested - Coal Sample

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			TM%
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	
1	MCL/BOCM-7/05/2023/NPGA11(L)/G-14	14-05-2023	15-05-2023	19-05-2023	3760.49	162008642	15-05-2023	12.3

* Customer Provided Information

Note

- (i) Sample collected as per FSA.
- (ii) Testing Method followed - Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2013
- (iii) None of the experiment is performed by external service provider.
- (iv) This report should not be replicated or reproduced.
- (v) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
30/6/23
(Dr. S.K. Warkhade)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

128

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-5916

Dynamic

Determination

29.9982

29.9940

0.9936

50.0000

0.5700

1

Document MAC:

00:60:0C:85:11:94

Date:

Wed Jun 28 09:13:28 2023

Type:

Final

Bomb ID:

1

EE Value:

931.036

Temp. Rise:

3.7884

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**3478.67**

Units:

cal/g

Senali
28 6.23*Jas/06/23*

MCL/BOCM-7/05-2023/NPLA 11(L)/U-14

30/06/23



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 15.05.2023 to 05.06.2023

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TPS/NPGA/MAV & JUNE/2023/10
Name of Coal Company- Mahanadi Coal Field Ltd.
Loading Area/Siding-Subanpur Area- BOCM

Power Utility-NTPC JV NSTPS
Date of start of analysis - 07.07.2023
Product tested - Coal Sample

Relative Humidity of laboratory: 35%
Temperature of laboratory: 26.6°C

Date:14.07.2023

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					R.R. Quantity (MT)	R.R.No./F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	MCL/BOCM-7/05/2023/NPGA12(L)/G-14	15-05-2023	16-05-2023	20-05-2023	3706.60	142000762	16-05-2023	5.0	41.5	3775.07	6.2	41.0	3727	G12
2	MCL/BOCM-7/05/2023/NPGA14(L)/G-14	26-05-2023	27-05-2023	31-05-2023	3678.20	162008686	27-05-2023	8.0	39.1	3654.38	7.5	39.3	3674	G13
3	MCL/BOCM-6/06/2023/NPGA01(L)/G-14	01-06-2023	02-06-2023	07-06-2023	3925.03	162008705	02-06-2023	5.6	47.0	3313.73	5.7	47.0	3310	G14
4	MCL/BOCM-3/06/2023/NPGA02(L)/G-10	05-06-2023	06-06-2023	09-06-2023	3804.67	162003990	06-06-2023	8.1	26.3	4778.86	7.7	26.4	4800	G9

* Customer Provided Information

* Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Notes:

- Sample collected as per ISO.
- Testing Method followed - Ash & Moisture as per ASTM D-7382-15 & GCV as per ASTM D-5865-19, ERM as per IS 1359 (Part-II): 1984 (Reaffirmed 2013) (Rishabhuni) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested, Reserve part of the sample will be destroyed after three months.

(Dr. M. K. Singh)
Authorized Signatory
CSIR-CIMFR, RNC, RANCHI

(Dr. M. K. Singh)
Authorized Signatory
CSIR-CIMFR, RNC, RANCHI



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CSIR- CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 15.05.2023 to 05.06.2023

LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Test Report No.-CIMFR/RNC/TPS/NPGA/MAY & JUNE/2023/10
Name of Coal Company- Mahanadi Coal Field Ltd.
Loading Area/Siding-Lakhanpur Area- BOCM

Power Utility-NTPC JV NSTPS
Date of start of analysis - 07.07.2023
Product tested - Coal Sample

Date:14-07-2023

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			TM%
					R.R. Quantity (Mt)	R.R.No. / F. Note No.	R.R. Date	
1	MCL/BOCM-7/05/2023/NPGA12(L)/G-14	15-05-2023	16-05-2023	20-05-2023	3706.60	142000762	16-05-2023	14.4
2	MCL/BOCM-7/05/2023/NPGA14(L)/G-14	26-05-2023	27-05-2023	31-05-2023	3678.20	162008686	27-05-2023	12.9
3	MCL/BOCM-6/06/2023/NPGA01(L)/G-14	01-06-2023	02-06-2023	07-06-2023	3925.03	162008705	02-06-2023	11.6
4	MCL/BOCM-3/06/2023/NPGA02(L)/G-10	05-06-2023	06-06-2023	09-06-2023	3804.67	162003990	06-06-2023	12.9

* Customer Provided Information

Note

- Sample collected as per FSA.
- Testing Method followed - Total Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2013
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested, Reserve part of the sample will be destroyed after three months.

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

14/07/2023

131

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-5971

Dynamic

Determination

29.7532

30.0497

0.4948

50.0000

0.2800

1

Instrument MAC:

Date:

Type:

Bomb ID:

EE Value:

Temp. Rise:

Spike Weight:

Acid:

Gross Heat:

Units:

00:60:00:85:11:A1

Fri Jul 7 16:37:10 2023

Final

1

943.483

5.4017

0.5013

8.0000

3775.07

cal/g

Sheela
7/7/23

12/12/23

MCL1BOCM-7/05-2023/NPMA 12 (2) / G-14

14/07/23

132

Sample ID:	T-7417	Instrument MAC:	00:60:0C:85:11:94
Method:	Dynamic	Date:	Wed Jul 5 11:31:22 2023
Mode:	Determination	Type:	Final
Initial Temp:	30.0592	Bomb ID:	1
Jacket Temp:	29.9995	EE Value:	933.403
Weight:	0.9980	Temp. Rise:	3.9843
Fuse:	50.0000	Spike Weight:	0.0000
Sulfur:	0.6200	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	3654.38
		Units:	cal/g

saba
5-7-23

10/10/23

MCL/B0CM-7/5/2023/NPGA14(L)/9-14

14/10/23

133

Sample ID:	T-8595	Instrument MAC:	00:60:0C:85:14:4E
Method:	Dynamic	Date:	Mon Jul 10 07:48:49 2023
Mode:	Determination	Type:	Final
Initial Temp:	29.9237	Bomb ID:	1
Jacket Temp:	29.9983	EE Value:	938.620
Weight:	0.4993	Temp. Rise:	5.2287
Fuse:	50.0000	Spike Weight:	0.5052
Sulfur:	0.2800	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	3313.73
		Units:	cal/g

MCL/BOCM-b/06/2023/NPCA01(L)/G14

 $\frac{1}{14/07/23}$

Suehi
 $\frac{10.7.23}{11/7/23}$

134

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-8680

Dynamic

Determination

30.1275

30.0538

0.9950

50.0000

0.2900

1

Instrument MAC:

00:60:00:85:11:94

Date:

Mon Jul 10 12:21:04 2023

Type:

Final

Bomb ID:

I

EE Value:

945.700

Temp. Rise:

5.0962

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**4778.86**

Units:

cal/g

Neha
10/7/23G
11/2/23

MCA 130CM-3 / 06/2023 / NPOA 02 (1) / A10

h
14/07/23



135

सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट- नामकुम, रांची -834010
CSIR- CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 12.06.2023 TO 15.06.2023

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TPS/NPGA/JUNE/2023/08

Name of Coal Company:- Mahanadi Coal Field Ltd.

Loading Area/ Siding : IB Area- LOCM

Power Utility-NTPC JV NSTPS

Date of start of analysis - 17.07.2023

Product tested - Coal Sample

Date :24-07-2023

Relative Humidity of laboratory:

50%

Temperature of laboratory:

26.3°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis [60% RH & 40°C]			Analysed Grade **
					R.R. Quantity [Mt]	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV [kcal/kg]	M%	ASH%	GCV [kcal/kg]	
1	MCL/LOCM-1/06/2023/NPGA06(L)/G-14	12-06-2023	14-06-2023	17-06-2023	3781.17	162003975	12-06-2023	5.8	42.6	3578.03	6.6	42.2	3548	G13
2	MCL/LOCM-3/06/2023/NPGA03(L)/G-14	13-06-2023	15-06-2023	18-06-2023	3859.12	162004252	14-06-2023	6.0	45.8	3390.08	6.8	45.4	3302	G14
3	MCL/LOCM-1/06/2023/NPGA07(L)/G-14	15-06-2023	16-06-2023	18-06-2023	4010.74	162003985	16-06-2023	5.9	44.2	3449.44	6.4	44.0	3431	G13

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per PSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 B, GCV as per ASTM D-5865-13, EM as per IS 1350 (Part-II): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4239-15).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

24/07/2023

[Dr. M. K. Saini]
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट- नामकुम, रांची - 834010
CSIR- CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 12.06.2023 TO 15.06.2023

LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Test Report No.-CIMFR/RNC/TPS/NPGA/JUNE/2023/08

Name of Coal Company- Mahanadi Coal Field Ltd.

Loading Area/ Siding : IB Area- LOCM

Power Utility-NTPC-JV NSTPS

Date of start of analysis - 17.07.2023

Date :24-07-2023

Product tested - Coal Sample

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			TM%
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	
1	MCL/LOCM-1/06/2023/NPGA06(L)/G-14	12-06-2023	14-06-2023	17-06-2023	3781.17	162003975	12-06-2023	12.6
2	MCL/LOCM-3/06/2023/NPGA03(L)/G-14	13-06-2023	15-06-2023	18-06-2023	3859.12	162004252	14-06-2023	12.3
3	MCL/LOCM-1/06/2023/NPGA07(L)/G-14	15-06-2023	16-06-2023	18-06-2023	4010.74	162003985	16-06-2023	13.0

* Customer Provided Information

Note

- (i) Sample collected as per FSA.
- (ii) Testing Method followed - Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2013
- (iii) None of the experiment is performed by external service provider.
- (iv) This report should not be replicated or reproduced.
- (v) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
94072023

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

137

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-9973

Dynamic

Determination

30.0181

29.9965

0.9954

50.0000

0.9500

1

Instrument MAC:

00:60:0C:85:11:94

Date:

Mon Jul 17 16:25:00 2023

Type:

Final

Bomb ID:

1

EE Value:

939.618

Temp. Rise:

3.8748

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**3578.03**

Units:

cal/g

Nikita
17/07/23

18/07/23

MCL/LOCM-1/06-2023/NPWA06(L)/m-12

17/07/23

Sample ID:	T-10075	Instrument MAC:	00:60:0C:85:14:4E
Method:	Dynamic	Date:	Tue Jul 18 08:17:42 2023
Mode:	Determination	Type:	Final
Initial Temp:	29.4807	Bomb ID:	1
Jacket Temp:	29.9363	EE Value:	938.620
Weight:	0.4969	Temp. Rise:	5.2224
Fuse:	50.0000	Spike Weight:	0.5038
Sulfur:	0.5300	Acid:	8.0000
Units Multiplier:	1	Gross Heat:	3330.08
		Units:	cal/g

Suchi
18-7-23

18/7/23

MCL/LOCM-3/06-2023/NPMA03(L)/G-14

27/07/23

139

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

T-10074

Dynamic

Determination

29.7313

29.9406

0.9945

50.0000

0.5100

1

Instrument MAC:

00:60:0C:85:14:4E

Date:

Tue Jul 18 08:09:06 2023

Type:

Final

Bomb ID:

1

EE Value:

938.620

Temp. Rise:

3.7288

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**3449.44**

Units:

cal/g

Suehi
*18.7.23**15/11/23*

MCL/LCCM-1/06-2023/NP07A07(2)/G-14

16
24/07/23



सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा प्रयोगिक अनुसंधान संस्थान)
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140

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(Council of Scientific and Industrial Research)
Banwa Road, Dhanbad - 826015, Jharkhand, India
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Date of issue : 16.05.2023

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/LD/MAY/23-24/5717 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- BINA, BINA SILO
Name of Power Utility- NTPC, NABINAGAR (NTPC, VINDHYACHAL)
Duration of Performance of Analysis : 10.05.2023 to 15.05.2023

Relative Humidity of laboratory (%): 52.0
Temperature of laboratory(°C): 23.5

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Hulow Rate/ MGR			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					RR Quantity (Mg)	R.R No.	R.R. Date	M %	ASH%	OCV (Kcal/kg)	M%	ASH%	OCV (Kcal/kg)	
1	TPS/L448	02.04.2023	03.04.2023	04.04.2023		603377		4.6	31.3	4530.11	6.5	30.7	4734	G9

Note:

- Sample collected as per FSA.
- Ash, & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

श्री. अशोक कुमार सिंह / Dr. Ashok K. Singh
प्रमुख अनुसंधान विभाग, संयुक्त खनन अनुसंधान संस्थान / HORG, ROA Division & Project Leader
सी.एस.आई.आर.- केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
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सीएसआईआर-केंद्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
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एक आई एस ओ 9001 प्रमाणित संस्थान

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Date of Issue : 16.05.2023

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/L.D/MAY/23-24/5717 B
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- BINA, BINA SILO
Name of Power Utility- NTPC, NABINAGAR (NTPC, VINDHYACHAL)

Sl. No	Sample ID	Date of collection	Railway Rake/ MGR			Total Moisture %
			RR Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	
1	TPS/L448	02.04.2023		003377		14.2

Note:

- Sample collected as per FSA.
- Total Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019
- Name of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature)

(Signature and Designation of Authorized Signatory)

डॉ० अशोक कुमार सिंह / Dr. Ashok K. Singh
सहायक अनुसंधान सहायक, रीजनल प्रबंधन विभाग / HORG, RQA Division & Project Leader
सी० एच० आई० एम० एफ० रिसर्च सेंटर फॉर खनन एवं ईंधन संशोधन
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Govt. Of India, Dhanbad
P.O.- F.R.L, PIN-828108, Jharkhand

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Ranchi : ☎ +91-651-2461392 Borkhee : ☎ +9101332-275998

Website : www.cimfr.nic.in

Parr 6400Calorimeter

Sample

ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

TPS-RQA-448

Dynamic

Determination

29.4825

29.9928

0.8054

50.0000

0.5200

Instrument

00:60:0C:85:14:4C

MAC:

Date:

Mon May 15 22:05:47

2023

Type:

Bomb ID:

EE Value:

Temp. Rise:

Spike Weight:

Acid:

Gross Heat:

Units:

1

919.715

4.3031

0.0000

8.0000

4830.11

cal/g



TC-5932

Date of issue : 10.06.2023



LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/LD/JUN/23-24/6593 A
 Name of Coal Company-NORTHERN COALFIELDS LIMITED
 Loading Area/Siding- DUDHICHA, DUDHICHA SILO
 Name of Power Utility- NTPC, NABINAGAR (NTPC,VINDHYACHAL)
 Duration of Performance of Analysis : 30.05.2023 to 09.06.2023

Relative Humidity of laboratory(%): 52.0

Temperature of laboratory(°C): 24.7

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MGR			Air-dried basis			Recalculated moisture basis (60% RH & 30°C)			Analysed Grade
					RR Quantity (Mt)	RR No./ F. Note No.	RR Date	M %	ASH%	GCY (Kcal/kg)	M%	ASH%	GCY (Kcal/kg)	
1	TPS/L2955	10.04.2023	11.04.2023	17.04.2023		008524		5.3	25.5	5268.78	7.5	24.9	5146	G8
2	TPS/L2960	11.04.2023	12.04.2023	17.04.2023		008529		5.1	25.1	5203.75	7.1	24.6	5094	G8
3	TPS/L2968	13.04.2023	14.04.2023	17.04.2023		008547		6.2	24.6	5248.69	7.2	24.3	5193	G8
4	TPS/L2976	15.04.2023	16.04.2023	17.04.2023		008613		7.1	30.6	4696.91	7.8	30.4	4662	G9

Note:

- (i) Sample collected as per FSA.
 (ii) Ash, & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
 (iii) GCY as per ASTM D 5865-19
 (iv) None of the experiment is performed by external service provider.
 (v) This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

श्री अशोक कुमार सिंह / Dr. Ashok Kr. Singh
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 सीएसआईआर-केन्द्रीय खनन एवं फ्यूल अनुसंधान संस्थान
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Date of issue : 10.06.2023

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/LD/JUN/23-24/6593-B
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- DUDHICHA, DUDHICHA SILO
Name of Power Utility- NTPC, NABINAGAR (NTPC,VINDHYACHAL)

Sl. No.	Sample ID	Date of collection	Railway Rake/ MGR			Total Moisture %
			RR Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	
1	TPS/L2955	20.04.2023		008524		14.3
2	TPS/L2960	21.04.2023		008529		15.2
3	TPS/L2968	22.04.2023		008547		15.0
4	TPS/L2976	25.04.2023		008613		15.2

Note:

- Sample collected as per FSA,
- Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- None of the experiment is performed by external service provider,
- This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

डॉ. अशोक कुमार सिंह / Dr. Ashok Kr. Singh
प्रमुख अनुसंधान समूह, सहायक कुशलता अधीक्षक विभाग / HORG, RQA Division & Project Leader
सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान
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Ranchi : ☎ +91-651-2461392, Jharkhand Porkee : ☎ +9101332-275998

Website : www.cimfr.nic.in

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Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Filter By Run Type:

- ☒ Any Type
☐ Determination
☐ Standardization

Select Sample ID

RQA-DC-L2955
RQA-DC-L2956
RQA-DC-L2957
RQA-DC-L2958
RQA-DC-L2959
RQA-DC-L609
RQA-DC-L610
RQA-DC-L611

*Note: Prewrite forces type to ANY***Sample ID:**

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-L2955

Dynamic

Determination

29.6163

29.9786

0.8022

50.0000

0.4200

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Wed May 31 07:43:18 2023

Type:

Final

Bomb ID:

4

EE Value:

960.844

Temp. Rise:

4.4671

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5268.78** ✓

Units:

cal/g

fitting

146

Sample ID Selection

Filter By Run Status:

- ☒ Any Status
☐ Final & Preliminary
☐ Final Only
☐ Preliminary Only
☐ Prewelgh Only

Note: Prewelgh forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

RQA-DC-L2960
RQA-DC-L2961
RQA-DC-L2962
RQA-DC-L2963
RQA-DC-L2964
RQA-DC-L3079
RQA-DC-L609
RQA-DC-L610

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-L2960

Dynamic

Determination

29.2975

29.9610

0.8060

50.0000

0.4500

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Wed May 31 08:46:41 2023

Type:

Final

Bomb ID:

4

EE Value:

960.844

Temp. Rise:

4.4340

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5203.75** ✓

Units:

cal/g

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

B
 BEN-2
 BEN-27-2-23
 BEN-3
 PBC-MP-2367
 PBC-MP-2368
 PBC-MP-2369
 PBC-MP-2370

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-L2968.

Dynamic

Determination

29.7981

29.9681

0.8019

50.0000

0.4300

1

Instrument MAC:

00:60:0C:85:13:28

Date:

Wed May 31 07:56:31 2023

Type:

Final

Bomb ID:

1

EE Value:

943.074

Temp. Rise:

4.5327

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5248.69**

Units:

cal/g

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

B
 BEN-2
 BEN-27-2-23
 BEN-3
 PBC-MP-2367
 PBC-MP-2368
 PBC-MP-2369
 PBC-MP-2370

Sample ID:

Method: Dynamic
Mode: Determination
Initial Temp: 29.8854
Jacket Temp: 29.9831
Weight: 0.8063
Fuse: 50.0000
Sulfur: 0.5200
Units Multiplier: 1

RQA-DC-L2976

Instrument MAC: 00:60:0C:85:13:28

Date: Wed May 31 09:09:47 2023

Type: Final

Bomb ID: 1

EE Value: 943.074

Temp. Rise: 4.0872

Spike Weight: 0.0000

Acid: 8.0000

Gross Heat: 4696.91

Units: cal/g





TC-10435

Date of issue: 08.02.2024

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)

TLR No.-TC-104352300020522F

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/LD/FEB/23-24/20522_A

Name of Coal Company-NORTHERN COALFIELDS LIMITED

Loading Area/Siding- BUDHICHA, BLDHICHA WHARFWALL.

Name of Power Utility- NTPC,NABINAGAR (NTPC, VINDDHYACHAL)

Duration of Performance of Analysis: 02.02.2024 to 07.02.2024

Test Material: COAL

Relative Humidity of laboratory(%) : 52.0

Temperature of laboratory(°C) : 22.5

Sl. No	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receipt at laboratory	Batteries Recd/ MCR		Air-dried basis			Equilibrated moisture basis (90% RH & 40°C)			Analyst Code	
					BR Quantity (kg)	B.R.N/L	B.R. Date	M %	ASH%	GCV (Kcal/kg)	M %	ASH%		GCV (Kcal/kg)
						T. Note No.								
1	TPSL29016	14.06.2023	26.05.2023	26.05.2023		2000073		6.5	27.5	5065.46	8.0	27.1	4988	GB

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
 (ii) Ash, Moisture (air-dried) as per ASTM D 7582-15
 (iii) Equilibrated Moisture (90% RH & 40°C) as per IS 1350 (Part-I), 1984 Reaffirmed 2019
 (iv) Gross calorific value (GCV; air-dried) as per ASTM D 5865-19
 (v) None of the experiment is performed by external service provider
 (vi) This report should not be replicated or reproduced.

Handwritten signature
 8-2-24

(Signature of Authorised Signatory)

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 CSIR-Central Institute Of Mining & Fuel Research
 Govt. Of India, Dhanbad
 P.O.- F.R.L, PIN-828106, Jharkhand

Date of Report:

Date of issue: 08.02.2024

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/LD/FEB/23-24/20523 B

Name of Coal Company- NORTHERN COALFIELDS LIMITED

Loading Area/Siding- DUDHICHA, DUDHICHA WHARFWALL

Name of Power Utility- NTPC, NABINAGAR (NTPC, VENDHYACHAL)

Test Material- CDAL

Sl. No	Sample ID	Date of Sampling (Collection)	Railway Brake MGR			Total Moisture %
			RR Demerits (M)	R.R.No./	R.R. Date	
				P. Note No.		
1	TPS/L20016	14.09.2015		2800073		15.9

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
(ii) Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2013
(iii) None of the experiment is performed by external service provider
(iv) This report should not be replicated or reproduced

Aditya
8.2.24

(Signature of Authorized Signatory)

सी. एस. आई. आर.- केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.- F.R.L, PIN-826108, Jharkhand

End of Report

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

RQA-DC-L20012
 RQA-DC-L20013
 RQA-DC-L20014
 RQA-DC-L20015
 RQA-DC-L20016
 RQA-DC-L20017.
 RQA-DC-L20018.
 RQA-DC-L20019.

Sample ID:

RQA-DC-L20016

Method:

Dynamic

Mode:

Determination

Initial Temp:

29.7675

Jacket Temp:

29.9726

Weight:

0.8014

Fuse:

50.0000

Sulfur:

0.5400

Units Multiplier:

1

Instrument MAC:

00:60:0C:81:0B:48

Date:

Tue Feb 6 23:37:16 2024

Type:

Final

Bomb ID:

2

EE Value:

941.729

Temp. Rise:

4.3860

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**5069.46**

Units:

cal/g



TC-10435



Date of issue: 30.10.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)

ULR No.-TC-104352300015865F

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/UNLD/OCT/23-24/15865 A

Name of Coal Company- NORTHERN COALFIELDS LIMITED

Loading Area/Siding: JNCS

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Duration of Performance of Analysis: 25.10.2023 to 28.10.2023

Test Material: COAL

Relative Humidity of laboratory(%): 52.0

Temperature of laboratory(°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receiving at laboratory	Bulked Make/ MGR			Air dried basis			Equilibrated moisture basis (50% RH & 40°C)			Analysis Grade
					RH Quantity (Mtr)	R.R. No./ F. Note No.	R.R. Date	M %	ASH%	GCV (Kcal/kg)	MM%	ASR%	GCV (Kcal/kg)	
1	TPS/U15405	13.07.2023	24.07.2023	25.07.2023		161000127		6.9	39.2	3983.64	5.5	39.3	4044	G11

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
(ii) Ash, Moisture (air-dried) as per ASTM D 7582-15
(iii) Equilibrated Moisture (50% RH & 40°C) as per IS 1350 (Part-I), 1984 Reaffirmed 2019
(iv) Gross calorific value (GCV; air-dried) as per ASTM D 5865-19
(v) None of the experiment is performed by external service provider
(vi) This report should not be replicated or reproduced

Handwritten signature and date: 30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.- F.R.L., PIN-826108, Jharkhand

End of Report



1C-10435



Date of issue: 30.10.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)

U/LR No.-TC-104352300015866F

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15866 A

Name of Coal Company- CENTRAL COALFIELDS LIMITED

Loading Area/Siding: CPCS

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Duration of Performance of Analysis: 25.10.2023 to 28.10.2023

Test Material: COAL

Relative Humidity of laboratory(%): 52.0

Temperature of laboratory(°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					RR Quantity (Mt)	R.R.No./F. Note No.	R.H. Date	M%	ASH%	GCV (Kcal/Kg)	M%	ASH%	GCV (Kcal/Kg)	
1	TPS/C 15409	13.07.2023	19.07.2023	25.07.2023		162000418		2.7	49.1	3660.39	2.6	49.2	3664	G13

Note:

- Sample collected as per ISA by CSIR-CIMFR
- Ash, Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (60% RH & 40°C) as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- Gross calorific value (GCV; air-dried) as per ASTM D 5865-19
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Handwritten signature
30-10-23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.: F.R.I., PIN-826108, Jharkhand

End of Report



TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/UNLD/OCT/23-24/15866 B

Name of Coal Company- CENTRAL COALFIELDS LIMITED

Loading Area/Siding: CPCS

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Wagon No.			Total Moisture %
			RR Quantity (MT)	R.R. No. & Date	R.R. Date	
1	TPS/U15409	13.07.2023		162003416		13.8

Note:

- Sample collected as per PSA by CSIR-CIMFR
- Total Moisture as per IS 1350 (Part-3), 1984 Reaffirmed 2019
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

[Handwritten Signature]
30.10.23

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.: F.R.L., PIN-826108, Jharkhand

End of Report.

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15409

Dynamic

Determination

29.6436

29.9670

0.6058

50.0000

0.3700

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 08:04:26 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

5.2000

Spike Weight:

0.4033

Acid:

8.0000

Gross Heat:**3660.39**

Units:

cal/g



(बैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बरवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान

(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826015, Jharkhand, India
An ISO 9001 Certified Institute



TC-10435

Date of issue: 30.10.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)
ULR No.-TC-10435200015868F
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15868 A
Name of Coal Company- CENTRAL COALFIELDS LIMITED
Loading Area/Siding: CCSR
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Duration of Performance of Analysis: 25.10.2023 to 28.10.2023
Test Material: COAL

Relative Humidity of laboratory(%): 52.8
Temperature of laboratory(°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample reaching at laboratory	Railway Rake MGR			Air-dried basis			(equilibrated moisture basis (60% RH & 40°C))			Analysed Grade
					RR Quantity (Mt)	R.R.No.	R.R. Date	Mo %	ASH%	GCV (Kcal/kg)	Mo %	ASH%	GCV (Kcal/kg)	
1	TPS/U15411	13.07.2023	19.07.2023	25.07.2023		161001467		6.5	34.0	4493.98	6.1	34.1	4423	G10
2	TPS/U15428	16.07.2023	20.07.2023	25.07.2023		161001468		7.4	35.6	4198.01	6.7	35.9	4230	G11

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Ash, Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (60% RH & 40°C) as per IS 1550 (Part-I), 1984 Reaffirmed 2019
- Gross calorific value (GCV; air-dried) as per ASTM D 5865-19
- Note of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Handwritten signature and date: 30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.- F.R.L, PIN-828108, Jharkhand

End of Report



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(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)
बरवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एम ओ 9001 प्रमाणित संस्थान

CSIR-Central Institute of Mining and Fuel Research

(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826015, Jharkhand, India
An ISO 9001 Certified Institute



TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15868 B
Name of Coal Company- CENTRAL COALFIELDS LIMITED
Loading Area/Siding: CCSR
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Rate/ MGR			Total Moisture %
			RR Quantity (MT)	R.R No./ F. Note No.	R.R. Date	
1	TPS/U15411	13.07.2023		161001467		15.6
2	TPS/U15428	16.07.2023		161001468		15.1

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- Name of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Handwritten signature
30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.- F.R.I., PIN-826108, Jharkhand

Date of Report:

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Ranchi : ☎ +91-651-2461392, Bokaro : ☎ +9101332-275998

Website : www.cimfr.nic.in

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15411

Dynamic

Determination

29.5595

29.9566

0.8042

50.0000

0.5800

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 08:24:30 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

3.8878

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**4403.98**

Units:

cal/g

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15428

Dynamic

Determination

29.5430

29.9217

0.8075

50.0000

0.5400

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 11:18:19 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

5.1348

Spike Weight:

0.2074

Acid:

8.0000

Gross Heat:**4198.01**

Units:

cal/g



TC-16435

Date of issue: 30.10.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)

ULR No.-TC-164352300015869F

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/UNLD/OCT/23-24/15869 A

Name of Coal Company- NORTHERN COALFIELDS LIMITED

Loading Area/Siding: DCSN

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Duration of Performance of Analysis: 25.10.2023 to 28.10.2023

Test Material: COAL

Relative Humidity of laboratory(%): 52.8

Temperature of laboratory(°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receiving at laboratory	Railway Rules MGB			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					R.R. Quantity (NO)	R.R.No./ F. Name No.	R.R. Date	M%	ASH%	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
1	TPS/U15413	14.07.2023	19.07.2023	25.07.2023		161914104		8.9	29.2	4628.75	8.0	29.5	4674	G9

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
(ii) Ash, Moisture (air-dried) as per ASTM D 7582-15
(iii) Equilibrated Moisture (60% RH & 40°C) as per IS 1356 (Part-I), 1984 Reaffirmed 2019
(iv) Gross calorific value (GCV; air-dried) as per ASTM D 5865-19
(v) None of the experiment is performed by external service provider
(vi) This report should not be replicated or reproduced

[Signature]
30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.: F.R.E., PIN-828108, Jharkhand

End of Report



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(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)
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एक आई एस ओ 9001 प्रमाणित संस्थान

161

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An ISO 9001 Certified Institute



TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15869 B
Name of Coal Company- NORTHERN COALFIELDS LIMITED
Loading Area/Siding: DCSN
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Rake/ MGR			Total Moisture %
			R.R. Quantity (MT)	R.R.No./ P. Note No.	R.R. Date	
1	TPS/U15413	14.07.2023		161014104		16.2

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Total Moisture as per IS 1350 (Part I), 1984 Reaffirmed 2019
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Adh 30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
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Ranchi : ☎ +91-651-2461392, Jharia : ☎ +9101332-275998

Website : www.cimfr.nic.in

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:
 Mode:
 Initial Temp:
 Jacket Temp:
 Weight:
 Fuse:
 Sulfur:
 Units Multiplier:

RQA-DC-U15413

Dynamic
 Determination
 29.5257
 29.9340
 0.8035
 50.0000
 0.4800
 1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 08:44:26 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

4.0770

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**4628.75**

Units:

cal/g

Adas



TC-10435



TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)

U/LR No.-TC-104352300015870F

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/IPS/UNLD/OCT/23-24/15870 A

Name of Coal Company- MAHANADI COALFIELDS LIMITED

Loading Area/Siding: LOMB

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Duration of Performance of Analysis: 25.10.2023 to 28.10.2023

Test Material: COAL

Relative Humidity of laboratory(%): 52.0

Temperature of laboratory(°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receiving at laboratory	Raising Rate/ MGR			Air-dried basis			Equilibrated moisture basis (90% RH & 40°C)			Analysis Grade
					RR Quantity (Mts)	ILR No./ T. Name No.	R.R. Date	M %	ASH%	GCY (Kcal/kg)	M%	ASH%	GCY (Kcal/kg)	
1	TPS/U15414	14.07.2023	19.07.2023	25.07.2023		162004064		8.2	46.7	3042.98	7.1	47.3	3079	G15

Note:

- (i) Sample collected as per PSA by CSIR-CIMFR
 (ii) Ash, Moisture (air-dried) as per ASTM D 7582-15
 (iii) Equilibrated Moisture (90% RH & 40°C) as per IS 1350 (Part-I), 1984 Reaffirmed 2019
 (iii) Gross calorific value (GCY; air-dried) as per ASTM D 5865-19
 (iv) None of the experiment is performed by external service provider
 (v) This report should not be replicated or reproduced

Signature
 30.10.23

(Signature of Authorized Signatory)

CSIR-Central Institute Of Mining & Fuel Research
 Govt. Of India, Dhanbad
 P.O:- F.R.L. PIN-828108, Jharkhand

End of Report



Date of issue: 30.10.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNI.D/OCT/23-24/15870 B
Name of Coal Company- MAHANADI COAL FIELDS LIMITED
Loading Area/Siding: LOMB
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Rate/ MGR			Total Moisture %
			RR Quantity (MT)	RR No./ F. Note No.	R.R. Date	
1	TPS/U15814	14/07/2023		162004064		15.5

Notes:

- (i) Sample collected as per PSA by CSIR-CIMFR
(ii) Total Moisture as per IS 1350 (Part-1): 1984 Reaffirmed 2019
(iii) None of the experiment is performed by external service provider
(iv) This report should not be replicated or reproduced

[Handwritten Signature]
30.10.23

(Signature of Authorized Signatory)

सीएसआईआर-केंद्रीय खनन एवं अनुसंधान संस्थान
CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O. - F.R.L., PIN-826105, Jharkhand

End of Report

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:**RQA-DC-U15414**

Method:

Dynamic

Mode:

Determination

Initial Temp:

29.5398

Jacket Temp:

29.9224

Weight:

0.6052

Fuse:

50.0000

Sulfur:

0.6500

Units Multiplier:

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 08:53:47 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

4.8273

Spike Weight:

0.4074

Acid:

8.0000

Gross Heat:**3042.98**

Units:

cal/g





TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15865 B
Name of Coal Company- NORTHERN COALFIELDS LIMITED
Loading Area/Siding: JNCS
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Ekte MGB			Total Moisture %
			RK Quantity (Mt)	R.R.No./ F. Note No.	R.M. Date	
1	TPSc1/15406	13.07.2023		161000127		14.7

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
(ii) Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019
(iii) None of the experiment is performed by external service provider
(iv) This report should not be replicated or reproduced

Adh 30.10.23

(Signature of Authorized Signatory)

सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान
CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.- F.R.I., PIN-828108, Jharkhand

End of Report

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15406

Dynamic

Determination

29.7202

29.9826

0.8096

50.0000

0.5100

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Thu Oct 26 20:20:32 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

4.9310

Spike Weight:

0.2036

Acid:

8.0000

Gross Heat:**3983.64**

Units:

cal/g



सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)

बनवा रोड, धनबाद - 826 015, झारखण्ड, भारत

एक आई एन आर 9001 प्रमाणित संस्थान

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CSIR-Central Institute of Mining and Fuel Research

(Council of Scientific and Industrial Research)
Banwa Road, Dhanbad - 826015, Jharkhand, India
An ISO 9001 Certified Instituteपरीक्षण रिपोर्ट
Test Report

Ref No.:- Nil

Dated:- 13.03.2023

Source:- Debasis Banerjee

Sr. Manager (Chemistry)

NTPC Nabinagar,

Aurangabad Bihar

II/TR/23-24/UT/15

Date:- 17.05.2023

Sl No.	Sample Particulars (As Stated)	CIMFR Sample No RQA/2023/T/	Supplied		Analysis (ADB)				
			Quantity (In kg)	Size (in mm)	Ultimate Analysis				
					N%	C%	H%	S%	O%
1	Composite Rake Coal	87	18.0	50.8	0.81	40.88	2.31 (Cfm)	0.55	8.85 (Cfm)

Remark:- Sampling not done by CIMFR Digwadih Campus.

For Analysis:-

ASTM : D3176, were followed

Note:- In case of samples with more than 40% Ash content, the conventional formula for Oxygen content determination [IS-1350 Part-1] does not follow. In such case the oxygen value can be determined by subtracting the sum of M%, Ash%, C%, H%, S%, and N% from hundred and Oxygen & Hydrogen value are reported as O% (cfm) and H% (cfm). cfm means the value of Hydrogen & Oxygen corrected for only Hydrogen & Oxygen from Moisture but not corrected for Hydrogen & Oxygen from combined water i.e., water of hydration.

प्रमुख, परियोजना प्रबंधन एवं उद्योग संपर्क
Head, Project Planning & Industry Interface
सी.एस.आई.आर.-सी.आई.एम.एफ.आर., डिगवाडीह परिसर
CSIR-CIMFR, DIGWADIH CAMPUS

अभिषेक
18/05/2023

सीएसआईआर-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बरवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान



CSIR-Central Institute of Mining and Fuel Research
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Barwa Road, Dhanbad - 826 015, Jharkhand, India
An ISO 9001 Certified Institute

IS/TR/23-24/UT/15

परीक्षण रिपोर्ट
Test Report

Central Institute of Mining and Fuel Research
Digwadih Campus, Dhanbad - 826 108

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REPORT OF ANALYSIS

Date:-11.04.2023

1. Name of Party	Sr. Manager (Chemistry) NSTPS Nabinagar
2. Letter Reference No. & Date	NIL, Dated:-13.03.2023
3. Name & No. of Sample	Coal Sample 01 No.
4. Sampling	As received, Sampling not done by CIMFR

Sl.No.	Sample Details	Sample No.	Name of the Test & Results
			Roga - Index
1.	01 no. of Coal Sample(Composite Rake Coal) of NSTPS- Nabinagar	CRB/01/23-24 RQA/23/T/87	17.64

Method Followed:-

IS 1353: 1993

निमित्त मर्यादा
12.04.2023

अभिषेक
12.04.2023

प्रमुख, परियोजना प्रबंधन एवं सद्योग संपर्क
Head, Project Planning & Industry Interface
सीएसआईआर-सीआईएमएफआर, दिगवाडीह परिसर
CSIR-CIMFR, DIGWADIH CAMPUS

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Research Centres : Bilaspur : ☎+91-775-2271450, Nagpur : Unit-I ☎+91-712-2510604 Unit-II - ☎+91-712-2510390
Ranchi : ☎+91-651-2461392, Roorkee : ☎+91-1332-275998
Website : www.cimfr.nic.in



सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बाबा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान

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II/TR/23-24/UT/15

परीक्षण रिपोर्ट
Test Report

Ref No.: Nil

Date:- 27.04.2023

Dated:- 13.03.2023

Source:- Debasis Bumerjee

Sr. Manager (Chemistry)

NTPC Nabinagar,

Aurangabad Bihar

Sl No.	Sample Particulars (As Stated)	CIMFR Sample No RQA/2023/T/	Supplied		Analysis (ADB)					
			Quantity (in kg)	Size (in mm)	M%	Ash%	VM%	FC%	AI (mg/Kg)	HGI
1	Composite Rake Coal	87	18.0	50.8	1.7	44.9	21.7	31.7	59.53	53

Remark:- Sampling not done by CIMFR Digwadih Campus.

For Analysis:-

IS: 9949-1986

IS: 4433 -1979

ASTM D7582-15

IS: 1350 (PART-1)- 1984 Reaffirmed 2019 , Were followed

[Signature]
02.05.2023

[Signature]
02/05/2023

प्रमुख, परियोजना प्रबंधन एवं उद्योग संपर्क
Head, Project Planning & Industry Interface
सीएसआईआर-सी.आई.एम.एफ.आर., डिगवाडीह परिसर
CSIR-CIMFR, DIGWADIH CAMPUS

HQ : Dhanbad - ☎ +91-326-2296023, 2296006 (O) : +91-326-2296025 EPBAX : +91-326-2296012/6013/6027/6028

E-mail : director@cimfr.nic.in, Digwadih Campus ☎ +91-326-2381111

Research Centres : Bilaspur : ☎ +91-775-2271450, Nagpur Unit I - ☎ +91-712-2510604, Unit - II - ☎ 251039

Ranchi : ☎ +91-651-2461392, Roorkee : ☎ +9101332-275998

Website : www.cimfr.nic.in

सीएसआईआर-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बरवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान
Central Institute of Mining and Fuel Research
Digwadih Campus, Dhanbad - 826 108



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(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826 015, Jharkhand, India
An ISO 9001 Certified Institute

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IX/TR/23-24/UT/15

परीक्षण रिपोर्ट
Test Report

Reference/Requisition No. :
Date of Analysis:
Report No. :
Instrument Details:

CIMFR/XRF/AA/PP/APRIL/03/23 (05/04/2023)
05/04/2023
CIMFR/XRF/AA/APRIL/01/23
ZSX Primus IV WDXRF, Rigaku, Japan
Date : 05.04.2023

Ash Composition Analysis (wt%)

S.NO.	Sample ID	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	TiO ₂	K ₂ O	Na ₂ O	P ₂ O ₅	SO ₃	V ₂ O ₅	MnO
1	RQA/2023/T/87	57.43	29.10	5.81	0.76	0.66	1.81	1.59	0.05	0.46	0.09	0.06	0.05

Remark : Sampling not done by CIMFR, Digwadih Campus
For Analysis: Coal CRM

निदेशिका
06.04.2023

प्रमुख, परियोजना प्रबंधन एवं उद्योग संपर्क
Head, Project Planning & Industry Interface
सी.एस.आई.आर.-सी.आई.एम.एफ.आर., दिगवाडीह परिसर
CSIR-CIMFR, DIGWADIH CAMPUS

अभिषेक
06.04.2023



सीएसआईआर-केंद्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बनारस रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान

172

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(Council of Scientific and Industrial Research)
Banar Road, Dhanbad - 826015, Jharkhand, India
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TC-10435

TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)
ULR No.-TC-104352300015865F
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DIN/TPS/UNLD/OCT/23-24/15865 A
Name of Coal Company- NORTHERN COALFIELDS LIMITED
Loading Area/Siding: JNCS
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Duration of Performance of Analysis: 25.10.2023 to 28.10.2023
Test Material: COAL

Relative Humidity of laboratory(%): 52.0
Temperature of laboratory(°C): 22.5

Sl. No	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receiving at laboratory	Reference Value/ MGR			Air-dried basis			Equilibrated moisture basis (50% RH & 40°C)			Analysis Grade
					RH Quantity (Mg)	R.R. No./ F. Note No.	R.R. Date	M %	ASH%	GCV (Kcal/kg)	MM%	ASR%	GCV (Kcal/kg)	
1	TPS/U15405	13.07.2023	24.07.2023	25.07.2023		161000127		6.9	39.2	3983.64	5.5	39.3	4044	G11

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Ash, Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (50% RH & 40°C) as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- Gross calorific value (GCV; air-dried) as per ASTM D 5865-19
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Handwritten signature and date: 30.10.23

(Signature of Authorized Signatory)

सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.: F.R.L., PIN-828108, Jharkhand

End of Report

HQ : Dhanbad - ☎ +91-326-2296023, 2296006 (O) : +91-326-2296025 EPBAX : +91-326-2296012/6013/6027/6028

E-mail : director@cimfr.nic.in, Digwadih Campus ☎ +91-326-2381111

Research Centres : Bilaspur : ☎ +91-775-2271450, Nagpur Unit I - ☎ +91-712-2510604, Unit - II - ☎ 2510390

Ranchi : ☎ +91-651-2461392, Boorkee : ☎ +9101332-275998

Website : www.cimfr.nic.in



1C-10435



Date of issue: 30.10.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)

ULR No.-TC-104352300015866F

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15866 A

Name of Coal Company- CENTRAL COALFIELDS LIMITED

Loading Area/Siding: CPCS

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Duration of Performance of Analysis: 25.10.2023 to 28.10.2023

Test Material: COAL

Relative Humidity of laboratory(%): 52.0

Temperature of laboratory(°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					RR Quantity (Mt)	R.R.No./F. Note No.	R.H. Date	M%	ASH%	GCV (Kcal/Kg)	M%	ASH%	GCV (Kcal/Kg)	
1	TPS/C 15409	13.07.2023	19.07.2023	25.07.2023		162000418		2.7	49.1	3660.39	2.6	49.2	3664	G13

Note:

- Sample collected as per ISA by CSIR-CIMFR
- Ash, Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (60% RH & 40°C) as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- Gross calorific value (GCV; air-dried) as per ASTM D 5865-19
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Handwritten signature and date: 30-10-23

(Signature of Authorized Signatory)

सी एस आई आर-केन्द्रीय खनन एवं अनुसंधान संस्थान
CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.: F.R.I., PIN-826108, Jharkhand

End of Report



TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/UNLD/OCT/23-24/15866 B

Name of Coal Company- CENTRAL COALFIELDS LIMITED

Loading Area/Siding: CPCS

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Wagon No.			Total Moisture %
			RR Quantity (MT)	R.R. No. & Date	R.R. Date	
1	TPS/U15409	13.07.2023		162003416		13.8

Note:

- Sample collected as per PSA by CSIR-CIMFR
- Total Moisture as per IS 1350 (Part-3), 1984 Reaffirmed 2019
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

[Handwritten Signature]
30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.: F.R.L., PIN-826108, Jharkhand

End of Report

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15409

Dynamic

Determination

29.6436

29.9670

0.6058

50.0000

0.3700

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 08:04:26 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

5.2000

Spike Weight:

0.4033

Acid:

8.0000

Gross Heat:**3660.39**

Units:

cal/g





(बैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बरवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान

(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826015, Jharkhand, India
An ISO 9001 Certified Institute



TC-10435

Date of issue: 30.10.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)
ULR No.-TC-104352300015868F
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15868 A
Name of Coal Company- CENTRAL COALFIELDS LIMITED
Loading Area/Siding: CCSR
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Duration of Performance of Analysis: 25.10.2023 to 28.10.2023
Test Material: COAL

Relative Humidity of laboratory(%): 52.8
Temperature of laboratory(°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample reaching at laboratory	Railway Rake MGR			Air-dried basis			(equilibrated moisture basis (60% RH & 40°C))			Analysed Grade
					RR Quantity (Mt)	R.R.No.	R.R. Date	Mo %	ASH%	GCV (Kcal/kg)	Mo %	ASH%	GCV (Kcal/kg)	
1	TPS/U15411	13.07.2023	19.07.2023	25.07.2023		161001467		6.5	34.0	4493.98	6.1	34.1	4423	G10
2	TPS/U15428	16.07.2023	20.07.2023	25.07.2023		161001468		7.4	35.6	4198.01	6.7	35.9	4230	G11

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Ash, Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (60% RH & 40°C) as per IS 1550 (Part-I), 1984 Reaffirmed 2019
- Gross calorific value (GCV; air-dried) as per ASTM D 5885-19
- Note of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Handwritten signature and date: 30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.- F.R.L, PIN-828108, Jharkhand

End of Report



सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)
बरवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एम ओ 9001 प्रमाणित संस्थान

CSIR-Central Institute of Mining and Fuel Research

(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826015, Jharkhand, India
An ISO 9001 Certified Institute



TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15868 B
Name of Coal Company- CENTRAL COALFIELDS LIMITED
Loading Area/Siding: CCSR
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Test Material: COAL

Sl. No	Sample ID	Date of Sampling (Collection)	Railway Rate/ MGR			Total Moisture %
			RR Quantity (MT)	R.R No./ F. Note No.	R.R. Date	
1	TPS/U15411	13.07.2023		161001467		15.6
2	TPS/U15428	16.07.2023		161001468		15.1

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- Name of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Handwritten signature
30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.- F.R.I., PIN-826108, Jharkhand

Date of Report:-----

HQ : Dhanbad - ☎ +91-326-2296023, 2296006 (O) : +91-326-2296025 EPBAX : +91-326-2296012/6013/6027/6028

E-mail : director@cimfr.nic.in, Digwadih Campus ☎ +91-326-2381111

Research Centres : Bilaspur : ☎ +91-775-2271450, Nagpur Unit I - ☎ +91-712-2510604, Unit - II - ☎ 2510390

Ranchi : ☎ +91-651-2461392, Dhanbad : ☎ +9101332-275998

Website : www.cimfr.nic.in

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15411

Dynamic

Determination

29.5595

29.9566

0.8042

50.0000

0.5800

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 08:24:30 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

3.8878

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**4403.98**

Units:

cal/g

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15428

Dynamic

Determination

29.5430

29.9217

0.8075

50.0000

0.5400

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 11:18:19 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

5.1348

Spike Weight:

0.2074

Acid:

8.0000

Gross Heat:**4198.01**

Units:

cal/g



TC-10435

Date of issue: 30.10.2023

TEST REPORT

LAB NAME: Coal Characterisation Lab. (RQA)

ULR No.-TC-104352300015869F

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/UNLD/OCT/23-24/15869 A

Name of Coal Company- NORTHERN COALFIELDS LIMITED

Loading Area/Siding: DCSN

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Duration of Performance of Analysis: 25.10.2023 to 28.10.2023

Test Material: COAL

Relative Humidity of laboratory(%): 52.8

Temperature of laboratory(°C): 22.5

Sl. No	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receiving at laboratory	Railway Rules MGB			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					RK Quantity (NO)	R.R.No./ F. Name No.	R.R. Date	M%	ASH%	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
1	TPS/U15413	14.07.2023	19.07.2023	25.07.2023		161914104		8.9	29.2	4628.75	8.0	29.5	4674	G9

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
(ii) Ash, Moisture (air-dried) as per ASTM D 7582-15
(iii) Equilibrated Moisture (60% RH & 40°C) as per IS 1356 (Part-I), 1984 Reaffirmed 2019
(iv) Gross calorific value (GCV; air-dried) as per ASTM D 5865-19
(v) None of the experiment is performed by external service provider
(vi) This report should not be replicated or reproduced

[Signature]
30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.: F.R.E., PIN-828108, Jharkhand

End of Report



सीएसआईआर-केंद्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)
बारवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान

181

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(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826015, Jharkhand, India
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TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15869 B
Name of Coal Company- NORTHERN COALFIELDS LIMITED
Loading Area/Siding: DCSN
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Rake/ MGR			Total Moisture %
			R.R. Quantity (MT)	R.R.No./ P. Note No.	R.R. Date	
1	TPS/U15413	14.07.2023		161014104		16.2

Note:

- Sample collected as per FSA by CSIR-CIMFR
- Total Moisture as per IS 1350 (Part I), 1984 Reaffirmed 2019
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Adh 30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
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and of Report

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E-mail : director@cimfr.nic.in, Digwadih Campus ☎ +91-326-2381111

Research Centres : Bilaspur : ☎ +91-775-2271450, Nagpur Unit I - ☎ +91-712-2510604, Unit - II - ☎ 2510390

Ranchi : ☎ +91-651-2461394, Jharia : ☎ +9101332-275998

Website : www.cimfr.nic.in

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15413

Dynamic

Determination

29.5257

29.9340

0.8035

50.0000

0.4800

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 08:44:26 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

4.0770

Spike Weight:

0.0000

Acid:

8.0000

Gross Heat:**4628.75**

Units:

cal/g

Adas



TC-10435

TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)

U/LR No.-TC-104352300015870F

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/IPS/UNLD/OCT/23-24/15870 A

Name of Coal Company- MAHANADI COALFIELDS LIMITED

Loading Area/Siding: LOMB

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Duration of Performance of Analysis: 25.10.2023 to 28.10.2023

Test Material: COAL

Relative Humidity of laboratory(%): 52.0

Temperature of laboratory(°C): 22.5

Sl. No.	Sample ID	Date of Sampling (Collection)	Date of preparation	Date of sample receiving at laboratory	Raising Rate/ MGR			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysis Grade
					RR Quantity (Mts)	ILR No./ T. Name No.	R.R. Date	M %	ASH%	GCY (Kcal/kg)	M%	ASH%	GCY (Kcal/kg)	
1	TPS/U15414	14.07.2023	19.07.2023	25.07.2023		162004064		8.2	46.7	3042.98	7.1	47.3	3079	G15

Note:

- Sample collected as per PSA by CSIR-CIMFR
- Ash, Moisture (air-dried) as per ASTM D 7582-15
- Equilibrated Moisture (60% RH & 40°C) as per IS 1350 (Part-I), 1984 Reaffirmed 2019
- Gross calorific value (GCY; air-dried) as per ASTM D 5865-19
- None of the experiment is performed by external service provider
- This report should not be replicated or reproduced

Handwritten signature and date: 30.10.23

(Signature of Authorized Signatory)

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 CSIR-Central Institute Of Mining & Fuel Research
 Govt. Of India, Dhanbad
 P.O:- F.R.L., PIN-828108, Jharkhand

End of Report

TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)

UNLOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/UNI.D/OCT/23-24/15870 B

Name of Coal Company- MAHANADI COAL FIELDS LIMITED

Loading Area/Siding: LOMB

Name of Power Utility- NABINAGAR POWER GENERATION COMPANY

Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Rate/ MGR			Total Moisture %
			RR Quantity (MT)	RR No./ F. Note No.	R.R. Date	
1	TPS/U15814	14/07,2023		162004064		15.5

Notes:

- (i) Sample collected as per PSA by CSIR-CIMFR
(ii) Total Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019
(iii) None of the experiment is performed by external service provider
(iv) This report should not be replicated or reproduced

[Handwritten Signature]
30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O. - F.R.L., PIN-826108, Jharkhand

End of Report

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:**RQA-DC-U15414**

Method:

Dynamic

Mode:

Determination

Initial Temp:

29.5398

Jacket Temp:

29.9224

Weight:

0.6052

Fuse:

50.0000

Sulfur:

0.6500

Units Multiplier:

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Fri Oct 27 08:53:47 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

4.8273

Spike Weight:

0.4074

Acid:

8.0000

Gross Heat:**3042.98**

Units:

cal/g



TEST REPORT

Date of issue: 30.10.2023

LAB NAME: Coal Characterisation Lab. (RQA)
UNLOADING END ANALYSIS REPORT
Test Report No.- CIMFR/DHN/TPS/UNLD/OCT/23-24/15865 B
Name of Coal Company- NORTHERN COALFIELDS LIMITED
Loading Area/Siding: JNCS
Name of Power Utility- NABINAGAR POWER GENERATION COMPANY
Test Material: COAL

Sl. No.	Sample ID	Date of Sampling (Collection)	Railway Ekte MGB			Total Moisture %
			RK Quantity (Mt)	R.R.No./ F. Note No.	R.M. Date	
1	TPSc1/15406	13.07.2023		161000127		14.7

Note:

- (i) Sample collected as per FSA by CSIR-CIMFR
(ii) Total Moisture as per IS 1350 (Part-I, 1984 Reaffirmed 2019)
(iii) None of the experiment is performed by external service provider
(iv) This report should not be replicated or reproduced

Adh 30.10.23

(Signature of Authorized Signatory)

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CSIR-Central Institute Of Mining & Fuel Research
Govt. Of India, Dhanbad
P.O.- F.R.I., PIN-828108, Jharkhand

End of Report

Sample ID Selection

Filter By Run Status:

- ☐ Any Status
☐ Final & Preliminary
☒ Final Only
☐ Preliminary Only
☐ Prewrite Only

Note: Prewrite forces type to ANY

Filter By Run Type:

- ☐ Any Type
☒ Determination
☐ Standardization

Select Sample ID

N-201
 N-202
 N-203
 N-204
 N-205
 N-206
 N-207
 N-208

Sample ID:

Method:

Mode:

Initial Temp:

Jacket Temp:

Weight:

Fuse:

Sulfur:

Units Multiplier:

RQA-DC-U15406

Dynamic

Determination

29.7202

29.9826

0.8096

50.0000

0.5100

1

Instrument MAC:

00:60:0C:85:14:53

Date:

Thu Oct 26 20:20:32 2023

Type:

Final

Bomb ID:

1

EE Value:

928.599

Temp. Rise:

4.9310

Spike Weight:

0.2036

Acid:

8.0000

Gross Heat:**3983.64**

Units:

cal/g



SOURCE WISE COAL RAKE RECEIPT STATUS OF NTPC-NABINAGAR FOR FY 2023-24																						
	FSA (ACQ)		BCCL		CCL (FSA+Div-in)		ECL		Imported		MCL		NCL (Flexi+Div-in)		NTPC		SECL		THDC		Grand Total	
	FSA (ACQ)		BCCL		CCL		ECL		Imported		MCL		NCL		NTPC		SECL		THDC		Grand Total	
Month	FSA Qty (MT)	Rakes	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)	Rakes	Recvd. Qty (MT)
Apr-23	626692	157			106	400970			8	31545	13	48916	37	140237	48	189331					212	810998
May-23	648417	162			150	569283			9	35391	24	90706	43	163639	14	54613					240	913631
Jun-23	648417	162			99	379167	1	2810			26	99720	33	125092	42	163451					201	770241
Jul-23	570607	143			94	354625					26	99118	41	157378	45	174353					206	785473
Aug-23	570607	143			109	412253	1	3813			22	83073	34	124911	56	217554	8	31675			230	873279
Sep-23	570607	143			92	347869			2	8145	24	92559	33	123316	40	157154					191	729043
Oct-23	648417	162	4	15041	81	305240			9	35389	15	57962	49	185642	45	173623			1	3863	204	776761
Nov-23	648417	162	3	10767	89	331513			16	62655	36	136393	15	54287	50	197342			7	25567	216	818522
Dec-23	648417	162			106	405965			35	135633	21	78795	24	82181	22	87360			17	62481	225	852415
Jan-24	726227	182	2	7441	114	425590			32	125346	13	48941	22	77580	21	82548			21	77490	225	844936
Feb-24	726227	182	6	23322	85	319660			10	40193	23	85735	21	74334	2	7555			31	118604	178	669402
Mar-24	726227	182	21	80719	68	259400			18	72446	29	110114	20	72537	4	15486			25	94366	185	705069
Grand Total	7759275	1940	36	137290	1193	4511535	2	6623	139	546741	272	1032033	372	1381132	389	1520370	8	31675	102	382371	2513	9549770



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 20.06.2022

LOADING END ANALYSIS REPORT

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/SLCS/NTPC-IV/NABINAGAR/NBCC/0038/G-11	20-06-2022	07-07-2022	09-07-2022	4012.60	141000027	20-06-2022	5.8	46.5	3403.09	4.0	47.4	3468	G13

Test Report No.- CIMFR/RNC/TPS/SLCS/NBCC/JUN/2022/03
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding- Shilapoor (Amarpalli Area)

Power Utility- MTPC NBCC
Date of start of analysis- 20.07.2022
Product tested - Coal Sample

Date: 03-08-2022

Relative Humidity of laboratory: 53%
Temperature of laboratory: 26.4°C

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EM as per IS 1350 (Part-I), 1984 Reaffirmed 2013

(iii) Sulphur value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-13).

(iv) Name of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Signature)
(Dr. M. L. Bhowmik)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Test Report No.-CMFR/RNC/TPC/TPS/NBCC/NBCC/NAV/2022/JM
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Inletting BUCCU

Power Utility- NTPC-NBCC
Date of start of analysis -01.07.2022
Product tested - Coal Sample

Date:06-07-2022

Relative Humidity of laboratory:
Temperature of laboratory:
96%
25.5°C

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 25.05.2022 TO 31.05.2022

LOADING END ANALYSIS REPORT

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Nose No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/BUKRU/NTPC-IV/NABINAGAR/NBCC/0024/G-11	25-05-2022	16-06-2022	18-06-2022	3990.30	161000170	26-05-2022	7.4	35.0	4114.71	7.2	35.1	4124	G11
2	CCL/BUKRU/NTPC-IV/NABINAGAR/NBCC/0025/G-11	26-05-2022	16-06-2022	18-06-2022	3630.00	161000171	27-05-2022	7.3	35.1	4098.74	7.4	35.1	4094	G11
3	CCL/BUKRU/NTPC-IV/NABINAGAR/NBCC/0026/G-11	28-05-2022	16-06-2022	18-06-2022	4027.90	161000172	28-05-2022	7.3	35.1	4102.34	7.5	35.0	4093	G11
4	CCL/BUKRU/NTPC-IV/NABINAGAR/NBCC/0027/G-11	29-05-2022	16-06-2022	18-06-2022	4161.40	141000016	30-05-2022	7.3	35.0	4110.94	7.6	34.9	4098	G11
5	CCL/BUKRU/NTPC-IV/NABINAGAR/NBCC/0029/G-11	31-05-2022	16-06-2022	18-06-2022	4041.31	161000173	01-06-2022	6.6	38.4	3866.91	6.9	38.3	3854	G12

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per IS 8.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EM as per IS 1150 (Part-2) 1984 Reaffirmed 2013.
- Subsidiary value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4339-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Signature)
(Dr. M. L. Singh)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुल, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUL, RANCHI-834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 01.06.2022 TO 27.06.2022

LOADING END ANALYSIS REPORT

Test Report No. C/IMFR/MNC/NPC/NBCC/NBCC/JUN/2022/95
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Sorting: BUKRU

Power Utility: NTPC-NBCC
Date of start of analysis: 20.07.2022
Product tested: Coal Sample

Date: 26-07-2022

Relative Humidity of laboratory: 53%
Temperature of laboratory: 26.4°C

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Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equalibrated moisture basis (50% RH & 40 °C)				
				R.R. Quantity (Mt)	R.R.No./ f. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	Analysis Grade **	
1	CCL/BUKRU/NTPC-JV/NABINAGAR/NBCC/0030/G-11	01-06-2022	04-07-2022	09-07-2022	4096.60	161000174	02-06-2022	6.3	42.5	3502.66	6.7	42.3	3488	G13
2	CCL/BUKRU/NTPC-JV/NABINAGAR/NBCC/0031/G-11	02-06-2022	04-07-2022	09-07-2022	4025.50	161000175	03-06-2022	7.5	35.6	2995.59	7.8	35.5	3983	G12
3	CCL/BUKRU/NTPC-JV/NABINAGAR/NBCC/0033/G-11	04-06-2022	04-07-2022	09-07-2022	1894.00	161000176	05-06-2022	7.8	36.7	3841.00	7.5	36.6	3932	G12
4	CCL/BUKRU/NTPC-JV/NABINAGAR/NBCC/0034/G-11	11-06-2022	04-07-2022	09-07-2022	3816.20	161000178	12-06-2022	6.7	41.9	3553.98	6.4	42.2	3577	G13
5	CCL/BUKRU/NTPC-JV/NABINAGAR/NBCC/0043/G-11	18-06-2022	05-07-2022	09-07-2022	3823.00	161000179	18-06-2022	6.7	39.1	3734.84	6.4	39.2	3747	G12
6	CCL/BUKRU/NTPC-JV/NABINAGAR/NBCC/0046/G-11	21-06-2022	05-07-2022	09-07-2022	3810.00	161000180	22-06-2022	6.8	39.4	3795.71	6.4	39.6	3812	G12
7	CCL/BUKRU/NTPC-JV/NABINAGAR/NBCC/0050/G-11	26-06-2022	06-07-2022	09-07-2022	3899.80	161000181	27-06-2022	6.9	39.1	3774.20	6.7	39.2	3782	G12
8	CCL/BUKRU/NTPC-JV/NABINAGAR/NBCC/0051/G-11	27-06-2022	06-07-2022	09-07-2022	4166.40	161000182	28-06-2022	6.8	39.8	3735.75	6.6	39.9	3744	G12
* Customer Provided Information														

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** Grade as per the website of the Ministry of coal (www.coal.mca.gov.in/major-statistics/coal-grades)

Note: (i) Sample collected as per IS 8.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5885-13, EN 1550 (part-1) 1984 Issued/Revised 2013.

(iii) (a) (b) (c) (d) (e) (f) (g) (h) (i) (j) (k) (l) (m) (n) (o) (p) (q) (r) (s) (t) (u) (v) (w) (x) (y) (z) (aa) (ab) (ac) (ad) (ae) (af) (ag) (ah) (ai) (aj) (ak) (al) (am) (an) (ao) (ap) (aq) (ar) (as) (at) (au) (av) (aw) (ax) (ay) (az) (ba) (bb) (bc) (bd) (be) (bf) (bg) (bh) (bi) (bj) (bk) (bl) (bm) (bn) (bo) (bp) (bq) (br) (bs) (bt) (bu) (bv) (bw) (bx) (by) (bz) (ca) (cb) (cc) (cd) (ce) (cf) (cg) (ch) (ci) (cj) (ck) (cl) (cm) (cn) (co) (cp) (cq) (cr) (cs) (ct) (cu) (cv) (cw) (cx) (cy) (cz) (da) (db) (dc) (dd) (de) (df) (dg) (dh) (di) (dj) (dk) (dl) (dm) (dn) (do) (dp) (dq) (dr) (ds) (dt) (du) (dv) (dw) (dx) (dy) (dz) (ea) (eb) (ec) (ed) (ee) (ef) (eg) (eh) (ei) (ej) (ek) (el) (em) (en) (eo) (ep) (eq) (er) (es) (et) (eu) (ev) (ew) (ex) (ey) (ez) (fa) (fb) (fc) (fd) (fe) (ff) (fg) (fh) (fi) (fj) (fk) (fl) (fm) (fn) (fo) (fp) (fq) (fr) (fs) (ft) (fu) (fv) (fw) (fx) (fy) (fz) (ga) (gb) (gc) (gd) (ge) (gf) (gg) (gh) (gi) (gj) (gk) (gl) (gm) (gn) (go) (gp) (gq) (gr) (gs) (gt) (gu) (gv) (gw) (gx) (gy) (gz) (ha) (hb) (hc) (hd) (he) (hf) (hg) (hh) (hi) (hj) (hk) (hl) (hm) (hn) (ho) (hp) (hq) (hr) (hs) (ht) (hu) (hv) (hw) (hx) (hy) (hz) (ia) (ib) (ic) (id) (ie) (if) (ig) (ih) (ii) (ij) (ik) (il) (im) (in) (io) (ip) (iq) (ir) (is) (it) (iu) (iv) (iw) (ix) (iy) (iz) (ja) (jb) (jc) (jd) (je) (jf) (jg) (jh) (ji) (jj) (jk) (jl) (jm) (jn) (jo) (jp) (jq) (jr) (js) (jt) (ju) (jv) (jw) (jx) (jy) (jz) (ka) (kb) (kc) (kd) (ke) (kf) (kg) (kh) (ki) (kj) (kk) (kl) (km) (kn) (ko) (kp) (kq) (kr) (ks) (kt) (ku) (kv) (kw) (kx) (ky) (kz) (la) (lb) (lc) (ld) (le) (lf) (lg) (lh) (li) (lj) (lk) (ll) (lm) (ln) (lo) (lp) (lq) (lr) (ls) (lt) (lu) (lv) (lw) (lx) (ly) (lz) (ma) (mb) (mc) (md) (me) (mf) (mg) (mh) (mi) (mj) (mk) (ml) (mm) (mn) (mo) (mp) (mq) (mr) (ms) (mt) (mu) (mv) (mw) (mx) (my) (mz) (na) (nb) (nc) (nd) (ne) (nf) (ng) (nh) (ni) (nj) (nk) (nl) (nm) (nn) (no) (np) (nq) (nr) (ns) (nt) (nu) (nv) (nw) (nx) (ny) (nz) (oa) (ob) (oc) (od) (oe) (of) (og) (oh) (oi) (oj) (ok) (ol) (om) (on) (oo) (op) (oq) (or) (os) (ot) (ou) (ov) (ow) (ox) (oy) (oz) (pa) (pb) (pc) (pd) (pe) (pf) (pg) (ph) (pi) (pj) (pk) (pl) (pm) (pn) (po) (pp) (pq) (pr) (ps) (pt) (pu) (pv) (pw) (px) (py) (pz) (qa) (qb) (qc) (qd) (qe) (qf) (qg) (qh) (qi) (qj) (qk) (ql) (qm) (qn) (qo) (qp) (qq) (qr) (qs) (qt) (qu) (qv) (qw) (qx) (qy) (qz) (ra) (rb) (rc) (rd) (re) (rf) (rg) (rh) (ri) (rj) (rk) (rl) (rm) (rn) (ro) (rp) (rq) (rr) (rs) (rt) (ru) (rv) (rw) (rx) (ry) (rz) (sa) (sb) (sc) (sd) (se) (sf) (sg) (sh) (si) (sj) (sk) (sl) (sm) (sn) (so) (sp) (sq) (sr) (ss) (st) (su) (sv) (sw) (sx) (sy) (sz) (ta) (tb) (tc) (td) (te) (tf) (tg) (th) (ti) (tj) (tk) (tl) (tm) (tn) (to) (tp) (tq) (tr) (ts) (tt) (tu) (tv) (tw) (tx) (ty) (tz) (ua) (ub) (uc) (ud) (ue) (uf) (ug) (uh) (ui) (uj) (uk) (ul) (um) (un) (uo) (up) (uq) (ur) (us) (ut) (uu) (uv) (uw) (ux) (uy) (uz) (va) (vb) (vc) (vd) (ve) (vf) (vg) (vh) (vi) (vj) (vk) (vl) (vm) (vn) (vo) (vp) (vq) (vr) (vs) (vt) (vu) (vv) (vw) (vx) (vy) (vz) (wa) (wb) (wc) (wd) (we) (wf) (wg) (wh) (wi) (wj) (wk) (wl) (wm) (wn) (wo) (wp) (wq) (wr) (ws) (wt) (wu) (wv) (ww) (wx) (wy) (wz) (xa) (xb) (xc) (xd) (xe) (xf) (xg) (xh) (xi) (xj) (xk) (xl) (xm) (xn) (xo) (xp) (xq) (xr) (xs) (xt) (xu) (xv) (xw) (xx) (xy) (xz) (ya) (yb) (yc) (yd) (ye) (yf) (yg) (yh) (yi) (yj) (yk) (yl) (ym) (yn) (yo) (yp) (yq) (yr) (ys) (yt) (yu) (yv) (yw) (yx) (yy) (yz) (za) (zb) (zc) (zd) (ze) (zf) (zg) (zh) (zi) (zj) (zk) (zl) (zm) (zn) (zo) (zp) (zq) (zr) (zs) (zt) (zu) (zv) (zw) (zx) (zy) (zz)

(iv) The result related to the sample tested, respective part of the sample will be destroyed after three months.

1. Dr. M. J. Singh
(In-charge of the lab)
CIMFR, RANCHI

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 10.07.2022 TO 13.07.2022

LOADING END ANALYSIS REPORT

Date: 06-09-2022
Relative Humidity of laboratory: 63%
Temperature of laboratory: 27.2°C

Power Utility: NTPC NBCC
Date of start of analysis: 27.08.2022
Product tested: Coal Sample

Test Report No: CIMFR/RNC/TPC/SLCS/NBCC/JUL/2022/94
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Sliding: Shivpuri (Amarpalli Area)

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mts)	R.R. No. / F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/SLCS/NTPC-JV/NABINAGAR/NBCC/0040/G-12	10-07-2022	03-08-2022	08-08-2022	3968.60	161000310	10-07-2022	6.2	41.8	3803.56	5.7	42.0	3824	G12
2	CCL/SLCS/NTPC-JV/NABINAGAR/NBCC/0042/G-12	12-07-2022	03-08-2022	08-08-2022	3951.00	161000028	12-07-2022	6.4	41.7	3799.20	5.9	41.9	3819	G12
3	CCL/SLCS/NTPC-JV/NABINAGAR/NBCC/0043/G-12	13-07-2022	03-08-2022	08-08-2022	3983.20	161000311	13-07-2022	6.4	41.8	3772.44	5.6	42.2	3805	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per ISA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19. EM as per IS 1350 (Part-3): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4250-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. Madhu Jha)
(Authorized Signatory)
CSIR CIMFR, RANCHI



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अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 20.02.2023 TO 26.02.2023

LOADING END ANALYSIS REPORT

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Report No.-CIMFR/NMCC/TPC/SILCS/NBCC/JER/2023/07
Name of Coal Company- Central Coal Field Ltd
Loading Area/Staging Shipper (Berth/Port Area)

Power Utility- NTPC NBCC
Date of start of analysis- 11.05.2023
Product tested - Coal Sample

Relative Humidity of laboratory: 31%
Temperature of laboratory: 27.6°C

Date: 15-05-2023

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Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM %	ASH%	GCV (kcal/kg)	
1	CCL/SILCS/NTPC/JV/NABINAGAR/NBCC/0065/G-10	20-02-2023	16-03-2023	20-03-2023	3977.60	161000320	20-02-2023	3.7	39.2	4300.27	4.3	39.0	4273	G11
2	CCL/SILCS/NTPC/JV/NABINAGAR/NBCC/0066/G-12	21-02-2023	16-03-2023	20-03-2023	4046.12	161000321	21-02-2023	3.7	42.4	4020.61	3.7	42.4	4021	G11
3	CCL/SILCS/NTPC/JV/NABINAGAR/NBCC/0069/G-12	24-02-2023	16-03-2023	20-03-2023	4078.48	161000323	24-02-2023	3.7	41.6	4085.38	4.6	41.2	4047	G11
4	CCL/SILCS/NTPC/JV/NABINAGAR/NBCC/0070/G-11	25-02-2023	16-03-2023	20-03-2023	4041.40	161000324	25-02-2023	3.5	43.4	3956.23	4.0	43.2	3936	G12
5	CCL/SILCS/NTPC/JV/NABINAGAR/NBCC/0072/G-12	26-02-2023	16-03-2023	20-03-2023	3904.00	161000325	26-02-2023	3.6	42.8	4010.34	4.2	42.5	3985	G12

* Customer Provided information

** Grade as per the website of the Ministry of coal (www.coal.mn.n/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per ISA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-586-15, EM as per IS 1350 Part-I: 1984 (reaffirmed 2013)
- (iii) Moisture value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- (iv) More of the experiment is performed by external service provider.
- (v) This report should not be replicated or reproduced.
- (vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(D. M. K. Sahu)

(Authorized Signatory)

CSIR-CIMFR, RANCHI



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI-834010



TC-5897

Analytical results of coal samples collected by CSIR-CMFR (Third Party Sampling) during the period 22.02.2023 TO 04.03.2023

LOADING END ANALYSIS REPORT

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Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Sack/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)		Analysed Grade **
					R.R. Quantity (Mt)	R.R./No./F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/Kg)	M% ASH% (Kcal/Kg)	GCV (Kcal/Kg)	
1	CCU/SLCS/NTPC-IV/NABINAGAR/NBCC/0067/G-11	22-02-2023	16-03-2023	20-03-2023	4039.20	151000327	22-02-2023	3.6	42.6	4096.81	4.1	42.4	G11
2	CCU/SLCS/NTPC-IV/NABINAGAR/NBCC/0075/G-12	01-03-2023	01-04-2023	03-04-2023	4041.92	151000326	01-03-2023	1.9	44.9	3882.37	3.1	44.4	G12
3	CCU/SLCS/NTPC-IV/NABINAGAR/NBCC/0078/G-12	02-03-2023	01-04-2023	03-04-2023	4030.80	151000327	02-03-2023	2.0	45.5	3887.25	4.0	44.6	G12
4	CCU/SLCS/NTPC-IV/NABINAGAR/NBCC/0079/G-11	03-03-2023	01-04-2023	03-04-2023	3984.80	151000328	03-03-2023	2.0	37.6	4549.71	5.1	36.4	G10
5	CCU/SLCS/NTPC-IV/NABINAGAR/NBCC/0080/G-12	04-03-2023	01-04-2023	03-04-2023	4039.80	151000329	04-03-2023	2.1	45.2	3921.09	4.8	44.0	G12

** Grade as per the website of the Ministry of coal (www.coal.mn.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per ISA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, CV as per IS 1350 (Part-I) 1984 Reaffirmed 2013. (Subjective) value has been put in the bold column as determined in the laboratory following ASTM D 4239-181.
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CMFR, R.C. RANCHI

26/05/2023

END OF TEST REPORT

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सीएसआईआर केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 09.04.2022 to 13.04.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TFS/RUD/NBCC/APR/2022/03
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding-Rajdhar Sliding
Power Utility-NTPC-NBCC
Date of start of analysis -11.05.2022
Product tested - Coal Sample
Date:13-05-2022
Relative Humidity of laboratory: 54%
Temperature of laboratory: 26.7°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM%	ASH%	GCV (kcal/kg)	
1	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/0019/G-11	09-04-2022	15-04-2022	19-04-2022	3967.60	161000328	09-04-2022	2.8	41.8	3857.78	4.3	41.2	3798	G12
2	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/0023/G-11	11-04-2022	15-04-2022	19-04-2022	4125.45	161000329	11-04-2022	2.7	42.4	3800.69	5.6	41.1	3687	G13
3	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/0025/G-11	12-04-2022	17-04-2022	19-04-2022	4023.20	161000331	12-04-2022	2.2	54.9	2696.94	4.8	53.4	2625	G16
4	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/0026/G-11	12-04-2022	17-04-2022	19-04-2022	4113.30	161000332	12-04-2022	2.2	54.4	2809.24	4.8	53.0	2735	G16
5	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/0028/G-11	13-04-2022	17-04-2022	19-04-2022	4096.30	161000334	13-04-2022	2.7	42.2	3805.56	5.8	40.9	3684	G13

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Signature)
(Dr. Madhu Jha)
(Authorized Signatory)
CSIR-CIMFR, NC, RANCHI

END OF TEST REPORT

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सीएसआईआर केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NANKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 06.05.2022 TO 12.05.2022

LOADING END ANALYSIS REPORT

Date: 03-06-2022

Test Report No. CIMFR/RNCR/TPS/RID/NBCC/MAY/2022/10
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Sliding-Rajdhar Sliding

Power Utility: NTPC-NBCC
Date of start of analysis: 25.05.2022
Product Tested: Coal Sample

Relative Humidity of laboratory:
42%
Temperature of laboratory:
25.5°C

SL. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysis Grade
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MT%	ASH%	GCV (kcal/kg)	
1	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0086/G-11	06-05-2022	09-05-2022	14-05-2022	4097.90	161000365	06-05-2022	3.2	36.8	4292.04	6.0	35.7	4168	G11
2	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0087/G-11	06-05-2022	09-05-2022	14-05-2022	4090.60	141000039	06-05-2022	3.2	36.7	4377.33	6.1	35.6	4246	G11
3	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0088/G-11	07-05-2022	09-05-2022	14-05-2022	4039.18	161000366	07-05-2022	3.7	42.6	3820.50	6.0	41.6	3729	G12
4	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0090/G-11	07-05-2022	12-05-2022	14-05-2022	4055.60	161000367	07-05-2022	3.1	43.1	3813.85	4.6	42.4	3755	G12
5	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0092/G-11	08-05-2022	13-05-2022	14-05-2022	4089.83	161000368	08-05-2022	2.8	41.0	3947.99	4.8	40.2	3867	G12
6	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0093/G-11	08-05-2022	13-05-2022	14-05-2022	4093.20	161000369	08-05-2022	3.4	41.3	3875.12	4.8	40.7	3819	G12
7	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0097/G-11	10-05-2022	15-05-2022	16-05-2022	3976.00	161000373	10-05-2022	5.9	34.8	4202.89	8.3	33.9	4096	G11
8	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0101/G-11	12-05-2022	15-05-2022	16-05-2022	3973.70	161000374	12-05-2022	6.0	34.8	4207.60	6.9	34.5	4167	G11

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5862-18, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2015

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]

(Dr. M.R. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची पोस्ट-नामकुम, रांची -834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 01.06.2022 TO 05.06.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TPS/RID/NBCC/IUM/2022/15
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding- Rajdhar Siding

Power Utility-NTPC-NBCC
Date of start of analysis-20.06.2022
Product tested - Coal Sample

Date:-27-06-2022

Relative Humidity of laboratory:
Temperature of laboratory:

54%
27.1°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40°C)			Analysed Grade
					R.R. Quantity (Mts)	R.R.No / F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0144/G-11	01-06-2022	02-06-2022	04-06-2022	4008.86	161000394	01-06-2022	3.8	42.4	3781.21	6.6	41.2	3671	G13
2	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0146/G-11	02-06-2022	04-06-2022	08-06-2022	3939.30	141000043	02-06-2022	5.7	38.2	3949.52	6.2	38.0	3929	G12
3	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0149/G-11	03-06-2022	04-06-2022	08-06-2022	4077.70	161000395	03-06-2022	6.0	37.5	3988.24	6.2	37.4	3980	G12
4	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0150/G-11	04-06-2022	07-06-2022	08-06-2022	4104.64	161000396	04-06-2022	6.2	32.4	4441.46	6.6	32.3	4423	G10
5	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0152/G-9	05-06-2022	07-06-2022	08-06-2022	497.00	161000397	05-06-2022	6.7	30.0	4621.63	7.1	29.9	4602	G9
6	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0152/G-11	05-06-2022	07-06-2022	08-06-2022	3393.30	161000397	05-06-2022	6.4	33.8	4288.99	6.7	33.7	4275	G11

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EN as per IS 1350 (Part-I), 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

Signature
(Dr. M.L. Parida)
(Official Signature)
CSIR-CIMFR, RNC, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बनारस रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान

(Council of Scientific and Industrial Research)
Banars Road, Dhanbad - 826015, Jharkhand, India
An ISO 9001 Certified Institute



Date of issue : 05.05.2022

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/LD/MAY/22-23/0729 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding: SPUR-2,JNT
Name of Power Utility-NTPC,NABINAGAR(NTPC,VENDHYACHAL)
Duration of Performance of Analysis :28.04.2022 to 04.05.2022

Relative Humidity of laboratory(%): 56.0
Temperature of laboratory(°C): 24.6

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Sake/ MGR			Air-dried Sake			Equilibrated moisture Sake (60% RH & 40°C)			Analysed Grade
					ES Quantity (MT)	K.R.No./ E. Note No.	R.R. Date	Mt%	ASH%	GCV (Kcal/kg)	Mt%	ASH%	GCV (Kcal/kg)	
1	TPS/22753	01.04.2022	18.04.2022*	20.04.2022		002075		2.6	42.5	3975.66	5.9	41.1	3841	G12

N.B.-*Delay in sample preparation at loading site.

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

डॉ० अशोक कुमार सिंह / Dr. Ashok K. Singh
प्रमुख अनुसंधान समूह, रसायन एवं खनन विभाग / HORG, RQA Division & Project Leader
सी० एस० आई० आर०- केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
CSIR-Central Institute of Mining & Fuel Research
Govt. Of India, Dhanbad
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End of Report



सीएसआईआर-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची -834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAYKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CINFR (Third Party Sampling) during the period 04.07.2022 TO 12.07.2022

LOADING END ANALYSIS REPORT

Test Report No.-CINFR/NTPC/TPS/R10/NBCC/JUL/2022/22
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-Hajdhar Siding

Power Utility-NTPC-MBCC
Date of start of analysis -24.07.2022
Product loaded - Coal Sample

Date-04-08-2022

Relative Humidity of laboratory:
Temperature of laboratory:

55%
36.1 °C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/RID/NTPC-JV/N ^o /JIMNAGAR/NBCC/0180/G-8	04-07-2022	09-07-2022	13-07-2022	3979.50	161000405	04-07-2022	9.2	33.1	4103.58	8.8	33.2	4122	G11
2	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0187/G-9	11-07-2022	17-07-2022	18-07-2022	2615.80	141000444	11-07-2022	8.8	34.7	4049.93	6.7	35.5	4143	G11
3	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0187/G-11	11-07-2022	17-07-2022	18-07-2022	1371.80	141000444	11-07-2022	8.6	34.1	4100.33	7.5	34.5	4150	G11
4	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0189/G-9	12-07-2022	17-07-2022	18-07-2022	2631.11	161000406	12-07-2022	8.1	36.4	3961.96	6.9	36.9	4014	G11
5	CCL/RID/NTPC-JV/NABINAGAR/NBCC/0189/G-11	12-07-2022	17-07-2022	18-07-2022	1355.48	161000406	12-07-2022	8.2	33.9	4128.01	7.3	34.2	4168	G11

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19. Bk as per IS 1350 (Part-1): 1984 (Reaffirmed 2013)
- (H) Sulphur % value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4219-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
I Dr. Madhu Jha
(Authorized Signatory)
CSIR-CINFR, RANCHI

END OF TEST REPORT



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 05.05.2022 TO 08.05.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNLC/TIP/DAKRA/NBCC/MAV/2022/11
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-DAKRA Siding (MK Area)

Power Utility-NTPC-NABHAGAR
Date of start of analysis -25.05.2022
Product tested -Coal Sample

Date:09-06-2022

Relative Humidity of laboratory:
Temperature of laboratory:

42%
25.5°C

Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analytical Grade
				R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/DAKRA/NTPC-JV/NABHAGAR/NBCC/0032/G-12	05-05-2022	09-05-2022	420.28	151000430	06-05-2022	2.9	46.1	3496.03	4.8	45.2	3428	G13
2	CCL/DAKRA/NTPC-JV/NABHAGAR/NBCC/0036/G-11	08-05-2022	10-05-2022	1259.04	151000433	09-05-2022	3.8	34.1	4489.75	6.8	33.0	4350	G10

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nlc.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, DM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4359-15).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

M. K. Singh
(Dr. M. K. Singh)
(Analytical Laboratory)
CSIR-CIMFR, R. RANCHI

END OF TEST REPORT

PAGE 1 OF 1



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची -834010
CSIR- CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 09.04.2022 TO 12.04.2022

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/RNC/TPS/NCIM/NBCC/APM/2022/01
Name of Coal Company- Central Coal field Ltd.
Loading Area/Siding-BALLUMATH

Power Utility- NTPC-NBCC
Date of start of analysis -15.06.2022
Product tested - Coal Sample

Date:20-06-2022

Relative Humidity of laboratory:
Temperature of laboratory:

46%
26.6°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mts)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0008/G-11	09-04-2022	30-05-2022	01-06-2022	3973.20	1610000448	09-04-2022	4.8	39.0	4039.68	6.1	38.5	3985	G12
2	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0010/G-11	10-04-2022	30-05-2022	01-06-2022	3976.15	1610000449	10-04-2022	4.7	39.3	4043.40	6.1	38.7	3984	G12
3	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0012/G-11	11-04-2022	31-05-2022	01-06-2022	3979.00	1610000450	11-04-2022	5.3	32.5	4526.74	7.1	31.9	4441	G10
4	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0015/G-11	12-04-2022	31-05-2022	01-06-2022	4000.80	1610000452	12-04-2022	5.3	32.6	4528.29	7.5	31.8	4423	G10

* Customer Provided Information

** Grade as per the website of the Ministry of coal [www.coal.nic.in/major-statistics/coal-grades, www.csil.gov.in/major-statistics/coal-grades]

Note:

- Sample collected as per FSL.
- Testing Method followed - Ash & Moisture as per ASTM D-7502-13 & GCV as per ASTM D-5865-18. EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013 (Sulphur) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- Name of the experiment is performed by external service provider.
- This report should not be reprinted or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
(Dr. Madhu Jha)
(Authorized Signatory)
CSIR-CIMFR, RANCHI



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अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI-834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 20.09.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RMC/TTP/DABRA/NBCC/SEP/2022/25
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-DABRA Siding (NK Area)
Date: 25-10-2022
Relative Humidity of laboratory: 48%
Temperature of laboratory: 25.1°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM%	ASH% (kcal/kg)	GCV (kcal/kg)	
1	CCL/DABRA/NTPC-JV/NABINAGAR/NBCC/0143/G-11	20-09-2022	25-09-2022	25-09-2022	2206.60	151000463	20-09-2022	7.1	38.8	3896.76	6.2	39.2	3935	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per IS 5.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-585-19, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur value has been put in the blank calorimeter as determined in the laboratory following (ASTM D 4226-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
25/10/22

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI



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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 01.11.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RMC/TPS/RID/NBCC/NOV/2022/44
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-Tagdhar Siding

Power Utility-NTPC-NBCC

Date of start of analysis-06.12.2022

Product tested - Coal Sample

Date:10-12-2022

47%

22.4°C

SL No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM%	ASH%	GCV (kcal/kg)	
1	CCL/RID/NTPC-IV/NABINAGAR/NBCC/0346/G-11	01-11-2022	02-11-2022	05-11-2022	3935.00	161000468	01-11-2022	7.3	32.6	4279.59	7.8	32.4	4257	G11

* Customer Provided Information

** GCV as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note-

(i) Sample collected as per ISA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5885-19, BM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur (%) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-14).

(iv) Name of the expert is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 03.11.2022

LOADING END ANALYSIS REPORT

Date: 29-12-2022

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *		Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MT%	ASH%	GCV (kcal/kg)
1	CCU/DAKRA/NTPC-JV/NABINAGAR/NBCC/D169/G-11	03-11-2022	08-11-2022	10-11-2022	1826.60	161000471	03-11-2022	5.4	38.4	4020.85	5.2	38.5	4029

* Customer Provided information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5863-18, DM as per IS 1350 (Part-I), 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]

(Dr. M. K. Sami)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 06.12.2022 TO 16.12.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TPS/DAKRA/NBCC/DEC/2022/36
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-Dakshin Siding (N.K. Area)

Power Utility-NTPC-NABINAGAR
Date of start of analysis-01.02.2023
Product tested - Coal Sample

Date: 03-02-2023

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mts)	R.R. No./F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/kg)	M %	ASH %	GCV (Kcal/kg)	
1	CCL/DAKRA/NTPC-IV/NABINAGAR/NBCC/0185/G-7	06-12-2022	15-12-2022	19-12-2022	1760.10	161000476	06-12-2022	6.4	30.3	4458.07	8.0	29.8	4374	G10
2	CCL/DAKRA/NTPC-IV/NABINAGAR/NBCC/0186/G-11	06-12-2022	15-12-2022	19-12-2022	2317.61	161000476	06-12-2022	4.4	42.2	3767.16	5.8	41.6	3712	G12
3	CCL/DAKRA/NTPC-IV/NABINAGAR/NBCC/0191/G-11	16-12-2022	17-12-2022	19-12-2022	1876.15	161000478	17-12-2022	3.8	46.0	3496.03	4.9	45.5	3456	G13

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.ac.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per IS 5.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5865-19, GVM as per IS 1350 (Part-0), 1986 Reaffirmed 2013 (impulphysis) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iii) None of the experiment is performed by external service provider.

(iv) This report should not be replicated or reproduced.

(v) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
03/02/2023

(Dr. M.K. Saha)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 07.12.2022 TO 11.12.2022

LOADING END ANALYSIS REPORT

Date: 30-01-2023

Power Utility-MTPC/NBCC
Date of start of analysis - 27.01.2023
Product tested - Coal Sample

Test Report No.-CIMFR/RHC/TPS/RUD/NBCC/DREC/2022/46
Name of Coal Company - Central Coal Field Ltd.
Loading Area/Sliding Bajdhar Sliding

Relative Humidity of laboratory:
Temperature of laboratory:

57%
24.5°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40° C)			Analysed Grade **
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	MM %	ASH %	GCV (kcal/kg)	MM %	ASH %	GCV (kcal/kg)	
1	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/D358/G-11	07-12-2022	11-12-2022	14-12-2022	4074.60	161000483	07-12-2022	4.6	39.0	4029.81	5.9	38.9	3975	G12
2	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/D401/G-11	09-12-2022	11-12-2022	14-12-2022	4038.00	161000484	09-12-2022	5.1	39.3	3938.42	6.5	38.7	3876	G12
3	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/D402/G-11	10-12-2022	13-12-2022	14-12-2022	3954.40	161000485	10-12-2022	6.1	37.9	4032.45	7.9	37.2	3955	G12
4	CCL/RUD/NTPC-IV/NABINAGAR/NBCC/D404/G-11	11-12-2022	13-12-2022	14-12-2022	4006.40	161000486	11-12-2022	5.9	38.7	4000.82	8.0	37.8	3912	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades)

Note:

- Sample collected as per ISA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5852-20, DM as per IS 1350 (Part-2): 1984 Reaffirmed 2013 (Sulphur) value has been put in the bomb calorimeter as determined in the laboratory following ASTM D 4239-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result referred to the sample tested. Retain part of the sample will be destroyed after three months.

(Signature)

(Dr. M.K. Sami)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 15.12.2022

LOADING END ANALYSIS REPORT

Test Report No.-CMFR/NMCC/TPM/RID/NBCC/D&C/2022/49
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-Bajbar Siding

Power Utility-WTMC-NBCC
Date of start of analysis-01.02.2023
Product tested - Coal Sample

Date:03-02-2023

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40° C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM %	ASH %	GCV (kcal/kg)	
1	CCJ/RID/NTPC-IV/NABINAGAR/NBCC/0411/G-10	15-12-2022	16-12-2022	19-12-2022	676.80	161000487	15-12-2022	5.0	36.7	4189.11	8.7	35.3	4026	G11
2	CCJ/RID/NTPC-IV/NABINAGAR/NBCC/0411/G-11	15-12-2022	16-12-2022	19-12-2022	3278.60	161000487	15-12-2022	5.3	34.8	4356.12	8.8	33.1	4195	G11

**Grade as per the website of the Ministry of coal (www.coal.mca.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per ISA.

(ii) Taring Method followed - Ash & Moisture as per ASTM D-7502-15 & GCV as per ASTM D-5855-15, FM as per IS 1350 (Part-0): 1984 Reaffirmed 2013 (405) (part 0) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Retentive part of the sample will be destroyed after three months.

(Signature)
03/02/2023

(Dr. M.R. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 22.12.2022

LOADING END ANALYSIS REPORT

Date: 27-02-2023

Test Report No.-CIMFR/DMC/TPL/RUD/NBCC/196/C/2022/53
Name of Coal Company - Central Coal Field Ltd.
Loading Area/Siding - Bajpohar Siding

Power Utility-RTFC/NBCC
Date of start of analysis - 13.02.2023
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

33%
23.5°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rakhi/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MTS	ASH%	GCV (kcal/kg)	
1	CCL/RID/NTPC-IV/NABINAGAR/NBCC/0414/G-11	22-12-2022	24-12-2022	29-12-2022	3961.04	161000488	23-12-2022	4.4	38.6	4047.76	6.9	34.0	3980	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal [www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades]

Note:

(i) Sample collected as per ISA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-12 B, GCV as per ASTM D-5865-13, TM as per IS 1250 (Part-1): 1964 Reaffirmed 2013

(iii) Sulphur (%) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.S. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 31.01.2023

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/RNC/TPS/DARKA/NBCC/JAN/2023/45
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding/Darka Siding (N/A Area)

Power Utility-NTPC-NABINAGAR
Date of test of analysis-01.04.2023
Product tested - Coal Sample

Date: 06-04-2023

Relative Humidity of laboratory:
Temperature of laboratory:

49%
15.3°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/DARKA/NTPC-IV/NABINAGAR/NBCC/0223/G-11	31-01-2023	04-02-2023	08-02-2023	2184.20	161000495	31-01-2023	4.3	41.2	3886.56	4.5	41.1	3878	G12

* Customer Provided Information

**Grade as per the website of the Ministry of coal [www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades]

Note:

(i) Sample collected as per ISA.

(ii) Testing Method followed- Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-1865-15, EM as per IS 1350 (Part-0): 1984 Reaffirmed 2013

(iii) Sulphur(S) value has been put in the blank column as determined in the laboratory following ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

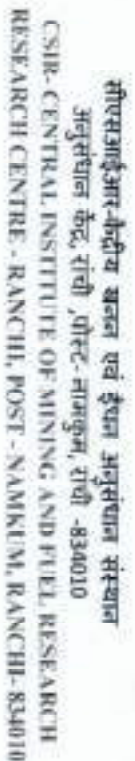
(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

06.04.23
(Dr. Anshu Jain)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



Analytical results of coal samples collected by CSR-CIMFR (Third Party Sampling) during the period 12.03.2023

LOADING END ANALYSIS REPORT

Date: 24-05-2023

Test Report No.: CMFR/08C/775/KID/08C/NAW/2021/64
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Setting: Kalyan Setting

Polymer: Lethy-APPC-ABEC
 Date of start of analysis: 11.05.2023
 Product tested: Eco! Sample

Temperature of laboratory:

37°C
20.4°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH%	GCV (kcal/kg)	
1	CCL/RID/NTPC-JV/NABINAGAR/NBCC/05/07/G-11	12-03-2023	18-03-2023	20-03-2023	702.54	151000519	13-03-2023	5.3	37.8	4038.20	7.1	37.1	3961	G12

* Customer Provided Information.

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Notes:

- Sample collected on per ISA.
- Testing Method followed - *Abi* Moisture as per ASTM D-7582-15, *GC* as per ASTM D-5855-13, *ENF* as per IS 1330 (Part-I): 1984 reaffirmed 2013. *Initial* *SP* value has been put in the blank calorimeter as determined in the laboratory following ASTM D 4239-16).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result returned to the sample tested, therefore part of the sample will be destroyed after three months.

(Dr. Mathias) (10)



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR [Third Party Sampling] during the period 19-06-2022 TO 03-07-2022

LOADING END ANALYSIS REPORT

Date 06-09-2022

Power Utility- NTPC-NBCC
Date of start of analysis 06/09/2022
Product tested - Coal Sample

Test Report No.-CIMFR/INL/TF5/BCDM/NBCC/JAN & JULY/2022/21
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Loading-BALLUMATH

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/BALLUMATH/NTPC-IV/NABINAGAR/NBCC/0173/G-11	19-06-2022	03-08-2022	08-08-2022	3285.13	161000535	20-06-2022	7.0	40.9	3753.12	5.2	41.7	3826	G12
2	CCL/BALLUMATH/NTPC-IV/NABINAGAR/NBCC/0174/G-11	20-06-2022	03-08-2022	08-08-2022	3583.93	161000551	20-06-2022	6.9	41.0	3701.45	5.4	41.7	3761	G12
3	CCL/BALLUMATH/NTPC-IV/NABINAGAR/NBCC/0185/G-11	24-06-2022	05-08-2022	08-08-2022	3952.80	161000541	25-06-2022	6.1	38.0	4123.21	5.7	38.2	4141	G11
4	CCL/BALLUMATH/NTPC-IV/NABINAGAR/NBCC/0280/G-12	03-07-2022	07-08-2022	08-08-2022	2181.80	161000549	04-07-2022	6.1	44.6	3504.95	5.7	44.8	3520	G13

* Customer Provided information

** Grade as per the website of the Ministry of coal www.coal.gov.in/major-statistics/coal-grades.

Note:

(i) Sample collected as per IS 1.

(ii) Testing Method followed - As per IS 1702-13 & GCV as per ASTM D-5885-19, DM as per IS 1700 Part (i) 1988 and differential RS 13.

(iii) (a) (b) (c) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) Name of the expert is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

211

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10/9/2022
(Dr. Madhu, Jt.)
(Authorized Signatory)
CSIR-CIMFR, RANCHI



TC-5897

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CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 21.06.2022 TO 03.07.2022

LOADING END ANALYSIS REPORT

Date: 31-08-2022

Power Utility - NTPC/NBCC
Date of start of analysis - 29.08.2022
Product tested - Coal Sample

Test Report No.-COMFR/INM/TPS/RCBM/NBCC/JUN & JUL /2022/18
Name of Coal Company- Central Coal Field Ltd
Loading Area/Ising-BALLUMATH

Relative Humidity of laboratory
Temperature of laboratory

66%
36.8°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0177/G-11	21-06-2022	04-08-2022	08-08-2022	4136.14	161000537	22-06-2022	5.9	38.3	3995.29	4.6	38.8	4050	G11
2	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0178/G-11	22-06-2022	04-08-2022	08-08-2022	4065.20	161000538	23-06-2022	6.0	38.5	3980.11	5.5	38.7	4001	G11
3	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0181/G-11	23-06-2022	04-08-2022	08-08-2022	4118.00	161000539	24-06-2022	6.3	44.0	3425.20	5.6	44.3	3452	G13
4	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0187/G-11	25-06-2022	05-08-2022	08-08-2022	3791.60	161000542	26-06-2022	6.0	38.1	4005.21	5.7	38.2	4019	G11
5	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0190/G-11	27-06-2022	07-08-2022	08-08-2022	3907.60	161000543	27-06-2022	7.0	40.8	3718.38	5.8	41.3	3766	G12
6	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0193/G-11	28-06-2022	07-08-2022	08-08-2022	1704.00	161000544	29-06-2022	7.1	40.7	3710.00	5.9	41.2	3758	G12
7	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0193/G-12	28-06-2022	07-08-2022	08-08-2022	2130.00	161000544	29-06-2022	6.1	41.6	3435.96	5.3	45.0	3465	G13
8	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0194/G-11	29-06-2022	07-08-2022	08-08-2022	1562.00	161000545	29-06-2022	6.9	40.8	3747.72	5.9	41.2	3788	G12
9	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0196/G-11	29-06-2022	07-08-2022	08-08-2022	2485.00	161000545	29-06-2022	6.1	44.7	3441.69	5.3	45.1	3471	G13
10	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0196/G-12	30-06-2022	07-08-2022	08-08-2022	3314.35	161000546	30-06-2022	6.8	41.4	3730.38	6.1	41.7	3758	G12
11	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0196/G-11	30-06-2022	07-08-2022	08-08-2022	666.91	161000546	30-06-2022	6.0	44.9	3446.67	5.4	45.2	3469	G13
12	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0198/G-11	01-07-2022	07-08-2022	08-08-2022	683.17	161000547	02-07-2022	6.9	41.3	3727.52	6.0	41.7	3764	G12
13	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0198/G-12	01-07-2022	07-08-2022	08-08-2022	2716.03	161000547	02-07-2022	6.1	44.7	3418.66	5.3	45.1	3468	G13
14	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0199/G-11	02-07-2022	07-08-2022	08-08-2022	1469.50	161000548	03-07-2022	6.8	41.3	3711.77	5.9	41.7	3748	G12
15	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0199/G-12	02-07-2022	07-08-2022	08-08-2022	2182.10	161000548	03-07-2022	5.9	45.0	3407.46	5.2	45.3	3433	G13
16	CC/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0200/G-11	03-07-2022	07-08-2022	08-08-2022	1572.40	161000549	04-07-2022	6.9	41.3	3694.08	6.1	41.7	3726	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

Note:

(i) Sample collected as per IS 4.

(ii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(iii) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(iv) None of the equipment is performed by external service provider.

(v) This report should not be regarded as a recommendation.

(vi) The company is not liable for any error or omission in the report.

(vii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(viii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(ix) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(x) None of the equipment is performed by external service provider.

(xi) This report should not be regarded as a recommendation.

(xii) The company is not liable for any error or omission in the report.

(xiii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xiv) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xv) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xvi) None of the equipment is performed by external service provider.

(xvii) This report should not be regarded as a recommendation.

(xviii) The company is not liable for any error or omission in the report.

(xix) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xx) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xxi) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xxii) None of the equipment is performed by external service provider.

(xxiii) This report should not be regarded as a recommendation.

(xxiv) The company is not liable for any error or omission in the report.

(xxv) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xxvi) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xxvii) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xxviii) None of the equipment is performed by external service provider.

(xxix) This report should not be regarded as a recommendation.

(xxx) The company is not liable for any error or omission in the report.

(xxxi) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xxxii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xxxiii) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xxxiv) None of the equipment is performed by external service provider.

(xxxv) This report should not be regarded as a recommendation.

(xxxvi) The company is not liable for any error or omission in the report.

(xxxvii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xxxviii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xxxix) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xxx) None of the equipment is performed by external service provider.

(xl) This report should not be regarded as a recommendation.

(xli) The company is not liable for any error or omission in the report.

(xlii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xliii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xliv) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xlv) None of the equipment is performed by external service provider.

(xlvi) This report should not be regarded as a recommendation.

(xlvii) The company is not liable for any error or omission in the report.

(xlviii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xlviii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xlv) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xli) None of the equipment is performed by external service provider.

(xlii) This report should not be regarded as a recommendation.

(xliii) The company is not liable for any error or omission in the report.

(xliv) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xlv) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xli) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

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(xliii) This report should not be regarded as a recommendation.

(xliv) The company is not liable for any error or omission in the report.

(xlv) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xlv) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xli) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

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(xliii) This report should not be regarded as a recommendation.

(xlvi) The company is not liable for any error or omission in the report.

(xlvii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xlvii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xli) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xlii) None of the equipment is performed by external service provider.

(xliii) This report should not be regarded as a recommendation.

(xlviii) The company is not liable for any error or omission in the report.

(xlviii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xlviii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xli) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xlii) None of the equipment is performed by external service provider.

(xliii) This report should not be regarded as a recommendation.

(xlix) The company is not liable for any error or omission in the report.

(xlix) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(xlix) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(xli) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(xlii) None of the equipment is performed by external service provider.

(xliii) This report should not be regarded as a recommendation.

(l) The company is not liable for any error or omission in the report.

(l) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(l) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(l) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(l) None of the equipment is performed by external service provider.

(l) This report should not be regarded as a recommendation.

(li) The company is not liable for any error or omission in the report.

(li) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(li) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(l) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

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(li) This report should not be regarded as a recommendation.

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(lii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(lii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(l) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(l) None of the equipment is performed by external service provider.

(lii) This report should not be regarded as a recommendation.

(liii) The company is not liable for any error or omission in the report.

(liii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(liii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(l) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(l) None of the equipment is performed by external service provider.

(lii) This report should not be regarded as a recommendation.

(liiii) The company is not liable for any error or omission in the report.

(liiii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(liiii) Testing Method followed: Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5890-15, BW as per IS-1350 (Part-1): 2004 Reaffirmed 2013

(l) Sulfur content has been set in the Sulfur calorimeter as determined in the laboratory following IS 718 (13 4239-15)

(l) None of the equipment is performed by external service provider.

(lii) This report should not be regarded as a recommendation.

(liiii) The company is not liable for any error or omission in the report.

(liiii) Grade as per the website of the Ministry of coal <http://coal.mca.gov.in/major-statistics/coal-grades>, www.coal.gov.in/major-statistics/coal-grades

(liiii) Testing Method followed: Ash & Moisture as per ASTM D-7922-1



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CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 01.08.2022 TO 08.08.2022

LOADING END ANALYSIS REPORT

Date 19-10-2022

Test Report No- CIMFR/RNC/TPC/NBCC/NBCC/AUG/2022/29
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-BALUMATH

Power Utility- NTPC-NBCC
Date of start of analysis- 11.10.2022
Product tested - Coal Sample

Relative Humidity of laboratory
Temperature of laboratory

50%
34.5°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Bkg/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analyzed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CC/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0279/G-11	01-08-2022	10-09-2022	15-09-2022	3935.38	161000577	02-08-2022	7.4	40.1	3684.53	6.5	40.5	3720	G12
2	CC/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0281/G-11	02-08-2022	10-09-2022	15-09-2022	4047.80	161000578	02-08-2022	7.5	39.9	3697.70	6.6	40.3	3734	G12
3	CC/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0283/G-11	03-08-2022	10-09-2022	15-09-2022	4025.79	161000579	03-08-2022	7.8	39.1	3744.93	6.6	39.6	3794	G12
4	CC/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0290/G-11	05-08-2022	11-09-2022	15-09-2022	3943.60	161000581	05-08-2022	7.7	39.4	3702.42	6.7	39.8	3743	G12
5	CC/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0294/G-11	06-08-2022	11-09-2022	15-09-2022	4032.34	161000582	06-08-2022	9.1	35.6	4057.01	7.2	36.3	4142	G11
6	CC/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0296/G-11	07-08-2022	14-09-2022	15-09-2022	4015.00	161000584	07-08-2022	7.8	34.1	4204.42	6.9	34.4	4245	G11
7	CC/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0300/G-11	08-08-2022	14-09-2022	15-09-2022	4010.10	161000585	08-08-2022	6.8	34.4	4202.12	6.6	34.5	4211	G11

* Customer Provided Information

**Grade as per the website of the Ministry of coal www.coal.gov.in/major-statistics/coal-grades

Note:

1) Sample collected as per IS 3.

2) Testing Method followed - Ash & Moisture as per ASTM D-7582-05 & GCV as per ASTM D-5865-18. BM as per IS 1556 (Part II): 1984 Reaffirmed 2013

3) Sulphur value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4239-13).

4) None of the experiment is performed by external service provider.

5) This report should not be replicated or reproduced.

6) The result related to the sample tested, as a part of the sample will be destroyed after three months.

[Signature]
19/10/22

(Dr. M.K. Saha)
(Authorized Signatory)
CSIR-COERS, NC, Ranchi



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची पोस्ट-नामकुम, रांची - 834010
CSIR- CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 09.09.2022 TO 12.09.2022

LOADING END ANALYSIS REPORT

Date: 25-11-2022

Test Report No.- CIMFR/RNC/TTPS/OCBM/NBCC/S&P/2022/36
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding-BALUMATH

Power Utility- NTPC-NBCC
Date of start of analysis - 28.11.2022
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

41%
24.2°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH%	GCV (kcal/kg)	
1	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0362/G-12	09-09-2022	09-10-2022	14-10-2022	4045.30	161000596	09-09-2022	6.7	33.4	4377.52	8.1	32.9	4312	G10
2	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0370/G-12	12-09-2022	11-10-2022	14-10-2022	4053.10	161000600	13-09-2022	5.6	41.2	3807.76	7.0	40.6	3751	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013.
- Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची -834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 07.10.2022 TO 10.10.2022

LOADING END ANALYSIS REPORT

Date: 24-11-2022

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MT%	ASH%	GCV (kcal/kg)	
1	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0396/G-11	07-10-2022	18-10-2022	20-10-2022	1948.00	161000608	07-10-2022	5.4	33.2	4462.80	7.1	32.6	4383	G10
2	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0396/G-12	07-10-2022	18-10-2022	20-10-2022	2098.80	161000608	07-10-2022	4.5	40.3	3914.18	6.3	39.5	3840	G12
3	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0397/G-11	10-10-2022	18-10-2022	20-10-2022	2664.44	161000609	10-10-2022	5.1	33.6	4450.12	7.1	32.9	4356	G10
4	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0397/G-12	10-10-2022	18-10-2022	20-10-2022	1368.26	161000609	10-10-2022	4.5	40.0	3918.95	6.1	39.3	3853	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013.
- (Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Signature)
24/11/22

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची -834010

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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR [Third Party Sampling] during the period 17.11.2022 TO 29.11.2022

LOADING END ANALYSIS REPORT

Date: 18-01-2023

Test Report No.-CIMFR/BMC/TPS/NCMA/NBCC/NCM/2022/47
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Subing-BALUMATHI

Power Utility- NTPC-NBCC

Date of start of analysis- 28.12.2022

Product tested- Coal Sample

37%

Relative Humidity of laboratory:

Temperature of laboratory:

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/Vehicle *			Air-dried basis			Equilibrated moisture basis (60% RH & 40° C)			Analysed Grade **
					R.R. Quantity (MT)	R.R.No / F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/Kg)	M %	ASH %	GCV (Kcal/Kg)	
1	CCL/BALUMATHI/NTPC-JV/NABINAGAR/NBCC/0453/G-11	17-11-2022	20-11-2022	22-11-2022	4063.90	161000633	17-11-2022	3.7	46.3	3476.55	5.9	45.2	3397	G14
2	CCL/BALUMATHI/NTPC-JV/NABINAGAR/NBCC/0462/G-11	23-11-2022	30-11-2022	05-12-2022	3968.25	161000637	27-11-2022	6.2	38.1	3944.43	6.5	38.0	3932	G12
3	CCL/BALUMATHI/NTPC-JV/NABINAGAR/NBCC/0463/G-11	24-11-2022	30-11-2022	05-12-2022	4062.30	161000638	25-11-2022	6.1	38.0	3982.60	6.6	37.8	3961	G12
4	CCL/BALUMATHI/NTPC-JV/NABINAGAR/NBCC/0464/G-11	25-11-2022	30-11-2022	05-12-2022	4061.90	161000639	26-11-2022	6.3	39.0	3868.33	6.6	38.3	3856	G12
5	CCL/BALUMATHI/NTPC-JV/NABINAGAR/NBCC/0465/G-11	27-11-2022	30-11-2022	05-12-2022	4118.00	161000640	27-11-2022	6.1	38.6	3945.01	6.5	38.4	3928	G12
6	CCL/BALUMATHI/NTPC-JV/NABINAGAR/NBCC/0467/G-11	29-11-2022	30-11-2022	05-12-2022	4118.00	161000642	30-11-2022	5.8	38.2	3982.17	6.8	37.8	3910	G12

* Customer Provided Information

** GCV as per the analysis of the Moisture of coal (www.cimfr.co.in/tpsr-stations/tpsr-grades, www.cimfr.co.in/sample-stations/tpsr-grades)

Note:

(i) Sample collected as per TSA.

(ii) Tracing Method followed - Ash & Moisture as per ASTM D 7432-11 & GCV as per ASTM D 3852-13, D22 as per D 1350 (Part II): 1952 Reaffirmed 2013

(iii) Accuracy value has been put in the length column as prescribed in the laboratory following ASTM D 429-18.

(iv) Name of the instrument is performed by external service provider.

(v) This report should not be exploited or reproduced.

(vi) The result related to the sample tested. Retain part of the sample will be destroyed after three months.

[Signature]
18/01/2023

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, NC, Ranchi

END OF TEST REPORT



श्रीपराशर आर.सी.एच. खान एवं कंपनी लिमिटेड
अनुसंधान केंद्र, राँची, झारखंड - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 29.12.2022 AND 30.12.2022

LOADING END ANALYSIS REPORT

Date 22.02.2023

Test Report No.-CIMFR/NCCT/58/COM/NCCL/DC/2022/51
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding-BALUMATH

Power Utility- NTPC-NCCL
Date of start of analysis- 23.02.2023
Product involved - Coal Sample

Relative Humidity of laboratory: 52%
Temperature of laboratory: 24.3°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40° C)		Analysed Grade **	
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%		GCV (kcal/kg)
1	CCL/BALUMATH/NTPC-JV/NABINAGAR/NCCL/0502/G-11	29-12-2022	31-12-2022	04-01-2023	4061.00	161000659	29-12-2022	4.2	39.8	3947.81	6.9	38.7	3837	G12
2	CCL/BALUMATH/NTPC-JV/NABINAGAR/NCCL/0503/G-11	29-12-2022	31-12-2022	04-01-2023	4075.13	161000660	29-12-2022	4.1	40.6	3886.94	6.1	39.8	3896	G12
3	CCL/BALUMATH/NTPC-JV/NABINAGAR/NCCL/0504/G-11	29-12-2022	31-12-2022	04-01-2023	4064.56	161000661	30-12-2022	4.1	40.2	3905.52	6.4	39.2	3812	G12
4	CCL/BALUMATH/NTPC-JV/NABINAGAR/NCCL/0505/G-11	30-12-2022	31-12-2022	04-01-2023	4090.20	161000664	30-12-2022	4.2	40.6	3850.49	6.4	39.7	3762	G12

* Customer Provided Information

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.ncl.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 B, GCV as per ASTM D-5885-15, FM as per IS 1350 (Part-I): 1984 Reaffirmed 2013 (GCV/ash) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4229-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saha)
[Authorized Signatory]
CSIR-CIMFR, NC, RANCHI

22.02.2023



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 07.01.2023 TO 10.01.2023

LOADING END ANALYSIS REPORT

Date: 03-03-2023

Test Report No. - CMFR/BNC/TTPC/NBCAM/NBCC/JMN/2023/53
Name of Coal Company - Central Coal Field Ltd.
Loading Area/Sliding BALUMATHI

Power Utility - NTPC-ABCC
Date of start of analysis - 28.02.2023
Product Unit - Coal Sample

Relative Humidity of Laboratory: 39%
Temperature of Laboratory: 28.2°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/Weight *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/Kg)	M %	ASH %	GCV (Kcal/Kg)	
1	CCL/BALUMATHI/NTPC-IV/NABIRAGAN/NBCC/0518/G-11	07-01-2023	11-01-2023	14-01-2023	4070.57	1610000666	07-01-2023	3.7	48.5	3170.89	5.4	47.6	3115	G14
2	CCL/BALUMATHI/NTPC-IV/NABIRAGAN/NBCC/0521/G-11	10-01-2023	11-01-2023	14-01-2023	4115.40	1610000668	10-01-2023	3.6	39.5	4080.50	6.2	38.4	3971	G12
3	CCL/BALUMATHI/NTPC-IV/NABIRAGAN/NBCC/0522/G-11	10-01-2023	11-01-2023	14-01-2023	4033.60	1610000669	10-01-2023	3.6	39.6	4070.35	6.4	38.4	3952	G12

* Customer Provided Information
** Grade as per the website of the Ministry of coal (www.coal.ncl.nic.in/major-statistics/coal-grades, [www.coal.gov.in/major-statistics/coal-grades](http://coal.gov.in/major-statistics/coal-grades))

NOTE:

- Sample collected as per IS 5.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-13, IS4 as per IS 1350 (Part II): 1984 Reaffirmed 2013.
- Subsidiary value has been put in the burnt calorimeter as determined in the laboratory following IS 4776 D 4238-18.
- Name of the expert is performed by external service provider.
- This report should not be replicated or reproduced.
- This report is valid for the sample period. Residue part of the sample will be destroyed after three months.

(Dr. M. K. Saha)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI

03/03/2023



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 08.01.2023 TO 18.01.2023

LOADING END ANALYSIS REPORT

Test Report No.- CMFR/NBC/TSP/BCRM/NBCC/JAN/2023/54
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding No. UMATH

Power Utility- NTPC-NBCC
Date of start of analysis- 03.01.2023
Product tested - Coal Sample

Date: 17-03-2023

Relative Humidity of laboratory: 36%
Temperature of laboratory: 26.3°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried Basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mtd)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MT%	ASH%	GCV (kcal/kg)	
1	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0520/G-11	08-01-2023	11-01-2023	14-01-2023	4068.41	161000667	09-01-2023	3.7	48.8	3178.84	5.4	47.9	3173	G14
2	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0523/G-11	14-01-2023	16-01-2023	20-01-2023	4061.00	161000670	14-01-2023	3.8	45.6	3550.17	5.2	44.9	3499	G13
3	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0526/G-12	15-01-2023	16-01-2023	20-01-2023	4035.86	161000671	16-01-2023	3.9	48.1	3335.97	5.5	47.3	3280	G14
4	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0528/G-11	16-01-2023	20-01-2023	24-01-2023	4038.80	161000672	16-01-2023	4.1	40.3	3965.26	6.3	39.4	3874	G12
5	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0529/G-11	17-01-2023	20-01-2023	24-01-2023	4044.60	161000673	17-01-2023	4.3	40.6	3901.21	6.3	39.8	3820	G12
6	CCL/BALUMATH/NTPC-IV/NABINAGAR/NBCC/0530/G-11	18-01-2023	20-01-2023	24-01-2023	3905.50	161000674	18-01-2023	4.2	40.3	3948.92	5.8	39.6	3883	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per F.S.A.
- Testing Method followed: Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-25, EM as per T-1150 (Part I): 1984 (Reaffirmed 2011)
- (Sulphur) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239 18).
- Note of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M. K. Sahi)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

17/03/2023

END OF TEST REPORT

PAGE 1 OF 1



TC-5897

सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 23.01.2023

LOADING END ANALYSIS REPORT

Date: 05-04-2023

Test Report No. CIMFR/RNC/TTPS/PCBM/NBCC/JAM/2023/56
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-BALUMATH

Power Utility- NTPC-NBCC
Date of start of analysis -02-04-2023
Product tested - Coal Sample

Relative Humidity of laboratory: 43%
Temperature of laboratory: 25.2°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/BALUMATH/NTPC-JV/NABIMAGAR/NBCC/0539/G-11	23-01-2023	02-02-2023	08-02-2023	3970.00	161000681	23-01-2023	4.2	39.8	4021.55	5.3	39.3	3976	G12

* Customer Provided information

**Grade as per the website of the Ministry of coal (www.coal.gov.in/major-statistics/coal-grades).

Note:

(i) Sample collected as per FMA.

(ii) Testing method followed - Ash & Moisture as per ASTM D-588-15 & GCV as per ASTM D-588-15. IM as per IS 1209 Part-I: 1988 Reaffirmed 2015.

(iii) Sulphur (S) value has been put in the bomb calorimeter as determined in the laboratory following ASTM D 4239-04.

(iv) Name of the expert is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Residue part of the sample will be destroyed after three months.

17/04/23
05

(To: Madhu Shri)
(Authorized Signatory)
CSIR-CIMFR, RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR [Third Party Sampling] during the period 06.02.2023 TO 09.02.2023

LOADING END ANALYSIS REPORT

Test Report No.-CMFR/04C/TPS/BCIM/NBCC/PM/2023/57
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding BALUMATH

Power Utility- NTPC-NBCC

Date of start of analysis - 11.04.2023
Product tested - Coal Sample

Date: 17-04-2023

Relative humidity of laboratory:
Temperature of laboratory:

48%
25.1°C

SL. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0546/G-11	06-02-2023	13-02-2023	16-02-2023	2220.80	161000682	06-02-2023	3.9	47.2	3334.16	6.4	46.9	3247	G14
2	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0546/G-12	06-02-2023	13-02-2023	16-02-2023	1730.80	161000682	06-02-2023	4.0	43.2	3664.97	6.9	41.9	3554	G13
3	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0548/G-11	07-02-2023	14-02-2023	16-02-2023	4055.90	161000683	07-02-2023	4.2	37.2	4181.30	7.4	36.0	4042	G11
4	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0551/G-11	08-02-2023	15-02-2023	16-02-2023	4057.10	161000684	09-02-2023	4.4	38.0	4111.17	6.7	37.1	4012	G11
5	CCL/BALUMATH/NTPC-JV/NABINAGAR/NBCC/0552/G-11	09-02-2023	15-02-2023	16-02-2023	4058.10	161000685	10-02-2023	4.2	39.6	3958.34	6.5	38.6	3863	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per ISA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5890-15, IM as per IS 1250 (Part II): 1984 Reaffirmed 2018 (ISO equivalent) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-16).

(iii) Name of the experiment is performed by external service provider.

(iv) This report should not be replicated or reproduced.

(v) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

12/10/2023

(Dr. M.K. Saha)
(Authorized Signatory)
CSIR-CIMFR, RC, Ranchi

END OF TEST REPORT

PAGE 1 OF 1



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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI-834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMR (Third Party Sampling) during the period 15.02.2023 TO 17.02.2023

LOADING END ANALYSIS REPORT

Date: 24-04-2023

Test Report No.-CIMR/ROC/TPS/RCRM/NBCC/RSR/2023/98
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Shipping-BALUMATHI

Power Utility- NTPC/NBCC
Date of start of analysis- 20.04.2023
Product Intend - Coal Sample

Relative Humidity of Laboratory 34%
Temperature of Laboratory 25.5°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGt *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. Mo./F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM %	ASH% (kcal/kg)	GCV (kcal/kg)	
1	CCL/BALUMATHI/NTPC-V/NAMINAGAR/NBCC/0558/G-12	15-02-2023	21-02-2023	24-02-2023	3884.70	1610000686	16-02-2023	3.2	38.7	4197.00	6.9	37.2	4037	G11
2	CCL/BALUMATHI/NTPC-V/NAMINAGAR/NBCC/0559/G-12	17-02-2023	21-02-2023	24-02-2023	4087.29	1610000687	17-02-2023	3.0	39.5	4143.75	6.8	38.0	3981	G12

* Grade as per the website of coal (<http://www.coal.gov.in/major-statistics/coal-grade>)
Note

- (i) Sample collected as per ISA.
(ii) Testing Method followed- Ash & Moisture as per ASTM D-3175 & 3176 as per ASTM D-3175 & 3176 as per IS 13504 (Part II-1984) Resubmitted 2013.
(iii) Ash value has been put in the bomb calorimeter as determined in the laboratory following IS 13504 (Part II-1984).
(iv) Name of the equipment is performed by internal vendor.
(v) This report should not be replicated or reproduced.
(vi) The results related to the sample tested. Reserve part of the sample will be deployed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMR, RANCHI

24/04/2023



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची-834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 06.03.2023.

LOADING END ANALYSIS REPORT

Date: 15-05-2023

Test Report No. C/BAIR/SHC/TPC/NC/BA/MB/C/MAA/2023/06
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Loading: BALUMATHI

Power Utility: NTPC-BAIRC
Date of start of analysis: 11.05.2023
Product tested: Coal Sample

Relative Humidity of laboratory: 31%
Temperature of laboratory: 27.4°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ f. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM% ASH%	GCV (kcal/kg)		
1	CCL/BA/UMATH/NTPC-V/MB/INAGAR/MBCC/0566/5-11	06-03-2023	13-03-2023	20-03-2023	4023.20	15/1000688	06-03-2023	3.2	36.2	4375.49	5.6	35.3	4267	G11
2	CCL/BA/UMATH/NTPC-V/MB/INAGAR/MBCC/0579/5-11	06-03-2023	13-03-2023	20-03-2023	3958.70	16/1000689	06-03-2023	3.4	35.5	4405.72	5.5	34.7	4310	G10

* Customer provided information
** Grade as per the website of the Ministry of coal www.coal.gov.in/major-statistics/coal-grades

Note:

- Sample collected as per TPA.
- Testing Method followed: Ash & Moisture as per ASTM D-792-15 & GCV as per ASTM D-3805-15, EN as per ISO 9106 Part-1: 2004 Reapproved 2013.
- Proximate (H) value has been put as the basis laboratory as determined in the laboratory following ASTM D 4239-18.
- Moisture of the experiment is performed by external service provider.
- This report should not be replicated or misinterpreted.
- The report related to the sample period, reserve part of the sample will be destroyed after three months.

(Dr. M.C. Sami)
(Analyst and Signatory)
CSIR-CIMFR, RANCHI

15/05/2023

END OF TEST REPORT

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सीएसआईआर केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 14.03.2023 TO 16.03.2023.

LOADING END ANALYSIS REPORT

Date: 23-05-2023

Test Report No.: (MFR)/NRC/TPS/NCIM/NRC/MAF/2023/46
Name of Coal Company: Central Coal Field Ltd.
Loading From/Storage: BALUMATHI

Power Utility: BTPC-NBCC
Date of start of analysis: 20.03.2023
Product tested: Coal Sample

Moisture Humidity of laboratory:
Temperature of laboratory:

30%
27.2°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./F. Note No.	R.R. Date	Mo %	ASH %	GCV (Kcal/Kg)	Mo %	ASH%	GCV (Kcal/Kg)	
1	CC/BALUMATHI/NTPC JV/NABINAGAR/NBCC/0579/G-11	14-03-2023	27-03-2023	31-03-2023	3802.12	161000653	14-03-2023	2.3	36.2	4453.04	6.2	34.8	4275	G11
2	CC/BALUMATHI/NTPC JV/NABINAGAR/NBCC/0580/G-11	16-03-2023	27-03-2023	31-03-2023	4048.60	161000694	16-03-2023	2.4	39.1	4142.84	6.8	37.3	3956	G12
3	CC/BALUMATHI/NTPC JV/NABINAGAR/NBCC/0581/G-11	16-03-2023	27-03-2023	31-03-2023	3909.50	161000695	16-03-2023	2.5	40.0	4061.44	6.9	38.5	3914	G12

** Grade as per the website of the Ministry of coal [www.coal.mca.gov.in/major-statistics/coal-grades]

Note:

(i) Sample collected as per IS 8.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-750-15 & GCV as per ASTM D-5865-15, EN as per IS 1350 (Part-4): 1984 Reaffirmed 2013

(iii) Ash value has been put in the bomb calorimeter as determined by the laboratory following (ASPM D 4218-18).

(iv) Slope of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Sd/-, Authorised Signatory)
CSIR-CIMFR, NC, RANCHI

23-05-23



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 15.04.2022 to 18.04.2022

LOADING END ANALYSIS REPORT

Date: 24-05-2022

Test Report No.-CIMFR/RNC/TFS/KDH/NBCC/APR/2022/02
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding-KDH (N&A Axis)

Power Utility-MTPC-NBCC
Date of start of analysis-09.05.2022
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

47%
27.3°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis [60% RH & 40°C]			Analytical Grade
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0007/G-13	15-04-2022	18-04-2022	23-04-2022	1549.46	161000779	15-04-2022	4.2	41.5	3854.96	5.9	40.8	3787	G12
2	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0009/G-11	18-04-2022	19-04-2022	23-04-2022	2615.41	161000780	18-04-2022	3.9	37.6	4192.94	5.2	37.1	4136	G11
3	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0009/G-12	18-04-2022	19-04-2022	23-04-2022	651.20	161000780	18-04-2022	4.5	39.1	3949.35	6.4	38.3	3871	G12
4	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0009/G-13	18-04-2022	19-04-2022	23-04-2022	628.88	161000780	18-04-2022	3.9	44.5	3597.09	5.0	44.0	3556	G13

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013
- Proximate value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RNC, RANCHI

END OF TEST REPORT

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 04.05.2022

LOADING END ANALYSIS REPORT

Date: 31-05-2022

Test Report No.-CIMFR/RNC/TPS/KDH/NBCC/MAY/2022/03
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-KDH (Nik Area)

Power Utility-NTPC-NBCC
Date of start of analysis -24.05.2022
Product tested - Coal Sample

Relative Humidity of laboratory: 41%
Temperature of laboratory: 26.2°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40°C)			Analysis
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0025/G-10	04-05-2022	06-05-2022	10-05-2022	1910.00	161000789	05-05-2022	3.7	29.4	4929.21	6.5	28.5	4786	G9
2	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0025/G-11	04-05-2022	06-05-2022	10-05-2022	2087.80	161000789	05-05-2022	3.4	37.2	4233.40	5.6	36.4	4137	G11
3	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0025/G-13	04-05-2022	06-05-2022	10-05-2022	69.90	161000789	05-05-2022	2.8	46.5	3522.91	5.2	45.4	3436	G13

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* Customer Provided Information
** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per IS 4.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EM as per IS 1350 (Part-I), 1964 Reaffirmed 2013
- Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 01.01.2023

LOADING END ANALYSIS REPORT

Date: 28.02.2023

Test Report No.: CIMFR/DMC/TFS/NDH/NBCC/JAM/2023/006
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Sliding KDH (Hill Area)

Power Utility: NTPC-NBCC
Date of start of analysis: 23.02.2023
Product tested: Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

36%
25.0°C

SL No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analytical Grade
					R.R. Quantity [MT]	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/KDH/NTPC/JV/NABINAGAR/NBCC/0194/G-11	01-01-2023	06-01-2023	09-01-2023	3146.20	1610000896	01-01-2023	4.4	37.8	4159.11	5.7	37.3	4103	G11
2	CCL/KDH/NTPC/JV/NABINAGAR/NBCC/0194/G-13	01-01-2023	06-01-2023	09-01-2023	1070.10	1610000896	01-01-2023	4.3	39.8	4013.25	5.3	39.4	3971	G12

* Customer Provided Information

** Grade as per the website of the Ministry of Coal (www.coal.mca.gov.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per ISo.

(ii) Testing Method followed: Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5865-15, EM as per IS: 1350 (Part II): 1984 reaffirmed 2013.

(iii) Sulphur value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-13).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

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(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RANCHI



श्रीरसाग्र-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 01.03.2023

LOADING END ANALYSIS REPORT

Date:03-05-2023

Test Report No.-CIMFR/RNC/TPS/KDH/NBCC/MAA/2023/07
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sorting KDH (Ink Area)

Power Utility-NTPC-NBCC
Date of start of analysis -27.04.2023
Product tested - Coal Sample

Relative Humidity of laboratory: 52%
Temperature of laboratory: 25.0°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					R.R. Quantity (MT)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM %	ASH %	GCV (kcal/kg)	
1	CCF/KDH/NTPC-IV/NABINAGAR/NBCC/207/G-11	01-03-2023	04-03-2023	07-03-2023	2907.60	161000892	01-03-2023	4.0	38.9	3977.85	7.1	37.6	3849	G12
2	CCF/KDH/NTPC-IV/NABINAGAR/NBCC/207/G-13	01-03-2023	04-03-2023	07-03-2023	1120.10	161000892	01-03-2023	3.4	41.9	3910.07	6.6	40.5	3781	G12

* Customer Provided information

**Grade as per the website of the Ministry of coal (www.coal.mn.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per ISA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EM as per IS 11350 (Part-1): 1984 Reaffirmed 2013 (105/aphar) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iii) Name of the experiment is performed by external service provider.

(iv) This report should not be replicated or reproduced.

(v) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Sahu)
(Authorized Signatory)
CSIR-CIMFR, RNC, RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 09.03.2023 TO 10.03.2023
LOADING END ANALYSIS REPORT

Date:08-05-2023

Test Report No.-CIMFR/ROA/TPS/KOH/NBCC/MAA/2023/08
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Siding: KJH (NW Area)

Power Utility: NTPC NBCC
Date of start of analysis: 09.03.2023
Product tested: Coal Sample

Relative humidity of laboratory:
Temperature of laboratory:

55%
26.7°C

Loading Area/Shipping EDPH (RM Area)		Product tested - Coal Sample												
Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade	
				R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MS%	ASH%	GCV (kcal/kg)		
1	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0213/G-13	09-03-2023	14-03-2023	15-03-2023	415.30	161000894	07-03-2023	3.7	43.3	3726.93	5.8	42.4	3646	G13
2	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0214/G-11	10-03-2023	14-03-2023	15-03-2023	3490.72	161000895	11-03-2023	4.1	35.5	4335.48	6.8	34.5	4213	G11
3	CCL/KDH/NTPC-IV/NABINAGAR/NBCC/0214/G-13	10-03-2023	14-03-2023	15-03-2023	579.40	161000895	11-03-2023	3.8	40.4	3953.80	6.3	39.4	3851	G12

* Customer Provided information

**Grade as per the website of the Ministry of coal (www.coal.mca.gov.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per ISA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-10, TM as per IS 1350 (Part-4): 1984 (reaffirmed 2013).
- (a) Sulfur value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4219-10).
- (b) Name of the experiment is performed by external service provider.
- (c) This report should not be replicated or reproduced.
- (d) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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TC-5897

Analytical results of coal samples collected by CSIR-CMFR (Third Party Sampling) during the period 01.05.2022 to 07.05.2022

LOADING END ANALYSIS REPORT

Date: 17-06-2022

Test Report No.-CMFR/RNC/TPS/PLCP/NBCC/MAY/2022/95
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding- PHULBASA

Power Utility- NTPC-NBCC

Date of start of analysis - 05.06.2022

Product tested - Coal Sample

Relative Humidity of laboratory:

48%

Temperature of laboratory:

26.8°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *				Air-dried basis				Equilibrated moisture basis (60% RH & 40° C)				Analytical Grade
					R.R. Quantity (Mmt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)				
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0086/G-10	01-05-2022	22-05-2022	23-05-2022	482.60	161001260	02-05-2022	5.0	39.4	3916.63	6.7	38.7	3847	G12			
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0086/G-11	01-05-2022	22-05-2022	23-05-2022	3592.80	161001260	02-05-2022	4.5	38.2	4092.39	6.4	37.4	4011	G11			
3	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0087/G-10	01-05-2022	22-05-2022	23-05-2022	526.10	141000086	02-05-2022	4.5	37.4	4144.88	6.2	36.7	4071	G11			
4	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0087/G-11	01-05-2022	22-05-2022	23-05-2022	3320.60	141000086	02-05-2022	4.6	40.0	3950.06	6.3	39.3	3880	G12			
5	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0088/G-10	02-05-2022	24-05-2022	26-05-2022	589.50	141000087	02-05-2022	4.8	33.5	4475.31	6.8	32.8	4381	G10			
6	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0088/G-11	02-05-2022	24-05-2022	26-05-2022	3481.60	141000087	02-05-2022	4.3	39.5	3981.12	5.9	38.8	3915	G12			
7	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0090/G-10	03-05-2022	24-05-2022	26-05-2022	505.40	161001262	03-05-2022	4.9	33.0	4555.66	7.1	32.2	4450	G10			
8	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0090/G-11	03-05-2022	24-05-2022	26-05-2022	3367.90	161001262	03-05-2022	4.6	38.1	4108.81	6.2	37.5	4040	G11			
9	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0101/G-10	07-05-2022	25-05-2022	26-05-2022	697.75	161001270	07-05-2022	4.6	34.3	4415.33	7.0	33.4	4304	G10			
10	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0101/G-11	07-05-2022	25-05-2022	26-05-2022	3029.15	161001270	07-05-2022	4.6	36.4	4222.16	6.6	35.6	4134	G11			
11	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0102/G-10	07-05-2022	25-05-2022	26-05-2022	686.00	161001272	08-05-2022	4.6	35.1	4332.76	6.5	34.4	4246	G11			
12	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0102/G-11	07-05-2022	25-05-2022	26-05-2022	3357.00	161001272	08-05-2022	5.1	32.1	4594.27	7.2	31.4	4493	G10			

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.mn.gov.in/major-statistics/coal-grades).

Note:

(i) Sample collected as per IS.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5855-19. DM as per IS 1350 (Part-6): 1984. Reaffirmed 2013.

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-13).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Signature)
(Dr. J. L. Singh)
Chief Analyst, R.C. RANCHI



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अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Test Report No.-CIMFR/RMC/TPS/PLCP/NBCC/MAY & JUN/2022/10
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-PH ULBA51A

Power Utility-NTPC-NBCC
Date of start of analysis-04.07.2022
Product tested - Coal Sample

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 29.05.2022 TO 05.06.2022

LOADING END ANALYSIS REPORT

Date:14-07-2022

Relative Humidity of laboratory
Temperature of laboratory

61%
25.8°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mts)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM %	ASH%	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0169/G-12	29-05-2022	11-06-2022	15-06-2022	3712.81	161001306	29-05-2022	5.8	44.8	3471.34	5.5	44.9	3482	G13
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0194/G-11	05-06-2022	19-06-2022	22-06-2022	3998.32	161001316	06-06-2022	6.8	35.9	4072.21	6.7	35.9	4077	G11

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.mil.in/major-statistics/coal-grades), www.coal.gov.in/major-statistics/coal-grades

None:

(i) Sample collected as per ISA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013.

(iii) Sulphur value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

Neha
(Dr. NALLA RAMESH)
(Authorised Signatory)
CSIR-CIMFR, RANCHI

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 02.04.2022 TO 03.04.2022

LOADING END ANALYSIS REPORT

Date: 06-05-2022

Test Report No.-CIMFR/RNC/TPC/SLSP/NBCC/APR/2022/02
Name of Coal Company: Central Coal Field Ltd.
Loading Area/Siding: Shripoor (Amarpatli Area)

Power Utility- NTPC NBCC
Date of start of analysis-02.05.2022
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

38%
26.3°C

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Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40° C)			Analysis Grade	
				R.R. Quantity (Mts)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)		
1	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0009/G-13	02-04-2022	08-04-2022	13-04-2022	4008.80	141000095	02-04-2022	2.4	39.9	4305.88	5.0	38.8	4191	G11
2	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0010/G-13	02-04-2022	08-04-2022	13-04-2022	3958.60	151001314	02-04-2022	2.3	40.1	4253.60	4.8	39.1	4145	G11
3	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0017/G-12	03-04-2022	09-04-2022	13-04-2022	4004.12	161001317	03-04-2022	2.1	47.5	3625.93	3.9	46.6	3559	G13
4	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0018/G-12	03-04-2022	09-04-2022	13-04-2022	3988.73	161001318	03-04-2022	2.1	47.7	3635.46	3.4	47.1	3587	G13
5	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0019/G-12	03-04-2022	09-04-2022	13-04-2022	3977.00	161001319	03-04-2022	2.0	48.8	3505.83	2.9	47.9	3438	G13

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* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5865-10, EM as per IS 1350 (Part-I): 1984 Regalified 2013 (IS: Sulphur) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- Name of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
I Dr. M. S. Singh
CSIR-CIMFR, RANCHI

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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 04.04.2022 TO 05.04.2022

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Date:09-05-2022

Test Report No.-CIMFR/RNC/TPS/SLSP/NBCC/APR/2022/03
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Holding-Shipoor (Amarpali Area)

Power Utility- NTPC NBCC
Date of start of analysis -04.06.2022
Product tested - Coal Sample

Relative Humidity of laboratory: 33%
Temperature of laboratory: 28.5°C

Loading Area: Hiding Shivpuri (Antaripali Area)		Product tested - Coal Sample			Temperature of laboratory:									
Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysis Grade	
				R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)		
1	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0025/G-12	04-04-2022	12-04-2022	16-04-2022	3811.20	161001321	04-04-2022	1.9	46.3	3856.60	1.7	46.4	3864	G12
2	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0026/G-12	04-04-2022	12-04-2022	16-04-2022	3943.80	161001320	04-04-2022	2.0	46.2	3851.68	2.2	46.1	3844	G12
3	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0031/G-13	05-04-2022	12-04-2022	16-04-2022	4010.00	161001323	05-04-2022	1.4	47.6	3394.98	2.2	47.2	3367	G14
4	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0032/G-13	05-04-2022	12-04-2022	16-04-2022	4024.08	161001332	05-04-2022	1.4	47.6	3679.13	1.5	46.6	3601	G13

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EM as per IS 11550 (Part I): 1984 Reaffirmed 2013
- Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- Name of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

Handwritten signature and stamp of CSIR-CIMFR, RANCHI.



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 19.06.2022 TO 20.06.2022

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Date: 25-07-2022

Test Report No.-CIMFR/RNC/TPC/PLCP/NBCC/JUN/2022/13
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding-THULBASIA

Power Utility-NTPC-NBCC
Date of start of analysis-17-07-2022
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:
67%
26.5°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried Basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM %	ASH %	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0225/G-12	19-06-2022	02-07-2022	04-07-2022	3882.40	161001332	19-06-2022	5.1	43.4	3566.67	6.2	42.9	3525	G13
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0227/G-12	20-06-2022	02-07-2022	04-07-2022	3674.60	141000109	20-06-2022	5.0	44.1	3547.18	5.9	43.7	3514	G13

* Customer Provided information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FEA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7922-15 & GCV as per ASTM D-5865-19, EM as per IS 1150 (Part-0): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be reprinted or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Sami)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI

25/07/22
100K0152

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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 17.04.2022

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Date: 21-05-2022

Test Report No.-CIMFR/RNC/TFS/SLSP/NBCC/APR/2022/06
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding Shivpur (Amarpali Area)

Power Utility- NTPC NBCC
Date of start of analysis -16.05.2022
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

45%
27°C

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Sample ID	Leading Area/Siding/Shipment (Amrapali Area)	Product tested - Coal Sample	Temperature of laboratory: 27 °C											
			Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)		
						R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)
1	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/0135/G-13	17-04-2022	24-04-2022	29-04-2022	4005.73	161001338	17-04-2022	3.4	46.3	3618.56	4.3	45.9	3585	G13

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**Grade as per the website of the Ministry of coal (www.coal.mil.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EM as per IS 1359 (Part-II: 1984 Reaffirmed 2013)
- (iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- (iv) None of the experiment is performed by external service provider.
- (v) This report should not be replicated or reproduced.
- (vi) The result related to the sample tested. Residue part of the sample will be destroyed after three months.

W. S. S.
27/05/22
(P. N. L. Barua)
(Authorized Signatory)
CSIR-CIMFR, NC, RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 11.06.2022

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Power Utility- NTPC NBCC
Date of start of analysis -17.07.2022
Product tested - Coal Sample
Relative Humidity of laboratory: 67%
Temperature of laboratory: 26.5°C
Date: 25-07-2022

Test Report No.-CIMFR/RNC/TPS/SLSP/NBCC/JUN/2022/08
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-Shipoor (Amarpalli Area)

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/0590/G-13	11-06-2022	30-06-2022	04-07-2022	3947.20	161001343	11-06-2022	4.5	45.0	3644.13	4.6	45.0	3640	G13
2	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/0591/G-13	11-06-2022	01-07-2022	04-07-2022	3933.00	161001342	11-06-2022	5.1	43.7	3721.57	4.5	44.0	3745	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.mca.gov.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EMI as per IS 1350 (Part-I): 1984 Reaffirmed 2013
- Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 29.06.2022 TO 15.07.2022

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Date : 18-08-2022

Test Report No.-CIMFR/RC/TPS/PLCP/NBCC/JUN & JUL/2022/18
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-PHUBASA

Power: Udaipur NTPC NBCC
Date of start of analysis-11.08.2022
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

55%
28.2°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0255/G-11	29-06-2022	14-07-2022	18-07-2022	629.91	161001348	30-06-2022	8.3	38.3	3797.02	6.4	39.1	3876	G12
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0298/G-12	15-07-2022	27-07-2022	30-07-2022	3988.00	161001358	15-07-2022	7.5	38.8	3858.81	6.2	39.3	3913	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per IS: 4.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5855-13. EV as per IS 1350 (Part-I): 1984 Reaffirmed 2013.

(iii) Sulphur (%) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the explosive (nitric) is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Signature)
(Dr. M. K. Singh)
(Authorized Signatory)
CSIR-CIMFR, RC RANCHI

END OF TEST REPORT

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TC-S897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 21.08.2022

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Date: 30-09-2022

Test Report No.-CIMFR/RMC/TPS/SLSP/NBCC/AUG/2022/011
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-Shipoor (Amarpali Area)

Power Utility- NTPC NBCC

Date of start of analysis - 25.09.2022

Product tested - Coal Sample

Relative Humidity of laboratory:

57%

Temperature of laboratory:

24.1°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/0930/G-12	21-08-2022	28-08-2022	03-09-2022	4035.00	161001350	21-08-2022	6.3	45.1	3465.39	3.8	46.3	3558	G13
2	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/0931/G-12	21-08-2022	28-08-2022	03-09-2022	4033.26	161001349	21-08-2022	6.9	42.9	3603.17	4.1	44.2	3712	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EM as per IS 1350 (Part 4): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) Name of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 04.07.2022 TO 11.07.2022

LOADING END ANALYSIS REPORT

Date : 14-08-2022

Test Report No.-CIMFR/MNC/TPS/PLCP/NBCC/JUL/2022/17
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding, Houti BASA

Power Utility-NTPC-NBCC
Date of test of analysis-01.08.2022
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

58%
27.0°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/02167/G-10	04-07-2022	17-07-2022	18-07-2022	2922.95	161001352	05-07-2022	8.1	36.3	3943.04	7.3	36.6	3977	G12
2	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/02167/G-11	04-07-2022	17-07-2022	18-07-2022	886.14	161001352	05-07-2022	8.4	36.1	3920.70	8.5	36.1	3916	G12
3	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/02170/G-10	05-07-2022	19-07-2022	22-07-2022	2981.20	161001354	06-07-2022	8.7	32.9	4290.31	7.9	33.2	4328	G10
4	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/02170/G-11	05-07-2022	19-07-2022	22-07-2022	993.80	161001354	06-07-2022	8.1	36.1	3996.05	7.1	36.5	4040	G11
5	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/02186/G-10	11-07-2022	24-07-2022	27-07-2022	283.50	141000110	11-07-2022	7.6	37.0	3922.88	6.6	37.4	3965	G12
6	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/02186/G-11	11-07-2022	24-07-2022	27-07-2022	444.70	141000110	11-07-2022	7.4	39.0	3759.04	6.5	39.4	3796	G12
7	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/02186/G-12	11-07-2022	24-07-2022	27-07-2022	3466.50	141000110	11-07-2022	7.5	38.6	3801.33	5.8	39.3	3871	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per ISA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-18, SM as per IS 1350 (Part II) 1984 Reaffirmed 2013.
- (a) Sulphur(S) value has been put in the bench calorimeter as determined in the laboratory following (ASTM D 4239-18).
- (b) Name of the experiment is performed by external service provider.
- (c) This report should not be replicated or reproduced.
- (d) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Signature)
(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RANCHI



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI-834010



TC-5857

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 23.09.2022 TO 24.09.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TPS/SLSP/NBCC/SEP/2022/16
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-Shimpor (Jamarpal Area)

Power Utility- NTPC NBCC
Date of start of analysis -07.11.2022
Product tested - Coal Sample

Date 11-11-2022

Relative Humidity of laboratory:
54%
Temperature of laboratory:
24.9°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mts)	R.R. No. / F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/1125/G-12	23-09-2022	03-10-2022	08-10-2022	3951.47	161001374	23-09-2022	3.5	46.7	3612.25	4.3	46.3	3582	G13
2	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/1128/G-12	24-09-2022	03-10-2022	08-10-2022	4041.88	161001375	24-09-2022	3.2	46.8	3628.71	4.6	46.1	3576	G13
3	CCL/SLSP/NTPC-JV/NABINAGAR/NBCC/1129/G-12	24-09-2022	03-10-2022	08-10-2022	4034.36	161001378	24-09-2022	3.1	47.7	3577.79	3.8	47.4	3552	G13

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Notes:

(i) Sample collected as per ISA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15; EM as per IS 1350 (Part-I); 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4299-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, R.C, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 23.08.2022 TO 24.08.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TPS/PLCP/NBCC/AUG/2022/24
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-PLU.BASIA

Power Utility-NTPC-NBCC

Date of start of analysis -11.10.2022
Product tested - Coal Sample

Date : 19-10-2022

Relative Humidity of laboratory: 50%
Temperature of laboratory: 24.5°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/Kg)	MT%	ASH%	GCV (Kcal/Kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0401/G-12	23-08-2022	12-09-2022	15-09-2022	3943.03	161001380	24-08-2022	7.7	36.8	3969.97	6.4	37.3	4026	G11
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0403/G-12	24-08-2022	12-09-2022	15-09-2022	4025.94	161001381	25-08-2022	6.9	39.2	3802.28	6.3	39.5	3827	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per IS 5.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5867-19, EM as per IS 1350 (Part-0: 1984 Reaffirmed 2013) (Sulphur) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
19/10/22

(Dr. M.X. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

END OF TEST REPORT



TC-5897

सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 31.08.2022 to 22.09.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/RNC/TPS/PLCP/NBCC/AUG & SEP/2022/25

Name of Coal Company- Central Coal Field Ltd.

Loading Area/Siding-PLU/BASIA

Power Utility-NTPC-NBCC

Date of start of analysis-13.10.2022

Product tested - Coal Sample

Date-04-11-2022

50%

24.5°C

Relative Humidity of laboratory:

Temperature of laboratory:

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0411/G-12	31-08-2022	13-09-2022	15-09-2022	4035.60	161001383	31-08-2022	6.5	42.5	3551.41	6.2	42.6	3563	G13
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0412/G-12	01-09-2022	20-09-2022	23-09-2022	3978.30	161001384	01-09-2022	6.7	44.9	3340.32	6.3	45.1	3355	G14
3	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0418/G-12	10-09-2022	21-09-2022	26-09-2022	3957.10	161001387	10-09-2022	8.2	35.2	4072.24	7.0	35.7	4125	G11
4	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0420/G-12	12-09-2022	24-09-2022	26-09-2022	3587.58	161001388	12-09-2022	7.8	37.7	3888.74	5.5	38.6	3986	G12
5	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0424/G-12	22-09-2022	28-09-2022	01-10-2022	3584.40	161001390	22-09-2022	6.8	37.6	3968.64	6.5	37.7	3981	G12

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.mn.n/g/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7182-15 & GCV as per ASTM D-5865-15, EM as per IS 1350 (Part-3) 1984 Reaffirmed 2013

(iii) Sulphur(S) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची, पोस्ट-नामकुम, रांची - 834010
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 29.09.2022 TO 08.10.2022

LOADING END ANALYSIS REPORT

Date 30-11-2022

Test Report No.-CIMFR/MNC/TPS/SLSP/NBCC/SEP & OCT/2022/73
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding Shipyard (Amarpali Area)

Power Utility- NTPC NBCC
Date of start of analysis -22.11.2022
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

47%
23.8°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH%	GCV (kcal/kg)	
1	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1157/G-13	29-09-2022	13-10-2022	17-10-2022	4095.36	161001384	29-09-2022	4.3	48.9	3404.50	4.4	48.8	3401	G13
2	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1199/G-12	08-10-2022	15-10-2022	20-10-2022	3994.60	161001400	08-10-2022	2.9	49.4	3430.09	3.2	49.2	3419	G13
3	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1200/G-12	08-10-2022	15-10-2022	20-10-2022	3984.77	161001399	08-10-2022	3.0	49.2	3497.53	3.5	48.9	3480	G13

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5865-19, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.R. Saini)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI



सीएसआईआर-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR [Third Party Sampling] during the period 29.09.2022 TO 06.10.2022

LOADING END ANALYSIS REPORT

Date 22-11-2022

Power Utility- NTPC NBCC
Date of start of analysis - 15.11.2022
Product tested - Coal Sample

Test Report No.- CIMFR/RNC/TPA/SLSP/NBCC/REP & OCT/2022/19
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding- Shipoor (Amarpali Area)

Relative Humidity of laboratory:
Temperature of laboratory:

38%
23.5°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No. / F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1158/G-13	29-09-2022	11-10-2022	17-10-2022	4109.33	161001385	29-09-2022	4.2	49.3	3378.32	4.5	49.1	3368	G14
2	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1163/G-13	30-09-2022	12-10-2022	17-10-2022	4082.34	161001389	30-09-2022	4.0	50.6	3171.71	3.6	50.8	3185	G14
3	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1164/G-13	30-09-2022	12-10-2022	17-10-2022	4055.60	161001388	30-09-2022	4.2	49.9	3221.67	3.7	50.2	3238	G14
4	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1169/G-13	01-10-2022	12-10-2022	17-10-2022	4055.91	161001390	01-10-2022	4.3	50.5	3206.00	4.0	50.7	3216	G14
5	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1170/G-13	01-10-2022	12-10-2022	17-10-2022	4038.22	161001391	01-10-2022	4.3	50.4	3228.95	4.0	50.6	3239	G14
6	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1174/G-13	01-10-2022	13-10-2022	17-10-2022	4032.53	161001392	01-10-2022	4.3	42.2	3922.93	3.9	42.4	3939	G12
7	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1175/G-13	02-10-2022	13-10-2022	17-10-2022	3970.57	161001393	02-10-2022	4.4	42.2	3921.22	4.0	42.4	3938	G12
8	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1176/G-13	02-10-2022	13-10-2022	17-10-2022	4029.66	161001394	02-10-2022	4.3	43.2	3887.48	3.9	43.4	3904	G12
9	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1179/G-13	04-10-2022	13-10-2022	17-10-2022	4020.12	161001396	04-10-2022	4.2	43.1	3905.33	4.4	43.0	3897	G12
10	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1180/G-13	04-10-2022	13-10-2022	17-10-2022	4051.20	161001395	04-10-2022	4.1	43.5	3880.14	4.3	43.4	3872	G12
11	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1185/G-13	05-10-2022	14-10-2022	17-10-2022	3993.99	161001397	05-10-2022	4.8	43.7	3774.52	4.6	43.8	3782	G12
12	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1188/G-13	06-10-2022	14-10-2022	17-10-2022	4004.20	161001398	06-10-2022	5.0	43.6	3752.04	4.4	43.9	3776	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.gov.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per ISA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5865-15, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) (Ash) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 20.10.2022 TO 12.11.2022

LOADING END ANALYSIS REPORT

Date : 27-12-2022

Power Utility-NTPC/NBCC
Date of start of analysis -05.12.2022
Product tested - Coal Sample

Test Report No.-CIMFR/RNC/TFS/PLCP/NBCC/OCT & NOV/2022/12
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Seafing-NEILGANGA

Relative Humidity of laboratory:
Temperature of laboratory:

30%
23.4°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analyzed Grade **
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MT%	ASH%	GCV (kcal/kg)	
1	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0447/G-10	20-10-2022	01-11-2022	05-11-2022	3962.30	161001402	20-10-2022	4.1	44.3	1736.20	4.9	43.9	3205	G12
2	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0485/G-11	04-11-2022	13-11-2022	18-11-2022	4075.35	161001418	05-11-2022	6.1	33.3	4367.14	6.2	33.3	4361	G10
3	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0492/G-11	07-11-2022	13-11-2022	18-11-2022	3974.60	161001423	07-11-2022	6.0	33.6	4367.59	5.1	33.9	4409	G10
4	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0493/G-11	07-11-2022	13-11-2022	18-11-2022	3950.50	161001422	07-11-2022	5.1	41.2	3801.18	4.6	41.4	3821	G12
5	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0497/G-11	08-11-2022	14-11-2022	18-11-2022	4025.60	161001424	09-11-2022	5.4	40.0	3797.43	5.7	39.5	3745	G12
6	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0497/G-12	08-11-2022	14-11-2022	18-11-2022	3979.20	161001425	09-11-2022	5.2	41.3	3720.76	6.6	40.7	3666	G13
7	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0498/G-11	08-11-2022	15-11-2022	18-11-2022	4070.30	161001426	09-11-2022	6.3	33.6	4358.84	7.7	33.1	4176	G11
8	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0499/G-11	09-11-2022	15-11-2022	18-11-2022	4065.80	161001427	09-11-2022	5.8	34.4	4264.47	7.2	33.9	4201	G11
9	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0500/G-11	09-11-2022	15-11-2022	18-11-2022	4051.50	161001429	10-11-2022	5.3	34.2	4411.56	6.7	33.7	4346	G10
10	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0502/G-11	10-11-2022	15-11-2022	18-11-2022	4038.90	161001434	13-11-2022	5.2	36.5	4137.94	7.6	35.6	4033	G11
11	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0512/G-11	12-11-2022	16-11-2022	18-11-2022	3989.71	161001431	12-11-2022	5.5	34.4	4269.68	7.6	33.6	4175	G11
12	COL/PLCP/NTPC-IV/NABINAGAR/NBCC/0513/G-11	12-11-2022	16-11-2022	18-11-2022										

* Customer Provided Information

**Grade as per the website of the Ministry of coal (www.coal.mn.in)/major statistics/coal grades, www.coal.gov.in/major statistics/coal grades)

Note:

(i) Sample collected as per IS 9.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7502-15 & GCV as per ASTM D-5885-15. IM as per IS 1350 (Part-I) 1984 Reaffirmed 2013

(iii) Sulphur (%) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4239-18).

(iv) Name of the experiment is performed by external service provider.

(v) This report should not be reprinted or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.J. Saini)
(Authorised Signatory)
CSIR-CIMFR, RNC, RANCHI

27/12/2022

END OF TEST REPORT

PAGE 1 OF 1



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 03.11.2022 TO 15.11.2022

LOADING END ANALYSIS REPORT

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0483/G-12	03-11-2022	12-11-2022	14-11-2022	4020.60	161001417	04-11-2022	5.1	41.5	3760.48	6.8	40.8	3693	G11
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0515/G-11	13-11-2022	18-11-2022	22-11-2022	4078.48	161001435	13-11-2022	4.4	37.0	4168.32	7.2	35.9	4046	G11
3	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0522/G-11	14-11-2022	19-11-2022	22-11-2022	4067.00	161001438	14-11-2022	4.6	35.6	4270.83	7.6	34.5	4137	G11
4	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0523/G-11	14-11-2022	19-11-2022	22-11-2022	3957.10	161001439	14-11-2022	5.1	32.0	4513.70	8.1	31.0	4371	G10
5	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0529/G-12	14-11-2022	19-11-2022	22-11-2022	4026.59	161001440	15-11-2022	4.5	38.2	4064.23	7.1	37.2	3954	G12
6	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0531/G-11	15-11-2022	20-11-2022	22-11-2022	3987.80	161001444	16-11-2022	4.6	39.1	3978.34	6.4	38.4	4033	G11
7	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0532/G-11	15-11-2022	20-11-2022	22-11-2022	3967.00	161001441	16-11-2022	4.8	37.0	4170.43	6.0	36.5	4118	G11
8	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0532/G-12	15-11-2022	20-11-2022	22-11-2022		161001441	16-11-2022	3.8	43.1	3714.39	5.9	42.2	3633	G13

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per IS 5.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EM as per IS 1350 (Part I): 1984 Redefined 2013.

(iii) Sulphur(s) value has been put in the bench calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M.S. Saini)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 28.12.2022 to 31.12.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/INC/TTS/SLSP/NBCC/106C/2022/20
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Stage-Shipoor (Airport Area)

Power Utility- NTPC NBCC
Date of start of analysis-28.02.2023
Product tested:- Coal Sample

Relative Humidity of laboratory- 35%
Temperature of laboratory- 26.2°C

Date:03-03-2023

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1713/G-12	28-12-2022	09-01-2023	14-01-2023	4063.24	161001437	28-12-2022	2.5	46.5	3691.91	3.3	46.1	3662	G13
2	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1714/G-12	28-12-2022	09-01-2023	14-01-2023	4045.80	161001436	28-12-2022	2.5	46.8	3620.93	3.3	46.4	3591	G13
3	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1730/G-13	31-12-2022	11-01-2023	14-01-2023	4056.14	141000098	31-12-2022	2.3	49.5	3478.29	3.5	48.9	3436	G13

* Customer Provided information

**Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per IS 5.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, DM as per IS 1350 (Part-I): 1964 Reaffirmed 2013 (ISO/IEC JTC1) value has been put in the Bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- None of the engagement is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Retention part of the sample will be destroyed after three months.

[Signature]

(Dr. M.X. Saini)
(Authorized Signatory)
CSIR-CIMFR, INC, RANCHI



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 11.01.2023

LOADING END ANALYSIS REPORT

Date: 23-03-2023

Test Report No.- CIMFR/MC/TPS/SLSP/NBCC/JAN/2023/30
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-Shipoor (Amarpali Area)

Power Utility- NTPC NBCC

Date of start of analysis -06.03.2023
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

35%
25.0°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1788/G-12	11-01-2023	18-01-2023	20-01-2023	4036.20	161001439	11-01-2023	2.7	42.5	4059.60	4.3	41.8	3993	G12
2	CCL/SLSP/NTPC-IV/NABINAGAR/NBCC/1789/G-12	11-01-2023	18-01-2023	20-01-2023	4032.80	161001440	11-01-2023	2.6	42.7	4035.76	4.4	41.9	3961	G12

* Customer Provided information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per IS 4.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-585-15, EM as per IS 1150 (Part-I): 1964 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.


(Dr. M.A. Sani)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

END OF TEST REPORT

PAGE 1 OF 1



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 30.01.2023

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/NMC/TFS/SLSP/NBCC/JAM/2023/32
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding/Shyppoor (Amarpatl Area)

Power Utility- NTPC NBCC
Date of start of analysis- 05.04.2023
Product tested - Coal Sample

Date:11-04-2023

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analyzed Grade **
					R.R. Quantity (MT)	R.R.No / F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
246	CCL/SLSP/NTPC/JV/NABINAGAR/NBCC/1927/G-13	30-01-2023	09-02-2023	11-02-2023	3683.37	161001444	30-01-2023	4.4	37.9	4315.16	4.7	37.8	4302	G10

* Customer Provided Information

**Grade as per the website of the Ministry of coal [www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades]

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-3865-19, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. Madhu Rana)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

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PAGE 1 OF 1



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 02.03.2023
LOADING END ANALYSIS REPORT

Date: 15-05-2023

Test Report No.-CIMFR/8BC/TPS/SLSR/8BC/MAR/2023/34
Name of Coal Company - Central Coal Field Ltd.
Loading Area/Plant/Shipping (Innerport Area)

Power Utility- NTPC 8BCC
Date of start of analysis- 15.05.2023
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

33%
27.8°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/Kg)	M%	ASH%	GCV (Kcal/Kg)	
1	CCF/SLSR/NTPC-IV/NABINAGAR/8BCC/2152/G-12	02-03-2023	18-03-2023	20-03-2023	3902.00	161001447	02-03-2023	3.0	44.6	3918.41	3.3	44.5	3906	G12

* Customer Provided information

** Grade as per the website of the Ministry of coal (www.coal.gov.in/major-statistics/coal-grades)

Note:

- Sample collected as per FSA.
- Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5885-15, EN as per IS 1350 (Part-1): 1984 Reaffirmed 2013.
- Sampling value has been put in the bona laboratorist as determined in the laboratory following (ASTM D 4238-18).
- Name of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- The result related to the sample tested. Reserved part of the sample will be destroyed after three months.

(Dr. M.C. Saini)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

15/05/2023



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 05-03-2023

LOADING END ANALYSIS REPORT

Date: 18-05-2023

Test Report No.-CIMFR/MNC/TPS/SISP/NBCC/MAR/2023/35
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding/Shyngor (Amarpal Area)

Power Utility- NTPC NBCC
Date of start of analysis - 16-05-2023
Product tested - Coal Sample

Relative humidity of laboratory:
Temperature of laboratory:

36%
26.8°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
2	CCL/SISP/NTPC-JV/NABINAGAR/NBCC/2183/G-11	05-03-2023	21-03-2023	25-03-2023	4037.60	161001648	05-03-2023	2.2	45.3	3870.01	3.8	44.6	3807	G12
	CCL/SISP/NTPC-JV/NABINAGAR/NBCC/2184/G-11	05-03-2023	21-03-2023	25-03-2023	4044.40	161001649	05-03-2023	2.3	44.4	3910.22	4.0	43.6	3842	G12

* Customer Provided Information
** Grade as per the website of the Ministry of coal (www.coal.gov.in/major-statistics/coal-grades)

Note:
(i) Sample collected as per FQA
(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5815-10, TM as per IS 1350 (Part-I): 1984 Reaffirmed 2013
(iii) Surplus value has been put in the bomb calorimeter as determined in the laboratory following ASTM D 4239-18.
(iv) Name of the experiment is performed by external service provider.
(v) This report should not be replicated or reproduced.
(vi) The result related to the sample tested, Reserve part of the sample will be destroyed after three months.

(Dr. Madhu Jha)
(Authorized Signatory)
CSIR-CIMFR, RANCHI

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TC-5897

Analytical results of coal samples collected by CSIR-CMFR (Third Party Sampling) during the period 21.03.2023

LOADING END ANALYSIS REPORT

Power Utility- MTTC NBCC

Date of start of analysis- 23.05.2023

Product tested - Coal Sample

Date: 25-05-2023

Relative Humidity of laboratory:

36%

Temperature of laboratory:

28.5°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R. No./F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCU/SISP/NTTC-JV/NABINAGAN/NBCC/2266/G-12	21-03-2023	30-03-2023	03-04-2023	4065.37	161001452	21-03-2023	1.7	46.7	3779.55	3.3	45.9	3718	G12
2	CCU/SISP/NTTC-JV/NABINAGAN/NBCC/2267/G-12	21-03-2023	30-03-2023	03-04-2023	4026.80	161001453	21-03-2023	1.7	46.2	3818.59	3.4	45.4	3753	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/rapid-statistics/coal-grades, www.coal.gov.in/rapid-statistics/coal-grades)

NOTE:

(i) Sample collected as per IS 4.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 B, GCV as per ASTM D-5855-15, EM as per IS 1350 (Part I), IS 984 Reaffirmed 2012 (Hypocritical) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iii) None of the experiment is performed by external service provider.

(iv) This report should not be replicated or reproduced.

(v) The result related to the sample tested. Residue part of the sample will be destroyed after three months.

(Dr. Manish Kumar)
(Authorized Signatory)
CSIR-CMFR, RANCHI

END OF TEST REPORT

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TC-S897



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 07.12.2022

LOADING END ANALYSIS REPORT

Test Report No.-CIMFR/NRC/TPS/PLCP/NBCC/DSC/2022/40
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding-PSULBAGDA

Power Utility-NTFC, NBCC
Date of start of analysis-07.02.2023
Product tested - Coal Sample

Date: 10-02-2023

Relative Humidity of laboratory: 36%
Temperature of laboratory: 22.9°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MP%	ASH%	GCV (kcal/kg)	
3	CCL/PLCP/NTFC-IV/NABINAGAR/NBCC/0645/G-11	07-12-2022	23-12-2022	24-12-2022	2483.10	161001464	07-12-2022	4.6	37.7	4351.37	6.0	37.1	4090	G11
	CCL/PLCP/NTFC-IV/NABINAGAR/NBCC/0645/G-12	07-12-2022	23-12-2022	24-12-2022	1589.49	161001464	07-12-2022	4.5	40.0	3968.23	5.2	39.7	3939	G12
	CCL/PLCP/NTFC-IV/NABINAGAR/NBCC/0646/G-11	07-12-2022	23-12-2022	24-12-2022	4061.44	161001463	07-12-2022	4.5	40.2	3900.51	5.3	39.9	3868	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, TM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the Bomb calorimeter as determined in the laboratory following (ASTM D-4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. N.K. Sanyal)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
अनुसंधान केंद्र, रांची पोस्ट- नामकुम, रांची -834010
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 06.01.2023 TO 14.01.2023

LOADING END ANALYSIS REPORT

Test Report No. CIMFR/RNC/TPS/PLCP/NBCC/JAN/2023/45
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Sliding-PHULBADA

Power Utility-NTPC-NBCC
Date of start of analysis -18.01.2023
Product tested -Coal Sample

Date: 05-04-2023

Relative Humidity of laboratory:
Temperature of laboratory:

48%
25.4°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Ratio/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40 °C)			Analytical Grade *
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM%	ASH%	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0793/G-11	06-01-2023	27-01-2023	28-01-2023	3448.65	161001477	07-01-2023	3.5	36.1	4389.97	5.5	35.4	4299	G11
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0821/G-11	12-01-2023	04-02-2023	08-02-2023	4044.40	161001478	13-01-2023	4.4	37.8	4147.45	6.4	37.0	4061	G11
3	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0826/G-11	14-01-2023	06-02-2023	08-02-2023	3193.40	161001479	14-01-2023	5.2	34.9	4304.37	7.4	34.1	4204	G11
4	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0826/G-12	14-01-2023	06-02-2023	08-02-2023	831.20	161001479	14-01-2023	4.4	41.3	3762.02	5.3	40.9	3727	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per IS 5.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5885-19, EM as per IS 1350 (Part-1): 1984 Redefined 2013 (Sulphur) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iii) None of the experiment is performed by external service provider.

(iv) This report should not be replicated or reproduced.

(v) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

18/04/23
Dr. Madhu Jha
(Authorized Signatory)
CSIR-CIMFR, RANCHI



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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 28.01.2023

LOADING END ANALYSIS REPORT

Date 17-04-2023

Test Report No.-CIMFR/NBCC/TPS/PLCP/NBCC/IAN/2023/49
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Siding- PHULBASIA

Power Utility-ATPC-NBCC
Date of start of analysis -11.04.2023
Product tested - Coal Sample

Relative Humidity of laboratory: 43%
Temperature of laboratory: 25.2°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/0903/G-11	28-01-2023	15-02-2023	16-02-2023	2915.60	161001483	28-01-2023	4.2	37.1	4186.36	7.0	36.0	4064	G11
2	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/0903/G-12	28-01-2023	15-02-2023	16-02-2023	1042.20	161001483	28-01-2023	4.2	38.7	4062.19	6.7	37.7	3956	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, EM as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

[Signature]
Dr. M.K. Sahai

(Dr. M.K. Sahai)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI



सीएसआईआर-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI- 834010



TC-S897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 29.01.2023 TO 18.02.2023

LOADING END ANALYSIS REPORT

Date: 03-05-2023

Test Report No.-CIMFR/NMCT/TP/PLCP/NBCC/JAM-FBR/2023/52
Name of Coal Company - Central Coal Field Ltd.
Loading Area/Fielding - PALS, BASKA

Power Utility-NTPC/NBCC
Date of start of analysis - 17.04.2023
Product tested - Coal Sample

Relative Humidity of laboratory: 33%
Temperature of laboratory: 25.5°C

Loading Area/Sliding Path/Inlet Area		Product tested - Coal Sample			Sample grade or analysis									
Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (50% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MM%	ASH%	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0907/G-12	29-01-2023	16-02-2023	22-02-2023	1048.80	161001486	29-01-2023	5.5	34.9	4214.49	7.1	34.3	4143	G11
2	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0915/G-12	04-02-2023	21-02-2023	24-02-2023	959.72	161001490	04-02-2023	3.0	41.8	3882.57	7.0	40.1	3722	G12
3	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0913/G-11	10-02-2023	01-03-2023	07-03-2023	2507.00	161001495	10-02-2023	3.5	38.5	4135.19	6.0	37.5	4028	G11
4	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/0919/G-12	12-02-2023	02-03-2023	07-03-2023	1520.82	161001496	12-02-2023	3.7	39.3	4072.30	6.5	38.2	3954	G12
5	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/1004/G-11	16-02-2023	05-03-2023	07-03-2023	4030.40	161001497	17-02-2023	4.0	35.5	4327.08	7.2	34.3	4185	G11
6	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/1009/G-11	18-02-2023	06-03-2023	07-03-2023	3057.60	161001498	18-02-2023	3.7	38.3	4148.59	6.6	37.1	4023	G11
7	CCL/PLCP/NTPC-IV/NABINAGAR/NBCC/1009/G-12	18-02-2023	06-03-2023	07-03-2023	1044.40	161001498	18-02-2023	4.6	40.6	3828.92	6.6	35.8	3749	G12

* Customer Provided Information
** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades), www.coal.gov.in/major-statistics/coal-grades

Note:

(i) Sample collected as per FSA.

(ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-19, EN as per IS 1350 (Part-I): 1984 Reaffirmed 2013

(iii) Sulphur(s) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).

(iv) None of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result related to the sample tested. Residue part of the sample will be destroyed after three months.

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI

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END OF TEST REPORT

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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 10.02.2023 TO 12.02.2023

LOADING END ANALYSIS REPORT

Date: 15-05-2023

Test Report No. - CIMFR/NBCC/TSP/PLCP/NBCC/FEB/2023/54
Name of Coal Company - Central Coal Field Ltd.
Loading Area/Siding - PHULBASA

Power Utility - NTPC-NBCC
Date of start of analysis - 28.04.2023
Product tested - Coal Sample

Relative Humidity of laboratory
Temperature of laboratory

51%
25.8°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (MT)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M %	ASH %	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/0973/G-12	10-02-2023	01-03-2023	07-03-2023	1529.20	161001495	10-02-2023	3.7	39.1	4095.88	6.3	38.0	3985	G12
2	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/0979/G-11	12-02-2023	02-03-2023	07-03-2023	2484.08	161001496	12-02-2023	3.3	39.4	4122.69	6.3	38.2	3995	G12

* Customer Provided Information

** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

Note:

- (i) Sample collected as per ISA.
- (ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-13 & GCV as per ASTM D-5865-13, EM as per IS 1559 (Part-I): 1984 Reaffirmed 2013.
- (iii) Sulphur value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D 4239-18).
- (iv) Name of the experiment is performed by external service provider.
- (v) This report should not be replicated or reproduced.
- (vi) The result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI



सीएसआईआर केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI-834010



TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 19.02.2023
LOADING END ANALYSIS REPORT

Date: 04-05-2023

Test Report No.-CIMFR/8MC/TP3/PLCP/NBCC/REB/2023/53
Name of Coal Company- Central Coal Field Ltd.
Loading Area/Loading Office: BASA

Power Utility-NTPC-ABCC
Date of start of analysis- 03.05.2023
Product tested - Coal Sample

Relative Humidity of laboratory:
Temperature of laboratory:

53%
26.7°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade **
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	M%	ASH%	GCV (kcal/kg)	
1	CCL/PLCP/NTPC-JV/NABINAGAR/NBCC/1021/G-11	19-02-2023	10-03-2023	13-03-2023	3981.00	161001499	20-02-2023	3.1	40.8	3942.10	6.5	39.4	3804	G12

** Customer Provided Information
** Grade as per the website of the Ministry of coal (www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades)

- Note:
- (i) Sample collected as per ISA.
 - (ii) Testing Method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5885-19, EM as per IS 1350 (Part-I): 1964 Reaffirmed 2013
 - (iii) (d) (b) (v) (i) value has been put in the bomb calorimeter as determined in the laboratory following (ASTM D-4239-18).
 - (iv) Name of the expertiser is performed by external service provider.
 - (v) This report should not be replicated or reproduced.
 - (vi) The result related to the sample tested. Retention part of the sample will be destroyed after three months.

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, R.C. RANCHI

04/05/2023

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Sample ID: T-58445
Method: Dynamic
Mode: Determination
Initial Temp: 29.9394
Jacket Temp: 30.0085
Weight: 0.9990
Fuse: 50.0000
Sulfur: 0.5600
Units Multiplier: 1

Instrument MAC: 00:60:0C:85:11:94
Date: Thu May 25 13:04:13 2023
Type: Bomb ID: 1
EE Value: 934.240
Temp. Rise: 4.7780
Spike Weight: 0.0000
Acid: 8.0000
Gross Heat: 4397.58
Units: cal/g

Pipe
 25/05/23
 26/5/23
 26/5/23

CCL | PLCP | NTPC-IV | NABINA CAR | NBCC | 1126 | G-11

25/05/23



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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RESEARCH CENTRE - RANCHI, POST - NAMKUM, RANCHI-834010



Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 18.03.2023
LOADING END ANALYSIS REPORT FOR TOTAL MOISTURE

Date: 29-05-2023

Test Report No.-CIMFR/RNC/TPS/PLCP/NBCC/MAR/2023/56

Name of Coal Company- Central Coal Field Ltd.

Loading Area/Siding-PHUIBASIA

Power Utility-NTPC-NBCC

Date of start of analysis - 25.05.2023

Product tested - Coal Sample

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rate/MGR *			TM%
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	
1	CC/PLCP/NTPC-IV/NABINAGAR/NBCC/1126/G-11	18-03-2023	02-04-2023	07-04-2023	3965.40	161001502	18-03-2023	11.4

* Customer Provided Information

Note

- Sample collected as per ISA.
- Testing Method followed - Total Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2013
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.
- This result related to the sample tested. Reserve part of the sample will be destroyed after three months.

(Dr. M. K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RC, RANCHI

[Signature]
29/05/2023



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TC-5897

Analytical results of coal samples collected by CSIR-CIMFR (Third Party Sampling) during the period 18.03.2023

LOADING END ANALYSIS REPORT

Date: 29-05-2023

Power Utility: NTPC-MBC
Date of start of analysis: 25.05.2023
Product tested: Coal Sample

Relative Humidity of Laboratory: 42%
Temperature of Laboratory: 28.1°C

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/MGR *			Air-dried basis			Equilibrated moisture basis (60% RH & 40° C)			Analysed Grading
					R.R. Quantity (Mts)	R.R.No./ F. Note No.	R.R. Date	M %	ASH %	GCV (kcal/kg)	MMs	ASHs	GCV (kcal/kg)	
1	CCU/PUCP/NTPC-JV/NAMNAGAR/MBC/1126/G-11	18-03-2023	02-04-2023	07-04-2023	3965.40	161001502	18-03-2023	4.2	34.8	4397.58	7.6	33.6	4242	G11

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* Customer Provided Information

** Grade as per the website of the Ministry of coal [www.coal.nic.in/major-statistics/coal-grades, www.coal.gov.in/major-statistics/coal-grades]

Note:

(i) Sample collected as per FSA.

(ii) Testing method followed - Ash & Moisture as per ASTM D-7582-15 & GCV as per ASTM D-5865-15, DM as per IS 1180 (Part-1): 1984 reaffirmed 2013

(iii) Ash/ther(s) value has been put in the bottle calibration as determined in the laboratory following (ASTM D 4239-15).

(iv) Most of the experiment is performed by external service provider.

(v) This report should not be replicated or reproduced.

(vi) The result reported in the sample tested. Residue part of the sample will be destroyed after three months.

(Dr. M.K. Saini)
(Authorized Signatory)
CSIR-CIMFR, RANCHI



सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान

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CSIR-Central Institute of Mining and Fuel Research

(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826015, Jharkhand, India
An ISO 9001 Certified Institute



Date of issue : 18.07.2022

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/LD/JUL/22-23/7904 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 13.07.2022 to 16.07.2022

Relative Humidity of laboratory(%) : 52.0
Temperature of laboratory(°C) : 24.7

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MGR			Air-dried basis			Equilibrated moisture basis (air-dried basis & 40°C)			Analytical Grade
					RR Quantity (MT)	E.R.No./ E. Name No.	E.R. Date	M %	ASH%	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
1	TPS40528	22.06.2022	05.07.2022*	08.07.2022		001398		5.3	40.5	3742.65	7.7	39.5	3648	G13
2	TPS40531	23.06.2022	06.07.2022*	08.07.2022		001401		6.8	40.4	3656.23	7.8	40.0	3617	G13

N.B.-*Delay in sample preparation at loading site.

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

डॉ आशीष मुखर्जी/Dr. Ashish Mukherjee
मुख्य वैज्ञानिक/Chief Scientist
सी एस आई आर - केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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End of Report

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सीएसआईआर-केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान

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Date of issue : 30.06.2022

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Test Report No.- CIMFR/DHN/TPS/LD/JUN/22-23/7365 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- SPUS-2,JNT
Name of Power Utility-NBCC
Duration of Performance of Analysis : 27.06.2022 to 29.06.2022

Relative Humidity of laboratory(%): 54.0
Temperature of laboratory(°C): 24.3

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/MCR			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					RR Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	M %	ASH%	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
1	TPS/36733	07.06.2022	16.06.2022*	22.06.2022		002256		5.7	41.3	3826.31	6.0	41.2	3814	G12
2	TPS/36735	08.06.2022	16.06.2022*	22.06.2022		002256		6.8	32.8	4517.12	7.3	32.6	4503	G10

N.B.*Delay in sample preparation at loading site.

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

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Date of issue : 12.04.2023

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Test Report No.- CIMFR/DHN/TPS/LD/APR/23-24/1411 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis: 05.04.2023 to 11.04.2023

Relative Humidity of laboratory(%) 55.0
Temperature of laboratory(°C) 33.5

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at Laboratory	Railway Rule/ MGR			Air-dried basis			Equilibrated moisture basis (105° ± 0.5°C)			Analysed Grade
					RR Quantity (Mt)	R.R.No./ F.No. No.	R.R. Date	M %	ASH%	GCV (Kcal/kg)	SI%	ASH%	GCV (Kcal/kg)	
1	TPS/90498	01.02.2023	15.02.2023	21.02.2023		002027		5.8	37.2	3953.38	8.0	36.3	3861	G12
2	TPS/90504	01.02.2023	16.02.2023	21.02.2023		002032		4.3	36.8	4126.82	8.2	35.3	3989	G12
3	TPS/90509	03.02.2023	16.02.2023	21.02.2023		002036		6.8	31.2	4399.16	8.7	30.6	4309	G10
4	TPS/90513	04.02.2023	16.02.2023	21.02.2023		002039		5.2	32.6	4405.05	8.4	31.5	4256	G11
5	TPS/90520	05.02.2023	17.02.2023	21.02.2023		002044 A		6.3	34.4	4159.21	8.4	33.6	4066	G11
6	TPS/90521	05.02.2023	17.02.2023	21.02.2023		002044 B		4.5	35.5	4235.02	8.5	35.1	4191	G11
7	TPS/90526	06.02.2023	18.02.2023	21.02.2023		002048		4.6	38.5	4094.45	7.1	37.5	3987	G12
8	TPS/90531	07.02.2023	19.02.2023	21.02.2023		002052 A		5.4	37.4	4016.56	7.6	36.5	3923	G12
9	TPS/90532	07.02.2023	19.02.2023	21.02.2023		002052 B		3.9	40.5	3862.90	7.5	39.0	3718	G12

Note:

- (i) Sample collected as per FSA.
(ii) Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
(iii) GCV as per ASTM D 5865-19
(iv) None of the experiment is performed by external service provider.
(v) This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

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TC-16435

Date of issue : 18.05.2023.

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Test Report No. - CIMFR/DHN/TPS/LD/MAY/23-24/5827 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- KHADIA, KHADIA WHARFWALL (JRD)
Name of Power Utility-NBCC
Duration of Performance of Analysis : 28.04.2023 to 17.05.2023

Relative Humidity of laboratory(%): 54.0
Temperature of laboratory(°C): 24.0

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule: MGR			Air-dried basis			Equilibrated moisture basis (80% RH & 40°C)			Analysed Grade
					R.R. Quantity (Mt)	R.R. No.	F. No. No.	M %	ASH %	GCV (Kcal/kg)	M %	ASH %	GCV (Kcal/kg)	
1	TPS97570	20.03.2023	22.03.2023	22.03.2023		001219		1.2	40.7	4975.74	5.4	39.8	3983	G12

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
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श्री अशोक कुमार सिंह / Dr. Ashok K. Singh
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Test Report No.- CIMFR/DHN/TPS/LD/JAN/22-23/16793 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 02.01.2023 to 09.01.2023

Relative Humidity of laboratory(%): 53.0
Temperature of laboratory(°C): 23.0

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Rohm Rate/ MGR			Air-dried basis			Equilibrated moisture basis (60% RH & 40°C)			Analysed Grade
					R.R. Quantity (Mt)	R.R.No./ F. Note No.	R.R. Date	M %	ASH%	GCV (Kcal/Kg)	Mt	ASH%	GCV (Kcal/Kg)	
1	TPS/69843	05.11.2022	19.11.2022*	23.11.2022		001742 A		8.3	47.4	3284.56	7.4	46.3	3212	G14
2	TPS/69844	05.11.2022	19.11.2022*	23.11.2022		001742 B		8.4	44.7	3637.59	7.4	43.3	3523	G13
3	TPS/69847	06.11.2022	20.11.2022*	23.11.2022		001744 A		8.3	47.1	2934.31	7.6	47.5	2957	G15
4	TPS/69848	06.11.2022	20.11.2022*	23.11.2022		001744 B		7.6	40.8	3612.11	8.3	40.5	3585	G13
5	TPS/69853	07.11.2022	21.11.2022*	23.11.2022		001747 A		6.6	39.3	3745.80	8.1	38.7	3686	G13
6	TPS/69854	07.11.2022	21.11.2022*	23.11.2022		001747 B		6.5	44.0	3492.19	7.5	43.3	3366	G14

N.B.-*Delay in sample preparation

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
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IT-18494

Date of issue : 25.01.2023

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Test Report No.- CIMFR/DH/TPS/LD/JAN/22-23/18307 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHENGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 17.01.2023 to 24.01.2023

Relative Humidity of laboratory(%): 33.0
Temperature of laboratory(°C): 23.0

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Temperature of laboratory(°C): 23.0									Analyser Grade
					Barium (Ba) HCl			Air-dried basis			Equilibrated moisture basis (40% RH @ 40°C)			
					RH Quantity (Mg)	R.S. No./ F. Name No.	R.E. Date	M %	ASH%	GCV (Kcal/kg)	M %	ASH%	GCV (Kcal/kg)	
1	YFS/74561	28.12.2022	08.12.2022*	15.12.2022		001103 A		4.7	40.1	3859.59	7.3	39.8	3754	G12

Notes

- (i) Sample collected as per FSA.
- (ii) Ash & Moisture as per IS 1356 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- (iii) GCV as per ASTM D 5865-19
- (iv) None of the experiment is performed by external service provider.
- (v) This report should not be replicated or reproduced.

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Date of issue : 07.03.2023

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Test Report No.- CIMFR/DHN/TPS/LD/MAR/22-23/20667 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 28.02.2023 to 06.03.2023

Relative Humidity of laboratory(%) : 53.9
Temperature of laboratory(°C) : 23.8

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MGR			Aspirated basis			Equilibrated moisture basis (100% RH @ 40°C)			Analysed Grade
					RR Quantity (MT)	R.R. No.	R.R. Date	30.5%	ASH%	GCV (Kcal/kg)	30%	ASH%	GCV (Kcal/kg)	
1	TPS/81096	19.12.2022	06.01.2023*	12.01.2023		001879		3.3	40.8	3819.94	7.3	39.3	3662	G12
2	TPS/81099	28.12.2022	07.01.2023*	12.01.2023		001882		3.8	35.8	4249.70	8.0	34.2	4064	G11
3	TPS/81114	25.12.2022	11.01.2023*	12.01.2023		001897		3.8	40.9	3818.72	7.2	39.5	3684	G12

N.B: *Delay in sample preparation

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-I), 1964 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
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Date of issue : 13.03.2023

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Test Report No.- CIMFR/DHN/TPS/LD/MAR/22-23/20696 A
 Name of Coal Company-NORTHERN COALFIELDS LIMITED
 Loading Area/Siding- JHINGURDA
 Name of Power Utility- NBCC
 Duration of Performance of Analysis : 02.03.2023 to 11.03.2023

Relative Humidity of laboratory(%): 53.0
 Temperature of laboratory(°C): 23.0

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MGR			Air-dried basis			Equilibrated moisture basis (60% RH @ 40°C)			Analysed Grade
					RR Quantity (Mt)	R.R. No./ F. Note No.	R.R. Sign.	M %	ASH%	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
1	TPS/82521	26.12.2022	12.01.2023*	18.01.2023		001900		4.8	33.9	4368.80	7.9	32.7	4213	G11
2	TPS/82524	27.12.2022	14.01.2023*	18.01.2023		001903		3.7	35.2	4084.40	7.8	36.6	3911	G12

N.B: *Delay in sample preparation

Note:

- Sample collected as per FSA.
- Ask. & Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- Name of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

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Date of issue : 13.03.2023

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Test Report No.- CIMFR/DHN/TPS/LD/MAR/22-23/20697 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding-JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 02.03.2023 to 11.03.2023

Relative Humidity of laboratory(%): 53.0
Temperature of laboratory(°C): 23.0

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MGR			As-shed basis			Equilibrated moisture basis (80% RH & 40°C)			Analysed Grade
					RR Quantity (MT)	R.R. No.	R.R. Date	M%	ASH%	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
1	TPS/83632	28.12.2022	18.01.2023*	24.01.2023		001906 A		3.9	39.0	3935.14	6.8	37.8	3816	G12
2	TPS/83633	28.12.2022	18.01.2023*	24.01.2023		001906 B		2.4	47.3	3424.66	7.6	44.8	3242	G14
3	TPS/83644	30.12.2022	20.01.2023*	24.01.2023		001912 A		7.4	37.2	3873.76	7.0	37.4	3890	G13
4	TPS/83645	30.12.2022	20.01.2023*	24.01.2023		001912 B		7.3	38.6	3864.35	7.1	38.7	3873	G12
5	TPS/83648	31.12.2022	21.01.2023*	24.01.2023		001914 A		7.3	43.1	3389.82	6.3	43.6	3426	G13
6	TPS/83649	31.12.2022	21.01.2023*	24.01.2023		001914 B		7.2	41.4	3593.31	7.2	41.4	3593	G13

N.B: *Delay in sample preparation

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019 ASTM D 7582-15.
- GCV as per ASTM D 5865-19.
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

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Date of issue : 16.04.2023

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DIN/TPS/LD/APR/23-24/1556 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 21.03.2023 to 15.04.2023

Relative Humidity of laboratory(%): 53.0
Temperature of laboratory(°C): 23.0

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MGB			Air-dried basis			Esselized moisture basis (60% RH & 40°C)			Analysed Grade
					R.R. Quantity (MT)	R.R. No./ F. Note No.	R.R. Date	M %	ASH %	GCV (Kcal/kg)	M %	ASH %	GCV (Kcal/kg)	
1	TPS/86722	13.01.2023	02.02.2023*	03.02.2023		001987 B		3.0	42.0	3918.85	6.1	40.7	3794	G12
2	TPS/86728	12.01.2023	02.02.2023*	03.02.2023		001980 B		4.7	39.0	3894.89	6.6	38.2	3817	G12

N.B: *Delay in sample preparation

Note:

- (i) Sample collected as per FSA.
- (ii) Ash & Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- (iii) GCV as per ASTM D 5865-19
- (iv) None of the experiment is performed by external service provider.
- (v) This report should not be replicated or reproduced.

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Date of issue : 05.04.2023

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Test Report No.- CIMFR/DHN/TPS/LD/APR/23-24/1106 A
Name of Coal Company- NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 27.03.2023 to 04.04.2023

Relative Humidity of laboratory(%) : 53.0
Temperature of laboratory(°C) : 23.6

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rules/ MGB			Air-dried basis			Equilibrated moisture basis (100% RH & 40°C)			Analysed Grade
					RR Quantity (Mts)	R.R.No./ F. Note No.	R.R. Date	Mt %	AS10%	GCV (Kcal/kg)	Mt %	AS10%	GCV (Kcal/kg)	
1	TPS/87841	15.01.2023	05.02.2023*	09.02.2023		001967 A		3.7	29.8	4561.94	8.9	28.2	4410	G10
2	TPS/87842	15.01.2023	05.02.2023*	09.02.2023		001967 B		2.8	37.8	4300.54	6.3	36.4	4146	G11
3	TPS/87849	16.01.2023	05.02.2023*	09.02.2023		001971 A		6.3	31.9	4353.27	7.8	31.4	4284	G11
4	TPS/87850	16.01.2023	05.02.2023*	09.02.2023		001971 B		4.2	40.5	3941.12	5.8	39.8	3875	G12
5	TPS/87857	17.01.2023	06.02.2023*	09.02.2023		001975 A		5.0	31.3	4477.91	7.3	30.5	4369	G10
6	TPS/87858	17.01.2023	06.02.2023*	09.02.2023		001975 B		2.3	46.5	3566.16	5.3	45.1	3457	G13
7	TPS/87862	18.01.2023	06.02.2023*	09.02.2023		001978 A		5.5	31.2	4457.94	7.6	30.5	4369	G10
8	TPS/87863	18.01.2023	06.02.2023*	09.02.2023		001978 B		3.8	40.6	3848.04	6.1	39.6	3756	G12
9	TPS/87868	19.01.2023	07.02.2023*	09.02.2023		001981 A		4.6	35.2	4200.58	8.3	33.8	4038	G11
10	TPS/87869	19.01.2023	07.02.2023*	09.02.2023		001981 B		3.7	39.6	4013.05	7.1	38.2	3871	G12
11	TPS/87880	21.01.2023	08.02.2023*	09.02.2023		001987 A		4.7	34.7	4206.64	7.2	33.8	4036	G11

N.B: *Delay in sample preparation

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

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(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)

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Test Report No.- CIMFR/DHN/TPS/LIX/APR/23-24/1567 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 27.03.2023 to 15.04.2023

Relative Humidity of laboratory(%) : 53.0
Temperature of laboratory(°C) : 23.0

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Bulkcore Based MGB			Air-dried basis			Equilibrated moisture basis (90% RH & 40°C)			Analysed Grade	
					RR Quantity (MT)	R.R.No.	F. Note No.	R.R. Basis	RR %	ASRR%	GCV (Kcal/Kg)	RR %	ASRR%		GCV (Kcal/Kg)
1	TPS87881	21.01.2023	08.02.2023*	09.02.2023		001987 II			3.5	40.3	3949.21	5.9	39.3	3870	G12

N.B: *Delay in sample preparation

Note:

- Sample collected as per PSA.
- Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19.
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

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Date of issue : 11.04.2023

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Test Report No.- CIMFR/DHN/TPS/LD/APR/23-24/1316-A
 Name of Coal Company-NORTHERN COALFIELDS LIMITED
 Loading Area/Siding- JHINGURDA
 Name of Power Utility- NBCC
 Duration of Performance of Analysis : 30.03.2023 to 10.04.2023

Relative Humidity of laboratory(%) : 53.0
 Temperature of laboratory(°C) : 23.0

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Baler MGB			Air-dried basis			Equilibrated moisture basis (100% RH & 40°C)			Analysed Grade
					R.R. Quantity (MT)	R.R. No./ F. Pass No.	R.R. Date	M. %	ASH%	GCV (Kcal/kg)	M%	+SD%	GCV (Kcal/kg)	
1	TPS/89172	22.01.2023	09.02.2023*	15.02.2023		001991 A		4.2	38.9	3903.35	5.5	38.4	3860	G12
2	TPS/89173	22.01.2023	09.02.2023*	15.02.2023		001991 B		4.1	38.5	3986.83	6.0	37.7	3908	G12
3	TPS/89176	23.01.2023	10.02.2023*	15.02.2023		001995 A		5.7	31.4	4474.93	6.7	31.1	4427	G10
4	TPS/89180	23.01.2023	10.02.2023*	15.02.2023		001995 B		4.1	35.3	4297.09	8.1	33.8	4118	G11
5	TPS/89186	24.01.2023	10.02.2023*	15.02.2023		001999		3.9	40.3	3864.80	7.6	38.7	3716	G12
6	TPS/89191	25.01.2023	11.02.2023*	15.02.2023		002002		4.0	35.8	4176.85	7.6	34.5	4020	G11
7	TPS/89199	27.01.2023	12.02.2023*	15.02.2023		002008		8.9	20.8	5095.52	8.9	20.8	5096	G8
8	TPS/89204	28.01.2023	12.02.2023*	15.02.2023		002013		4.1	39.0	3906.08	7.4	37.7	3772	G12
9	TPS/89210	29.01.2023	13.02.2023*	15.02.2023		002016 A		5.9	37.6	3928.84	7.9	36.8	3845	G12
10	TPS/89211	29.01.2023	13.02.2023*	15.02.2023		002016 B		3.3	43.2	3668.13	6.9	41.4	3532	G13
11	TPS/89219	31.01.2023	14.02.2023*	15.02.2023		002023		4.0	41.3	3847.22	6.8	40.1	3735	G12

N.B: *Delay in sample preparation

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
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Date of issue : 30.04.2023

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Test Report No:- CIMFR/DIN/TPS/LD/APR/23-24/5094 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Arm/Siding- JHENGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis: 12.04.2023 to 29.04.2023

Relative Humidity of laboratory(%): 65.8
Temperature of laboratory(°C): 23.5

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rater MGR			Air-dried basis			Equilibrated moisture basis (60% RH @ 40°C)			Analysed Grade
					RR Quantity (MT)	B.R.No./ F. Note No.	B.R. Date	M %	ASD%	GCV (Kcal/kg)	MM%	ASD%	GCV (Kcal/kg)	
1	TPS/92414	15.02.2023	26.02.2023*	02.03.2023		002085 A		3.1	40.5	3920.42	5.5	39.5	3823	G12
2	TPS/92421	16.02.2023	28.02.2023*	02.03.2023		002089 A		4.2	42.9	3596.40	5.6	42.3	3544	G13
3	TPS/92422	18.02.2023	28.02.2023*	02.03.2023		002099 B		3.2	42.3	3815.64	5.2	41.4	3737	G12
4	TPS/92430	17.02.2023	01.03.2023*	02.03.2023		002094 A		3.7	32.9	4497.66	8.8	31.2	4259	G11
5	TPS/92431	17.02.2023	01.03.2023*	02.03.2023		002094 B		2.0	37.5	4340.08	7.9	35.6	4117	G11

N.B.*Delay in sample preparation

Note:

- Sample collected as per ISA.
- Ash & Moisture as per IS 1350 (Part-II, 1984 Reaffirmed 2019) ASTM D 7582-15.
- GCV as per ASTM D 5865-19
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Date of issue : 28.04.2023

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Test Report No.- CIMFR/DHN/TPS/LD/APR/23-24/5044 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis: 24.04.2023 to 27.04.2023

Relative Humidity of laboratory(%): 85.0
Temperature of laboratory(°C): 23.5

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Bag/ MGH			Air-dried basis			Equilibrated moisture basis (00% RH & 40°C)			Analysed Grade
					RR Quantity (MT)	R.R.No./ T. Note No.	R.R. Date	M %	ASH%	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
1	TPS/94692	01.03.2023	13.03.2023*	17.03.2023		002145		4.8	42.1	3732.47	7.8	41.8	3639	G13
2	TPS/95705	04.03.2023	14.03.2023*	17.03.2023		002153		7.1	35.2	4071.49	7.6	35.0	4050	G11
3	TPS/95713	05.03.2023	15.03.2023*	17.03.2023		002158 A		3.4	45.3	3492.06	5.7	44.2	3409	G13
4	TPS/95714	06.03.2023	16.03.2023*	17.03.2023		002158 B		3.3	46.9	3347.17	5.9	45.6	3357	G14

N.B.*Delay in sample preparation

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19.
- None of the experiment is performed by external service provider.
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(Signature and Designation of Authorized Signatory)

डॉ० अशोक कुमार सिंह / Dr. Ashok K. Singh

प्रमुख अनुसंधान सल्लागार, संशोधन एवं प्रशिक्षण विभाग / HODS, R&D Division & Project Leader

सी० एच० आई० आर०- केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान

CSIR-Central Institute Of Mining & Fuel Research

Genl. Of India, Dhanbad

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End of Report

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सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बनारस रोड, धनबाद - 826 015, झारखण्ड, भारत
एच आई एस ओ 9001 प्रमाणित संस्थान

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TC-16425

Date of issue : 03.05.2023

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DRIN/TPS/LD/MAY/23-24/5236 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHENGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 28.04.2023 to 03.05.2023

Relative Humidity of laboratory(%) : 53.0
Temperature of laboratory(°C) : 23.8

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rules/ MGB			Air dried basis			Equilibrated moisture basis (40% RH & 40°C)			Analysed Grade
					SR Quantity (MT)	P. base %	R.R. base	M %	ASST %	GCV (Kcal/Kg)	MM %	ASST %	GCV (Kcal/Kg)	
1	TPS/97617	08.03.2023	18.03.2023*	23.03.2023		002162 A		3.5	37.8	4110.54	6.1	36.8	4090	G12
2	TPS/97618	09.03.2023	18.03.2023*	23.03.2023		002162 B		2.7	46.6	3498.70	8.3	45.4	3495	G13
3	TPS/97623	07.03.2023	19.03.2023*	24.03.2023		002168 A		2.9	43.3	3620.89	5.8	42.0	3513	G15
4	TPS/97624	07.03.2023	19.03.2023*	24.03.2023		002168 B		3.4	41.3	3709.71	6.6	40.5	3557	G13
5	TPS/97631	09.03.2023	19.03.2023*	24.03.2023		002172		3.4	43.0	3773.35	6.1	41.3	3666	G13
6	TPS/97635	10.03.2023	20.03.2023*	25.03.2023		002174 A		4.5	40.9	3909.35	5.9	40.3	3843	G12
7	TPS/97634	10.03.2023	20.03.2023*	25.03.2023		002174 B		3.2	42.1	3823.04	6.3	40.8	3701	G12
8	TPS/97644	12.03.2023	21.03.2023*	23.03.2023		002181 A		5.5	41.1	3557.83	5.9	43.9	3545	G13
9	TPS/97651	13.03.2023	22.03.2023*	23.03.2023		002185		6.3	43.3	3496.06	8.3	43.8	3487	G13

N.B: *Delay in sample preparation

Note:

- Sample collected as per PSA.
- Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019 ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

Dr. Ashok Kr. Singh
जुनियर प्रोफेसर, रिसर्च क्वालिटी मैनेजर्स / HORG, RQA Division & Project Leader
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End of Report

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सीएसआईआर-केंद्रीय खनन एवं अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
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Date of issue : 10.05.2023

LOADING END ANALYSIS REPORT

Test Report No.: CIMFR/DHN/TPS/LD/MAV/23-24/5540 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JHINGURDA
Name of Power Utility- NBCC
Duration of Performance of Analysis : 05.05.2023 to 09.05.2023

Relative Humidity of laboratory(%): 53.0
Temperature of laboratory(°C): 23.0

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rake/ MGR			Air-dried basis			Equilibrated moisture basis (80% RH @ 40°C)			Analysed Grade
					RR Quantity (MT)	R.R.No./ F. Note No.	R.R. Date	SI %	ASH%	GCV (Kcal/kg)	SI%	ASH%	GCV (Kcal/kg)	
1	TPS/99367	17.03.2023	25.03.2023*	29.03.2023		002199		4.2	39.9	3966.06	5.1	39.5	3929	G12
2	TPS/99374	18.03.2023	26.03.2023*	29.03.2023		002205		6.0	38.1	4071.46	7.6	37.5	4002	G11

N.B: *Delay in sample preparation

Note:

- Sample collected as per ISA.
- Ash, & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 3582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature)

(Signature and Designation of Authorized Signatory)

डॉ. आशोक कुमार सिंग / Dr. Ashok Kr. Singh
प्रमुख अभियंता खनन, सार्वजनिक खनन विभाग / HORG, RQA Division & Project Leader
सी. एस. आई. आर. - केंद्रीय खनन एवं ईंधन अनुसंधान संस्थान
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सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान

279

CSIR-Central Institute of Mining and Fuel Research

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Date of issue : 12.04.2023

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/LD/APR/23-24/1398 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- BINA, BINA SILO
Name of Power Utility- NBCC
Duration of Performance of Analysis: 05.04.2023 to 11.04.2023

Relative Humidity of laboratory(%): 55.8
Temperature of laboratory(°C): 23.5

Sl. No	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MGR			Air-dried basis			Equilibrated moisture basis (98% RH & 40°C)			Analysed Grade
					R.R. Quantity (Mt)	R.R.No./ F. Part No.	R.R. Date	M%	ASH%	GCV (Kcal/kg)	M%	ASH%	GCV (Kcal/kg)	
I	TPS/90458	16.01.2023	17.01.2023	21.02.2023		083192		6.3	34.7	4303.05	7.0	34.4	4271	G11

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-1), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- Nase of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature)

(Signature and Designation of Authorized Signatory)

डॉ० अशोक कुमार सिंह / Dr. Ashok K. Singh
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सीएसआईआर-केन्द्रीय खनन एवं अनुसंधान संस्थान

280

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)
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Date of issue : 28.03.2023

LOADING END ANALYSIS REPORT

Test Report No.- CIMFR/DHN/TPS/LD/MAR/22-23/22275 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JAYANT, JAYANT SILO
Name of Power Utility- NBCC
Duration of Performance of Analysis: 16.03.2023 to 17.03.2023

Relative Humidity of laboratory(%): 83.8
Temperature of laboratory(°C): 23.0

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MCR			Air-dried basis			Equilibrated moisture basis (10% RH & 40°C)			Analysed Sample
					RR Quantity (Mts)	R.R.No./ F. Test No.	R.R. Date	MM %	ASH%	GCV (Kcal/kg)	MM %	ASH%	GCV (Kcal/kg)	
1	TPS/94276	21.01.2023	27.01.2023	28.01.2023		3000061		8.0	37.6	4291.53	7.1	36.8	4197	G11

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-3), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature)

(Signature and Designation of Authorized Signatory)

श्री. अशोक कुमार सिंग / Dr. Ashok Kr. Singh
मुख्य अनुसंधान सहायक, खनन विभाग, भारतीय खनन विभाग / HORG, BQA Division & Project Leader
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सीएसआईआर-केंद्रीय खनन एवं अनुसंधान संस्थान
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Date of issue : 13.04.2023

LOADING END ANALYSIS REPORT

Test Report No.: CIMFR/DHN/TPS/LD/APR/23-24/1444 A
Name of Coal Company-NORTHERN COALFIELDS LIMITED
Loading Area/Siding- JAVANT, JAVANT SILD
Name of Power Utility- NBCC
Duration of Performance of Analysis: 08.04.2023

Relative Humidity of laboratory(%): 53.0
Temperature of laboratory(°C): 23.0

Sl. No.	Sample ID	Date of collection	Date of preparation	Date of sample receiving at laboratory	Railway Rule/ MGB			Air-dried basis			Equilibrated moisture basis (90% RH & 40°C)			Analysed Grade
					RR Quantity (MT)	R.R.No.	R.R. Date	Mo %	ASH%	GCV (Kcal/kg)	Mo %	ASH%	GCV (Kcal/kg)	
1	TPS/91158	20.02.2023	24.03.2023	25.02.2023		2008168		6.0	35.0	4342.86	6.4	34.9	4324	G10

Note:

- Sample collected as per FSA.
- Ash & Moisture as per IS 1350 (Part-I), 1984 Reaffirmed 2019/ ASTM D 7582-15.
- GCV as per ASTM D 5865-19
- None of the experiment is performed by external service provider.
- This report should not be replicated or reproduced.

(Signature and Designation of Authorized Signatory)

Dr. Ashok Kumar Singh / Dr. Ashok K. Singh
मुख्य अनुसंधान अधिकारी, प्रमुख प्रशासक, प्रमुख निदेश / HORG, RQA Division & Project Leader
Dr. Ashok Kumar Singh / प्रमुख प्रशासक एवं प्रमुख अनुसंधान अधिकारी
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**PHOTOGRAPHS TAKEN DURING INSPECTION OF THE JOINT COMMITTEE
CONSTITUTED IN THE MATTER OF THE HON'BLE NGT OA NO. 976/2024/PB
TITLED VIJAY KUMAR SINGH Vs STATE OF BIHAR & OTHERS.**

Photographs of M/s NTPC-NSTPS, Nabinagar, Aurangabad.



RCC approach road to the Ash Dyke



Unpaved part between RCC road and Ash Dyke.



Joint Committee visiting Ash Dyke.



Ash Dyke showing dry dust on the Unpaved part



Water Sprinkling over Wagon (Pre-tipping)



Wagon Tippler section



Stack Monitoring



Debris over the platform of Stack

Photographs of M/s BRBCL, Nabinagar, Aurangabad.



Ash Dyke of M/s BRBCL.



Ash Dyke of M/s BRBCL.



Unpaved road around Ash Dyke.



Stack Monitoring.



FGD work under progress.



Effluent Treatment Plant.

Item No.01

Court No. 2

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No.976/2024

Vijay Kumar Singh

...Applicant

Versus

State of Bihar

...Respondent

Date of hearing: 03.10.2024

**CORAM: HON’BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON’BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant(s): None

ORDER

1. On a letter petition dated 17.12.2023 sent by Vijay Kumar Singh @ W Singh resident of Kshatriya Nagar, G.T. Road, Aurangabad, State of Bihar, this Original Application has been registered under Sections 14 and 15 of National Green Tribunal Act, 2010 (hereinafter referred to as **‘NGT Act, 2010’**) exercising *suo-moto* jurisdiction in view of law laid down by Supreme Court in ***Municipal Corporation of Greater Mumbai Versus Ankita Sinha and Others, (2022) 13 SCC 401.***
2. Complainant has said that there are two Thermal Power Plants of National Thermal Power Corporation namely BRBCL and NPGC functioning at Nabinagar, District Aurangabad, wherein fuel used for

generation of electricity comprised a waste material, black filter dust and rejected coal which is causing air pollution effecting local people and creating health hazards.

3. In our view, facts stated in Original Application required verification before taking any further action in the matter and therefore, we constitute a Joint Committee comprising Central Pollution Control Board (hereinafter referred to as '**CPCB**'); Bihar State Pollution Control Board; (hereinafter referred to as '**BPCB**') Integrated Regional Office Ministry of Environment Forest and Climate Change, Aurangabad; and District Magistrate, Aurangabad.

4. CPCB shall be the Nodal Authority for co-ordination and compliance.

5. Said Committee shall collect relevant information after visiting the site, and submit a factual report within one month. Committee shall also verify as to whether consent conditions and EC conditions have been complied with by the above proponents.

6. List for further consideration on 04.11.2024.

Sudhir Agarwal, JM

Dr. Afroz Ahmad, EM

October 03, 2024
Original Application No.976/2024
M

Item No. 16

Court No. 2

**BEFORE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 976/2024

Vijay Kumar Singh Urf Dablu Singh
Bhiar Vihar Sabha

Applicant

Versus

State of Bihar

Respondent(s)

Date of hearing: 04.11.2024

**CORAM: HON’BLE MR. JUSTICE SUDHIR AGARWAL JUDICIAL MEMBER
HON’BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant: None

Respondents: Mr. Srinivas Vishven, Advocate for CPCB (through VC)

ORDER

1. This original application was registered on a letter petition dated 17.12.2023 sent by Vijay Kumar Singh, alias Dablu Singh, resident of Kshatriya Nagar, G.T. Road, Aurangabad, State of Bihar.
2. Complainant has said that there are two Thermal Power Plants of National Thermal Power Corporation namely BRBCL and NPGC functioning at Nabinagar, District Aurangabad, wherein fuel used for generation of electricity comprised a waste material, black filter dust and rejected coal which is causing air pollution effecting local people and creating health hazards.
3. Tribunal after being *prima facie* satisfied that a substantial question relating to environment has arisen entertained the matter but found it

appropriate to obtain a factual report and thus constitute a Joint Committee comprising Central Pollution Control Board (hereinafter referred to as '**CPCB**'), Bihar State Pollution Control Board (hereinafter referred to as '**BSPCB**'), Integrated Regional Office, Ministry of Environment, Forest and Climate Change Aurangabad and District Magistrate, Aurangabad.

4. CPCB was made nodal authority for coordination and compliance and committee was required to submit report within one month.

5. Neither any report has been submitted nor any reason has been communicated to Tribunal.

6. Sh. Srinivas Vishven, Advocate appearing for CPCB stated that inspection has been completed, information has been collected and report is under preparation. He seeks three weeks' further time to file report.

7. Let the report be filed within three weeks failing which all the members of Joint Committee shall appear virtually before Tribunal on the next date.

8. List on 29.11.2024.

Sudhir Agarwal, JM

Dr. Afroz Ahmad, EM

November 04, 2024
Original Application No. 976/2024
AB