

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

EASTERN ZONE BENCH, KOLKATA

ORIGINAL APPLICATION NO. 208 OF 2025

IN THE MATTER OF:

CHITTARANJAN SAHU

...APPLICANT

VERSUS

ASHOK KUMAR AND OTHERS

...RESPONDENTS

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Through its Counsel



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DATE- 14.10.2025

SYNOPSIS

This Application has been filed by the Applicant, Mr. Chittaranjan Sahu, President, Village Committee, Raijharan for violation of CTE (Consent to Establish) conditions by Respondent No. 1, Jindal Steel & Power Limited (JSPL) in Utkal C-Block coal mines, Dist : Angul, Odisha. The respondent no. 1 has been allocated to this coal mine spread over a Mining Lease area of 575.05 hectares to mine 3.37 MTPA of coal . The said coal mine lies in the villages of Raijharan, Similisahi, Golagadia, Nandichor alias Gopiballavpur in the Tehsil of Chhendipada Dist: Angul. State Pollution Control Board, Odisha granted Consent to Establish (CTE) vide letter no. 23468 dt. 19.12.2022 subject to strict conditions, including several pollution control measures to address air and water pollution. However, Jindal Steel & Power Limited has violated multiple conditions of the CTE by not using a mechanized wheel washing system at exit point of mine, not using black topped /concrete roads from the mines to dumping yard, no wind barrier wall of 10 metres height around the stack yard to prevent fugitive coal dust emission apart from no water sprinkling on unplanted surface area of Overburden dump area to control fugitive emission.

Despite, our petition to government authorities on 09.06.2025 followed by an inspection by the local SPCB officer which confirmed our allegations no action has been taken against JSPL by the Odisha State Government or MoEFCC.

The Applicant, Chittaranjan Sahu, is filing the present case due to blatant violations of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986 and by JSL in operation of the Utkal -C Block coal mines. Failure of government authorities to take action despite petitions and official reports regarding the illegal operation of the coal mine affecting the 30,000 local people including senior persons and children of four villages adjacent to the mine.

LIST OF DATES

Date	Particulars
5.10.2006	Utkal-C Coal block (3.37MTPA) allotted to Utkal Coal Ltd located in village Rajjharan, Tehsil Chendipada, Dist : Angul gets environment clearance
25.8.2014	Utkal-C Coal block of Utkal Coal Ltd allotment is cancelled by the Supreme Court of India.

15.2.2022	Utkal-C Coal block is allocated to Jindal Steel and Power Ltd. through auction under Coal Mines (Special Provisions) Act,2015 with reserves of 196.347 Million MT and Peak Rated Capacity of 3.37 MTPA
19.12.2022	Consent to Establish (CTE) granted to Jindal Steel and Power Ltd. by State Pollution Control Board, Odish under Section 25 of Water (PCP) Act,1974 and Section 21 of Air (PCP) Act,1981 for coal production of 3.37 MTPA over ML area of 575.07 Ha at village Raijharan, Tehsil Chendipada, Dist : Angul
28.2.2023	Transfer of EC dtd. 5.10.2006 from Utkal Coal Ltd to Jindal Steel and Power Ltd.
1.9.2023	Surface operation order issued by Collector, Angul to Jindal Steel and Power Ltd over an area of 553.613 Ha out of 575.071 Ha of land within the leasehold area of Utkal-C Coal block in villages of Raijharan, Golagadia, Similisahi & Nandichhod under Chhendipada Tahasil of Angul district
28.03.2025	Consent to Operate (CTO) issued by State Pollution Control Board, Odisha u/s 25/26 of Water (PCP) Act,1974 and for existing /new operation of the plant under section 21 of Air (PCP) Act,1981 to Jindal Steel and Power Ltd. to produce 3.37 MTPA of coal from Utkal -C Coal block

18.5.2025	Photo taken to show unwashed wheels of coal bearing trucks exiting Utkal-C Block coal mines proving non operation of mechanized wheel washing system by JSPL.
24.5.2025	Six Monthly Environmental Clearance Compliance Report (Period Oct 2024 to March 2025) of Utkal-C Coal block filed by Jindal Steel and Power Ltd.
9.6.2025	Complaint about violation of CTE conditions dated 19.12.2022 in Utkal-C coal block filed by President, Village Committee, Raijharan with SPCB, Regional Officer, Angul and with Member Secretary, SPCB, Odisha and other government authorities.
19.6.2025	Addl Chief Environment Engineer, SPCB, Odisha directs Regional Officer, SPCB, Angul to look into the matter .
13.8.2025	Site visit to Utkal -C Coal block at Raijharan village was undertaken by the Regional Officer, SPCB, Angul in connection with a public complaint from the President, Village Committee, Raijharan.
11.9.2025	Inspection report submitted to Chief Env Engineer (M), SPCB, Odisha by Regional Officer, SPCB, Angul with respect to public complaint received against Utkal-C Coal mine of M/s Jindal Steel and Power Ltd. at Raijharan village.
10.10.2025	Photo taken of main gate that shows lack of LED live display board for pollution parameters of Utkal-C Block Coal Mines, vill : Raijharan

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA**

(Under Section 18(1) read with Section 14(1) and 15 of the National Green
Tribunal Act 2010)

ORIGINAL APPLICATION NO. _____ OF 2025

IN THE MATTER OF:

1. Name: Chitta Ranjan Sahu

At/ PO-Raijharana, PS-Nisha, Angul, Odisha. PIN- 759130

E-mail :- rajjharanpresident@gmail.com

...**APPLICANT**

VERSUS

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2. Mr Pankaj Malhan

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5. The District Magistrate & Collector,

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6. The Member Secretary, State Pollution Control Board,

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7. The Regional Officer, State Pollution Control Board,

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9. The Director, Directorate of Mines, Steel & Mines Department,

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10. The Dy. Director General of Forest(C), Integrated Regional office,

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11. The Chairman, Expert Appraisal Committee(Coal), Ministry of Environment Forest and Climate Change , Govt of India,

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12. Member Secretary, EAC(Coal), Ministry of Environment Forest and Climate Change, Govt of India, Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, New Delhi – 110003 Email: lk.bokolia@nic.in

13. The Secretary, Ministry of Coal, , A-Wing, Shastri Bhawan, Dr. Rajendra Prasad Marg, New Delhi - 110001. Email: secy.moc@nic.in

...RESPONDENTS

The addresses of the Applicants are given above for the service of notices of this Application.

- I. The addresses of the Respondents are given above for the service of notices of this Application
- II. The Present Application challenges the inaction of authorities who have failed to take action despite clear violation of clearance conditions imposed under Consent to Establish, Consent to Operate, Environment Clearance and conditions under Surface operation over 553.614 Ha area order issued under the Mineral Concession Rules, 1960 by Respondent No. 1, Jindal Steel & Power Limited (JSPL) in Utkal -C Block coal mines at Rajjharan, P.O: Chhendipada, Dist : Angul, Odisha.

MOST RESPECTFULLY SHOWETH:

1. It is submitted that Jindal Steel and Power Limited (JSPL) was awarded the Utkal C coal block at Raijharan , P.O: Chhendipada, Dist : Angul in an auction of coal blocks made by the Ministry of Coal, Government of India concluded in 2022.
2. That, as the successful allottee, JSPL has undertaken the responsibility for its operation including compliance with all environmental laws and procedures.
3. That, this coal mine is spread over an area of 575.07 Ha in the villages of Raijharan, Golagadia, Similisahi & Nandichhod under Chhendipada Tahsil of Angul District .
4. That all clearances obtained by the previous allottee were transferred to JSPL under the Coal Mines (Special Provisions) Act (CMSP Act),2015.
5. That, the said coal mine is currently under operation by the allottee JSL since 2024 and is working towards achieving its peak rated capacity of 3.37 MTPA.
6. That the Environment Clearance (EC) accorded by the Ministry of Environment and Forests (MOEF) vide No. J-11015/134/2006-IA.II(M) dated 5.10.2006 was also vested with the new allottee i.e., JSOL on allocation and takeover of the said coal block on 15.2.2022. A copy of the EC dated 5.10.2006 is marked and annexed hereto as **Annexure-1**
7. That the Respondent no. 1 obtained the Consent to Establish (CTE) from the Member Secretary of State Pollution Control Board, Odisha vide Order No 23468/IND-II-CTE-6787 on 19.12.2022. A copy of the Consent to Establish dated 19.12.2022 is marked and annexed hereto as **Annexure-2**.

8. That the Respondent no. 1 obtained the right to surface operation order Clause-2 , Part -III, Form -K of M.L. appended to Minerals Concession Rules, 1960 for an area of 553.614 Ha out of 575.07 Ha of land within the leasehold area of Utkal-C Coal block from the Collector, Angul vide Order no. 840 /Mines File No. V-19/2023 dated 01.09.2023. A copy of the Surface Operation order is marked and annexed hereto as **Annexure -3**.

9. That Consent to Operate order (CTO) was obtained from State Pollution Control Board, Odisha vide no. 6569 /IND-I-CON-6901 dated 28.3.2025. A copy of the CTO order dtd. 28.3.2025 is marked and annexed hereto as **Annexure- 4**.

10. That the applicant has examined the six monthly Environmental Clearance Compliance Report (Period October,2024 to March 2025) of Utkal-C Coal Mines of Jindal Steel and Power Ltd located in Village: Raijharan; Tehsil : Chhendipada, District : Angul , Odisha filed on 24.5.2025 . EC Compliance report dated 24.5.2025 is marked and annexed hereto as **Annexure -5**.

11. That, the project proponent has claimed in the Compliance report that most of the terms of the EC dated 5.10.2006 as well as the terms laid down in CTE and CTO are still work in progress though the mine has been operating since long.

12. That the applicant has collected information about the coal mine and examined the Compliance Report of EC filed on 24.5.2025 by JSPL to ascertain the veracity of the claims made therein. He has noted egregious violations of the conditions of the EC , CTE and CTO by the project proponent.

13. That the Respondent no. 1 has violated the following specific conditions listed in the EC dated 5.10.2006:

2.A (i) - All the conditions stipulated by SPCB in their NOC shall be effectively implemented

Submission by Applicant :

Violation of CTE conditions have been noted in the Inspection Report dated 11.9.2025 of the Regional Officer, SPCB, Angul. The applicant has provided details of these violations separately in this application.

(iv) An embankment shall be constructed along the southern boundary adjoining the ML. The slope of the embankment shall at least 2:1 towards the ML. The height of the embankment shall be at least 5 m higher than the HFL. The dimensions of the embankment shall be at least 1805 m in length, 20m width at the bottom and 5 m at the top.

Submission by Applicant :

The six monthly EC Compliance Report filed by JSPL clearly mentions that a consultant has been appointed and study is being done. As per latest information no such embankment has been constructed till 10.10.2025. They have not complied with this key EC condition even after more than one year of operations in the coal mine. It is further submitted that this should have been constructed even before digging a single kg of coal from the mine.

(vii) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilised for watering the mine area,

roads, green belt development, etc. The drains should be regularly desilted and maintained properly.

Garland drains (size, gradient and length) and sump capacity should be designed

keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.

Submission by Applicant :

The EC Six monthly compliance report mentions construction of about 8.7 km garland and catch drains only and claims another 5 km shall be made around the mine area and road which indicates non achievement of this EC condition before starting production.

(viii) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data.

Submission by Applicant :

The project proponent has claimed it is being complied with . However, no toe wall along with dumps with stone mesh has been built.

(xii) The total area brought under afforestation shall not be less than 315.87 ha, and shall include external OB dump (74.96 ha),, topsoil dump (7.84 ha) backfilled area covering 163.04 ha, along ML boundary, infrastructure (10 ha), along roads, safety zone and vacant area (20.36 ha) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.

Submission by Applicant:

As per the Compliance Report the project proponent has planted only 100 saplings against an afforestation target of 7,90,000 saplings over 315.87 ha at the specified density of 2,500 plants per Ha. This indicates a huge shortfall. The claim of the Project proponent that the area is limited is unacceptable since the ML boundary, infrastructure (10 ha) , roads, vacant, safety zone and vacant area (20.36 ha) is already available and can be used for plantation of 75,000 saplings but was never done. This violation may be noted.

(xv) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resources. The project authorities should meet water requirements of nearby village(s) in case the village wells go dry due to dewatering of mine.

Submission by Applicant :

As per the compliance report , the Project proponent has mentioned “noted and being complied” which clearly indicates that not a single artificial groundwater recharge pond or pit has been set up

(xvi) ETP should also be provided for workshop and CHP wastewater

Submission by Applicant :

As per the compliance report , the Project proponent has mentioned that a 25 KLD ETP installation is under progress at the workshop which is a violation of the EC condition. This should have been done before the operation of the coal mine itself.

(xvii) A Programme for conservation of the endangered species, particularly the Indian Elephant, found in the study area, shall be formulated and implemented in consultation with the concerned Department in the State Government.. Separate funds shall be earmarked for implementation of the various activities there under and the status thereof shall be regularly reported to this Ministry and the MOEF Regional Office, Bhubaneswar.

Submission by Applicant :

The area records a high level of Human elephant conflict. Due to increased coal mining and transportation, elephants enter villages every day and kill locals. Recently a herd entered a village on the outskirts of Angul city . The project proponent has claimed they have deposited Rs. 331 lakhs towards SSWLCP as per the letter dated 11.3.2011 .

This plan was prepared 13 years before the mine started operations and hence is outdated. The project proponent has not cared to prepare a fresh conflict management plan and neither has taken any step to decrease elephant raids or attacks in the area (by way of focused lighting in mine premises or by permitting coal transport only during daytime hours, providing elephant squads in nearby

villages to watch out and warn local villagers of elephant intrusions or providing solar powered fence to protect their homes and paddy fields)

A news report has been published in The Hindu dated 28.6.2025 highlighting the drastic impacts of coal mining over 390 sq.km that is planned in Angul district

<https://www.thehindu.com/sci-tech/energy-and-environment/coal-mining-in-odisha-may-turn-out-catastrophic-for-elephants-wii-study-says/article69745217.ece>

The news clipping dated 28.6.2025 in The Hindu is marked and annexed hereto as **Annexure- 6**

(xx) – R & R within specified time schedule and not less than National R & R policy.

Submission by Applicant :

The project proponent has claimed this EC condition has been complied. This is a false claim since the R & R process for Rajjharan village was not completed. Around 900 PDF or Project Displaced Families are yet to receive R & R monetary benefits .

14. That it is clear that the above nine specific conditions have not been complied with as pointed out in each case by the applicant.

15. That the applicant submits violation details of the following **General conditions** for Utkal-C Block Coal mine at Rajjharan :

(v) Fugitive dust emission all sources should be controlled regularly, monitored and data recorded properly. Water spray arrangement on haul

roads, wagon loading , dump trucks (loading and unloading) points should be provided and properly maintained.

Submission by Applicant :

That despite the claim of daily use of 5 numbers of mobile water sprinklers with mist gun in the Compliance report dated 24.5.2025 the fact remains that there was no such activity on the date of inspection carried out by the Regional Officer, SPCB, Angul on 13.8.2025 when he visited the mine. Neither has the Regional Officer verified the log records, data records (as mandated in the clearance condition) or CCTV footage of past few weeks to ascertain the compliance.

(vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease traps should be installed before discharge of workshop effluents. Industrial wastewater (workshop and wastewater from the mine) should be properly treated in a 25 KLD ETP with Oil and grease trap.

Submission by Applicant :

The project proponent has claimed this is being compiled. Admitted fact is that the ETP is yet to be commissioned or built as on 24.5.2025.

(viii) Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded .

Submission by Applicant :

The project proponent has mentioned the installation of a conveyor system in progress but admits that trucks are used now for road transport. There is no data about whether the wheel washing facility is operational or how many trucks have been washed before exiting to public roads. Rather trucks are exiting without washing which is clear from the photos taken on 18.05.2025 . The photos are marked and annexed hereto as **Annexure - 7 (Colly)**

(xii – Funds earmarked for environmental protection measures should be kept in a separate account and should not be diverted for other purposes. Year wise expenditure should be reported to this Ministry and its Regional office at Bhubaneswar

Submission by Applicant :

The project proponent has merely claimed in its compliance that it is being complied with . No figure has been mentioned about the amount set aside for environmental protection measures and how much has been spent so far. Without specific figures this claim does not hold water.

15. That following **additional EC conditions** laid down for Utkal-C Coal Block mine have not been complied with till date :

(iii) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and email) to the respective Zonal offices of CPCB and the SPCB . The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to be the same in the public domain. The monitoring data of display of environmental quality parameters (air, water, noise and soil) shall also be

displayed at the entrance of the project premises and mines office and in the corporate office and on the company's website .

Submission by Applicant :

Though the company has claimed that the same has been uploaded on their website a check was done on 13.10.2025 by the applicant which revealed non-disclosure.

Though the company has claimed display of environmental parameters in LED digital display boards at the entry gate there is no such LED digital display Board as on 10.10.2025 to reveal live environmental quality parameters (air, water, noise and soil). Photo of the entry gate is marked and annexed as **Annexure - 8**

16. That as per para 5 of the EC dated 2006 the above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules.

Submission by Applicant :

The Project proponent has consistently violated the conditions laid down in the CTE and CTO which is clear as per Inspection Report of Regional Officer, SPCB, Angul which was carried out after the complaint was filed by the applicant. The details of the violations are listed in the subsequent paragraphs hereinbelow.

17. That, the applicant who is also the President of the Raijharan village committee filed a public complaint on 10.6.2025 with the Regional Officer, SPCB, Angul, Respondent no. 7 to address the violations .A copy of the same complaint was filed on 9.6.2025 with the Member Secretary of State Pollution Control Board, Odisha, Respondent no. 6 and other authorities about rampant violation of the conditions imposed under the Consent to Establish Order dated 19.12.2022. A copy of the Public complaint dated 9.6.2025 is marked and annexed hereto as **Annexure – 9.**

18. That the applicant listed five conditions specified in the CTE order dated 19.12.2022 in his public complaint which the Respondent no. 1 was violating during operation of the coal mine that badly impacted the local ecology, environment and health of the residents.

19. That apart from the five violations of consent conditions listed in his complaint dated 9.6.2025, the applicant also pointed out the immense suffering of the local inhabitants of Raijharan village who are forced to live with severe air and water pollution caused by the day and night operation of the coal mines by the Respondent no.1.

20. That the applicant further urged the closure of coal mining operations to prevent further damage to the environment and health of the people and also initiate legal action against the owner , agent and manager of the Utkal-C Coal Block.

21. That in response to the public complaint dated 9.6.2025, Respondent no. 7 carried out a site inspection of the Utkal -C coal mines on 13.8.2025 in the

presence of Shri S.M. Nasim, Mines Manager, Sri Ashok Kumar, HOD, Mines and Shri Vinayak Deshpande, Environment Officer.

22. That, though a public complaint about serious and continuing violation of CTE conditions adversely impacting local environment and health of the villagers was filed on 9.6.2025 the site inspection was carried out only after two months.

24. It is submitted that the delay by the regulatory authority is inexplicable and unwarranted since the Respondent no. 7 should have promptly responded to the complaint and carried out an inspection within a few days. His office is within 20 kms from the mine.

25. That the Respondent no. 7 totally failed to take note of the enormous impacts of operating this large coal mine on local residents who continue to live and work in the proximity of the mine.

26. That the Respondent no. 7 instead of forwarding the site inspection promptly to the Head office of SPCB, Odisha delayed it intentionally and sat over it for almost one month. This clearly exposes an intent to conceal and delay action against JSPL for violations noted during inspection.

27. That the site inspection report of 13.8.2025 was ultimately forwarded by the Respondent no. 7 to Chief Env. Engineer (M) vide letter no 3198/MINE/ROSPCB/AGL /13/2013-14 dated 11.9.2025. The forwarding letter dated 11.9.2025 enclosing the site inspection report dated 13.8.2025 is marked and annexed as **Annexure – 10**.

28. That it is submitted that the polluting activities continue even after four months of filing the complaint due to sheer inaction by authorities charged with upholding the pollution control laws.

29. That approximately 32,000 villagers of 8 villages listed below are impacted by coal mining and day and night movement of heavy coal bearing trucks :

1. Raijharana: 5000
2. Nandichod(Gopiballabhpur): 1500
3. Nisha: 5000
4. Kaliakata: 2000
5. Mali Brahmani: 500
6. Bhalugadia: 200
7. Karadabajali: 10,000
8. Koshala: 8,000

30. That, contrary to the usual procedure for site inspection by regulatory bodies, nobody from Raijharan village committee was invited to accompany the inspection team. This would have been helpful for better scrutiny of the violations committed by the Respondent no. 1 in the coal mine operations.

31. That the summary of the findings as per the inspection report dated 13.8.2025 of respondent no. 4 are reproduced in the following table for easy appreciation. The applicant has also given submission w.r.t. the findings of the Respondent no. 4 revealed in **Annexure- 10**.

Sl. No.	Complaint/allegations	Observations on day of visit

1	Mechanical wheel washing system shall be provided at the exit point of the mine to minimize transfer of mud from unpaved approach roads to main paved and/or public roads	The mine has installed a wheel washing facility with an instant shower system at the exit main gate of Utkal C mine to SH-66. Presently the mine has installed DG set – 1 x 125 KVA for power supply for the operation of a wheel washing facility. During the visit no dispatch of coal over coal loading vehicles was going on, however the operational condition of the wheel washing facility was verified .
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Submission of Applicant :

*The applicant had complained about non-operation of the wheel washing system even though it was installed since it resulted in high pollution load of coal dust due to movement of hundreds of heavy coal loaded trucks everyday that affected local residents. The Respondent no. 1 intentionally stopped coal transport operations on the day of visit by the Regional Officer, SPCB, Odisha . So he could not verify if the washing of trucks was being done. The Regional Officer instead of carrying out a surprise inspection chose to visit after prior intimation. He did not report the reason for non transporting on that particular day. Secondly, he did not seek or check CCTV footage of the previous few days of the wheel washing facility area. This would have revealed the truth about washing. There is evidence of trucks emerging from the mine with unwashed body or wheels. Photos are marked and annexed hereto as **Annexure – 7***

2	Transportation road shall be black topped /concreted.	The mine has compacted the road using slags and other concrete mixture from mines to coal stockyard and further road from coal stockyard to Wheel washing system. However, the compaction of the road portion from wheel washing system to SH-63 has not been done and also potholes in many places of the entire road was observed. Hence, the mines may be directed to carry out proper maintenance of roads and water sprinkling on regular intervals to arrest dust pollution.
<i>Submission of Applicant :</i> <i>This allegation of the applicant is proved as per the finding of the respondent no. 4. It is clear that the transportation road has not been black topped or concreted to prevent dust pollution from loaded coal trucks . Surprisingly, instead of flagging it as a major violation of the CTE condition the Regional Officer, SPCB merely suggests directions to sprinkle water at regular intervals. In fact, the purpose of a black topped road is to provide a permanent solution to prevent dust pollution by eliminating dust generation.</i>		
3	The mine shall develop wind barrier wall of 10 meters height all around the coal stack yard to control	The mine has not provided any wind barrier around the coal stack yard.

	fugitive coal dust emission.	
<i>Submission of Applicant :</i> <i>There is an unambiguous finding about the lack of wind barrier wall of 10 metres height. This was a critical condition under the CTE. Without fulfillment of this condition, the operation of the coal mines should have never even started.</i> <i>The coal mine has been operating since October,2023 though the CTO was issued in March,2025. Respondent no. 5 has issued the CTO despite non compliance of this important condition which exposes the nexus with Respondent no. 1 by allowing illegal operation of the coal mine.</i>		
4	Water sprinkling shall be carried out on the unplanted surface of OB dump to control fugitive dust emission.	It was reported that, presently OB dump was active and sprinkling is done by using mobile water sprinklers.
<i>Submission of Applicant :</i> <i>The Regional Officer, SPCB,Odisha , Respondent no. 4 has relied upon secondary information provided by Respondent no. 1 to come to this finding. He was duty bound to satisfy himself about this condition of CTE which he did not . A simple check of CCTV footage of the previous few weeks would have exposed the truth. However, this was not done which again exposes the malafide of the enquiry visit which was never undertaken to identify and list the violations of the CTE or CTO order.</i>		
5	The haul roads and arterial	The haul roads have been compacted with slag and other concrete mixture and plantation was not done at the haul

	roads shall be made black topped /concrete with avenue plantation.	roads. However, plantation at safety zone on the west side of the mine pit office was observed.
<i>Submission of Applicant :</i> <i>Respondent no. 4 has cleverly evaded a straight answer on this complaint. Clearly there is no black topping or concreting of the haul and arterial roads in the mines. Compaction by concrete mix and slag as claimed by him is not black topping or concreting since it does not address the dust pollution issue. However, he has admitted there is no avenue plantation on the roadsides inside the mines area.</i>		

32. That the above submissions clearly indicate massive and continuing violations of the terms of the EC, the CTE and the CTO by the respondent no. 1 while carrying out the mining of coal from the Utkal- C coal mine block at village Raijharan.

33. Despite a complaint by the Applicant to the State Pollution Control Board, Central Pollution Control Board, Ministry of Environment, Forest & Climate Change, Eastern Regional Office, Bhubaneswar Ministry of Environment and Forests and Climate Change, New Delhi, Chief Secretary, Government of Odisha, Director, Environment-cum-Special Secretary, Forest ,Environment and Climate Change Department, Government of Odisha, DM & Collector, Angul, and SP, Angul no effective remedial or punitive action to shut down the coal mine and penalize the mine owner has been taken since four months.

34. That the coal mine continues to operate, even after substantial evidence of violations of the terms of the EC, CTE, CTO and Surface operation order issued by the authorities and the findings recorded in the inspection report of the Regional Officer, SPCB, Angul dated 11.9.2025.

35. The actions of Respondent No. 1 amount to blatant violations of the Environment (Protection) Act, 1986, the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981, Mineral Concession Rules, 1960 issued under the Mines and Minerals (Development and Regulations) Act, 1957 (MMDR Act).

36. The inaction of the concerned authorities is leading to irreversible ecological harm and undermining the rule of law.

37. This Hon'ble Tribunal has jurisdiction under Section 14 of the National Green Tribunal Act, 2010, as the present case involves substantial questions relating to the environment and enforcement of legal rights of local residents.

38. The cause of action is continuous in nature as the illegal operation of the coal mine and ecological damage are ongoing. This Application is filed within the prescribed period of limitation under Section 14(3) of the NGT Act.

39. The Applicant has no other efficacious remedy except approaching this Hon'ble Tribunal for urgent directions to prevent further environmental damage and to ensure a healthy and clean environment for the local residents.

GROUND S

That the Applicant is relying on the following grounds to invoke the jurisdiction of the Hon'ble Tribunal and for immediate relief to prevent further illegal operation of Utkal C-Block coal mine, village: Raijharan by Respondent No. 1 :

a) Inhabitants of Raijharana village and other villages near the Utkal-C coal block are under compulsion to live with severe Air & Water Pollution caused by Utkal-C Coal Block Mining Operations without taking any preventive measures by PP & even not complying conditions of CTE and District Administration is not even taking any stern action against the coal mining company for failure to comply with R&R measures as per EC condition for which villagers are having no other option left rather to live with unhealthy condition created by coal mining Company.

b) Violation of condition No.2 of Collector's Permission(Letter No. 840, dated 01-09-2023) which says *"The lessee shall follow the provisions of all the Acts, Rules, Regulations & Guidelines and covenants & terms and conditions of mining lease deed relating to mining activities"*.

c) Violation of CTE conditions is causing severe air & water pollution & causing damage to encroachment which is irreversible. This violation is directly impacting life & livelihood of habitation of nearly 32,000 residents including women and children of village Raijharan, Nandichod (Gopiballabhpur), Nisha, Kaliakata & Mali Brahmani.

d) That the concerned State and Central authorities, despite being in possession of inspection reports, Six monthly compliance reports on EC conditions filed by Respondent no. 1, RTI replies and grievance records confirming illegal operation of the Coal mine, have failed to take any legal action or impose penalties on the Respondent No. 1 for violations under the Environment (Protection) Act, 1986 and other applicable Environmental Laws, thereby allowing continued environmental degradation.

LIMITATION

That there exists a subsisting cause of action in the present matter, as no action has been initiated against the Respondent No. 1 till date even after the alarming findings noted in the inspection report of the SPCB, Angul dated 13.8.2025 . Furthermore, the illegal operation of Utkal C-Block coal mines at Rajjharan village is causing continuous ecological harm.

The present application has been filed within the period of limitation from the date on which the Applicant became aware of the confirmed violations between June 2025 and September 2025. Since the said cause of action is continuous in nature, the application is not barred by limitation.

INTERIM PRAYER

It is, therefore, most respectfully prayed that this Hon'ble Tribunal may be pleased to:

a) Direct the immediate suspension of all operations of the Utkal C-Block coal mines at village : Rajjharan, Dist: Angul and suspend/cancel the operation of its Environment Clearance dated 5.10.2006, Consent to Establish dated 19.12.2022 and Consent to Operate dated 28.3.2025 and Surface operations order dated 1.9.2023 until the completion of a detailed inquiry into the environmental violations committed during its construction and operation.

b) Pass such further orders as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of the present case, in the interest of justice and protection of the environment

PRAYER

In light of the above, the Applicant most respectfully prays that this Hon'ble Tribunal may be pleased to:

- a) Direct closure of mining operations till 100% compliance of all conditions of Consent to Establish, Consent to Operate and the EC dated 2006 as illegal coal mining without specified safeguards is causing irreversible environmental damage.
- b) Direct the Respondents no. 3 to institute legal action against the Owner, Agent & Manager of Utkal-C Coal Block for violation of the environmental laws and non compliance of terms of Environment Clearance, Consent to Establish and Consent to Operate.
- c) Direct Respondent no. 4 to order disciplinary action against competent regulatory authorities of the state government for failure to discharge their

statutory duties to stop the illegal mining of coal at Utkal -C coal block for non compliance of CTE, CTO and EC conditions.

- d) Pass such other orders as this Hon'ble Tribunal may deem fit in the interest of justice and environment

APPLICANT THROUGH



BISWAJIT MOHANTY/ SUNIL J. MATHEWS/ ASHTAMI KHATRI

Advocates for Applicant

Shanti Kunj, Link Road Cuttack- 753001

(M) 9311567212

Email: sjmathews@gmail.com

PLACE: Cuttack

DATE- 14.10.2025

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL EASTERN
ZONE BENCH, KOLKATA**

(Under Section 18(1) read with Section 14(1) and 15 of the National Green
Tribunal Act 2010)

ORIGINAL APPLICATION NO. _____ OF 2025

IN THE MATTER OF:

CHITTARANJAN SAHU

... APPLICANT

VERSUS

ASHOK KUMAR & ORS

Affidavit No. 18139 /2025
Dated 04th Nov /2025
...RESPONDENTS

Chittaranjan Sahu, S/o Raghunath Sahu aged about 52 years, At/ Po-
Rajharan, PS- Nisha Dist.- Angul, Odisha -759130 do hereby solemnly affirm
and state as under:

1. That I am the Applicant in the present case and Deponent in the present Affidavit, hence, I am competent to swear this Affidavit.
2. That I have read over the contents of the accompanying Application and the same is true and correct and is drafted on my instruction.

Chitta Ranjan Sahu
DEPONENT



27.11.25
**NOTARY
ANGUL**

VERIFICATION

Verified on this ___ November, 2025, that the contents of the above Affidavit are true and correct, and nothing material has been concealed therefrom, nor any part of it is false

Chitta Ramjan Sahu
DEPONENT

IDENTIFIED BY



24.11.25
NOTARY
ANGUL

Affidavit No. 18139 / 2025
dated this 04th day of Nov. 2025
The above named deponent having been
Identified by Sri. A.D.G.S.
..... Advocate, Angul
solemnly affirmed before me this
the 04th day of Nov.
2025 at A.M./P.M. in
the court premises that the contents
of this affidavit true to the best of
his/her knowledge.

24.11.25
ROHITA KUMAR BEHERA
NOTARY
ANGUL, ODISHA
Regd. No-ON 09-2002
Cell-9439737146

No.J-11015/134/2006-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O.Complex, Lodi Road,
New Delhi -110003.

Dated: 5th October 2006

To
Shri S.N. Panda,
Executive Vice-President,
M/s Utkal Coal Limited,
Bomikhal, P.O. Rasulgarh,
Bhubaneswar - 751010,
ORISSA.

Sub: Utkal Coal Project Block C (3.37 MTPA) of M/s Utkal Coal Ltd., located in village Raijharan, Tehsil Chendipada, District Angul, Orissa- Environmental clearance - reg.

Sir,

This has reference to your letter dated 20.05.2006 enclosing your application and subsequent letters dated 24.06.2006, 03.07.2006, 10.07.2006 and 22.08.2006 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It has been noted that the project is for opening a new coal mine - **Utkal Block C Coal Project** for captive consumption of the existing ferro-alloy/captive power plant at Chowdar, Cuttak. Site Clearance was obtained on 28.07.2006. **The total mine lease is 576.55 ha** of which 337.28 ha is agricultural land, 156.81 ha is forestland, 14.43 ha is grazing land, 20.57 ha is surface water bodies and 47.46 ha is wasteland. A number of Reserve Forests (RF) are found adjoining the lease and within 10km of the core zone. The study area supports the Indian Elephant which is a highly endangered species. Forestry clearance has not been obtained. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. It is noted that the project falls in the Angul-Talcher Region, which has been identified as one of the critically polluted areas in the country. Singhada Jhor, which is a perennial river, flows adjoining the northern boundary of the ML. It is proposed to construct an embankment of 1805m length and 5 m height along the southern bank of Singhada Jhor alongside the ML. The project involves R&R of one village - Raijharan. Of the total lease area, area for excavation is 361.64 ha, 31.17 ha is for OB dumps, 7.84 ha is for topsoil dumps, 17.71 ha is for infrastructure, 37.50 ha is for greenbelt, 11.50 ha is for tailings pond, and 109.19 ha is for others (undisturbed).. **Rated capacity of the mine is 3.37 million tonnes per annum (MTPA) to be achieved by the 7th year.** Mining will be opencast by mechanised method and involves drilling and blasting for OB removal only. Coal extraction is by surface miner. OB removal by shovel and dumpers. Mineral transportation of 11,233 TPD of coal is by road/rail. Ultimate working depth of the mine is 230m below ground level (bgl). Water table is in the range of 2-8 m bgl in the core zone and 1- 12 m bgl in the buffer zone. Peak water requirement is 439.48 m³/d is to be met from groundwater (58.40 m³/d) and from mine sump water (348 m³/d). Of an estimated 208.572 Mm³ of OB to be generated about 95% (193.012 Mm³) of OB will be backfilled and the balance will be store din one external OB dump and will be rehandled at the end of mine life and backfilled. Backfilling will begin from the 1st year onwards and concurrent backfilling from the 6th year onwards. Public Hearing was held on 16.09.2005. Life of mine at the rated capacity of 3.37 MTPA is 41 years. Mining Plan was approved by Ministry of Coal on 23.06.2005. Capital cost of the project is **Rs. 168.50 crores.**

2. The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned **Utkal Opencast Block C Coal Project of M/s Utkal Coal Ltd. for production of coal at 3.37 MTPA rated capacity** under the provisions of the Environmental Impact Assessment Notification, 1994 and subsequent amendments thereto subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) All the conditions stipulated by SPCB in their NOC shall be effectively implemented.
- (ii) No mining operations shall be undertaken in the forestland until clearance has been obtained under the provisions of FC Act, 1980.
- (iii) Mining shall be carried out as per statuette at a safe distance from the river and nallah flowing within the lease boundary. At the time of depillaring, protective bunds and garland drains shall be provided so that no water from the water bodies enters the mining area.
- (iv) An embankment shall be constructed along the southern boundary adjoining the ML. The slope of the embankment shall at least 2:1 towards the ML. The height of the embankment shall be at least 5 m higher than the HFL. The dimensions of the embankment shall be at least 1805m in length, 20m width at the bottom and 5 m at the top.
- (v) Topsoil of 3.62 Mm³ should be stacked properly with proper slope at earmarked site(s) and should not be kept active and shall be used for reclamation and development of green belt.
- (vi) OB should be stacked at earmarked external OB dumpsite within ML area and shall be a maximum height of 40m only and consist of benches of 10m each. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of reclaimed dumpsite should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional office located at Bhubaneswar on yearly basis. The external OB dump shall be rehandled at the end of mine life and backfilled into the decoladed area.
- (vii) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilised for watering the mine area, roads, green belt development, etc. The drains should be regularly desilted and maintained properly.
Garland drains (size, gradient and length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provided adequate retention period to allow proper settling of silt material.
- (viii) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data.
- (ix) Crushers at the CHP should be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.
- (x) Drills should be wet operated.
- (xi) Controlled blasting should be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders should be implemented.
- (xii) The total area brought under afforestation shall not be less than 315.87 ha, and shall include external OB dump (74.96 ha), topsoil dump (7.84 ha) backfilled area covering 163.04 ha, along ML boundary, infrastructure (10 ha), along roads, safety zone and vacant area (20.36 ha) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.

- (xiii) Backfilling shall begin from the first year of mining operations and concurrent backfilling from 6th year onwards. A Progressive Mine Closure Plan shall be implemented and OB generated shall be simultaneously backfilled covering an area of 163.04 ha. Plantation shall be developed to cover 179.73 ha over the backfilled area and the higher benches which are gently sloped.
- (xiv) Regular monitoring of groundwater level and quality should be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity should be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected should be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.
- (xv) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xvi) ETP should also be provided for workshop and CHP wastewater.
- (xvii) A Programme for conservation of the endangered species, particularly the Indian Elephant, found in the study area, shall be formulated and implemented in consultation with the concerned Department in the State Government.. Separate funds shall be earmarked for implementation of the various activities there under and the status thereof shall be regularly reported to this Ministry and the MOEF Regional Office, Bhubaneswar.
- (xviii) Digital processing of the entire lease area using remote sensing technique should be done regularly once in 3 years for monitoring land use pattern and report submitted to MOEF and its Regional office at Bhubaneswar.
- (xix) Besides carrying out regular periodic health check up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmedabad within a period of one year and the results reported to this Ministry and to DGMS.
- (xx) R&R of village Rajjharan shall be completed within the specified time schedule and shall be not less than that of the National R&R Policy.
- (xxi) A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.
- (xxii) Consent to Operate shall be obtained before expanding mining operations.

B. General Conditions

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.
- (iii) Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO₂ and NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.

- (iv) Data on ambient air quality (SPM, RPM, SO₂ and NO_x) should be regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board once in six months.
 - (v) Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points should be provided and properly maintained.
 - (vi) Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc should be provided with ear plugs/muffs.
 - (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.
 - (viii) Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.
 - (ix) Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
 - (x) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.
 - (xi) A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the company.
 - (xii) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should be reported to this Ministry and its Regional Office at Bhubaneswar.
 - (xiii) A copy of the will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.
 - (xiv) State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.
 - (xv) The Project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at <http://envfor.nic.in>.
3. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.

5. The above conditions will be enforced *inter-alia*, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules.

(Dr.T.Chandini)
Additional Director

Copy to:

1. Secretary, Ministry of Coal, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarapur, Bhubaneswar - 751023.
4. Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneswar - 751012.
5. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. District Collector, Angul, Government of Orissa, New Delhi.
8. Monitoring File 9. Guard File 10. Record File

(Dr.T.Chandini)
Additional Director

No.J-11015/134/2006-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O.Complex, Lodi Road,
New Delhi -110003.

Dated: 28th July 2009

To
Shri S.N. Panda,
Executive Vice-President,
M/s Utkal Coal Limited,
Bomikhal, P.O. Rasulgarh,
Bhubaneswar – 751010,
ORISSA.

MODIFICATION OF EC LETTER

Sub: Utkal Coal Project Block C (3.37 MTPA) of M/s Utkal Coal Ltd., located in village Raijharan, Tehsil Chendipada, District Angul, Orissa- Environmental clearance – reg.

Sir,

This has reference to this Ministry's grant of environmental clearance vide letter dated 05.10.2006 and your subsequent letters dated 20.04.2009, 06.06.2009, and 16.06.2009, informing that after a detailed physical verification and demarcation of the lease area, the total ML area would change from the original 576.55 ha to 575.07 ha, and permission for the area of 106 ha within the ML area presently left undisturbed, to be afforested and protected.

Accordingly, the environmental clearance letter dated 20.04.2006 is amended as follows:

- (i) In line 6 of the Preamble, the total ML area of '576.55 ha' is replaced with '575.07 ha'.
- (ii) Specific Condition (xii) is amended as given below:

" The total area brought under afforestation and protected shall be not less than 312.55 ha, and shall include external OB dump (29 ha), excavated area (163.04 ha), roads (10 ha), embankment (4.51 ha) and undisturbed area (106 ha) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be not less than 2500 plants per ha.

In addition, the following general conditions are specified:

- (i) Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in SPM and RSPM shall be carried out at least one in six months and data thereon recorded and regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board as part of the Monitoring report.
- (ii) A copy of the clearance letter shall be displayed on the company's website. A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board.
- (iii) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air,

water, noise and soil) shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.

- (iv) The environmental statement for each financial year ending 31st March in Form-V is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.

All other conditions remain the same.

(Dr.T.Chandini)
Director

Copy to:

9. Secretary, Ministry of Coal, New Delhi.
10. Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar.
11. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarapur, Bhubaneswar – 751023.
12. Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneswar – 751012.
13. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110032.
14. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
15. District Collector, Angul, Government of Orissa, New Delhi.
16. Monitoring File 9. Guard File 10. Record File.

(Dr.T.Chandini)
Director



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EPABX : 2561909/2562847
E-mail: paribesh1@ospcboard.org
Web site : www.ospcboard.org

**OFFICE OF THE
STATE POLLUTION CONTROL BOARD, ODISHA**

(Forest, Environment & Climate Change Department, Govt. of Odisha)
Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,
Bhubaneswar - 751012

BY SPEED POST/
THROUGH ONLINE

No. 23468 /

IND-II-CTE - 6787

Date 19.12.2022 /

CONSENT TO ESTABLISH ORDER

In consideration of the Online Application No. 4368836 for obtaining Consent to Establish for **Utkal C Coal Mine of M/s Jindal Steel & Power Ltd.**, the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for **coal production of 3.37 MTPA over ML area of 575.07 Ha.** At-Village-Raijharana, Golagadia, Similisahi, Nandichor alias Gopiballavpur, Tahasil-Chhendipada in the district of **Angul**, Odisha with the following conditions.

GENERAL CONDITIONS:

1. This Consent to Establish is valid for the product, method of mining and capacity mentioned in the application form. This order is valid for **five** years, which means the proponent shall commence mining activities for the proposal within a period of five years from the date of issue of this Consent to Establish order. If the proponent fails to commence mining activities for the proposal within five years, then a renewal of this consent to establish shall be sought by the proponent.
2. The mine shall apply for grant of Consent to Operate under Section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.
3. No change in mining technology and scope of working shall be made without prior approval of the Board.
4. This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.

SPECIAL CONDITIONS:

A. GENERAL CONDITIONS:

1. The proponent shall carryout mining activity as per Environmental Clearance issued vide letter No. J-11015/134/2006-IA,II(M) date 05.10.2006 and 28.07.2009 by MoEF&CC, Govt. of India.
2. The proponent shall comply with the provisions made under Fly Ash Notification of MoEF&CC, Govt. of India as amended on 31st December, 2021 as applicable for coal mines.

3. The unit shall obtain NOC from CGWA for using of ground water for getting Consent to Operate of State Pollution Control Board, Odisha.
4. The proponent shall obtain requisite permission from the Water Resources Department, Govt. of Odisha for drawal of water.
5. The mine shall not store for more than seven days of coal production / incubation period of coal to avoid coal fire in stock yard as well as coal seam. The mine shall take adequate preventive measures for spontaneous fire in the coal seam as well as stock yard and an action plan regarding this shall be submitted at the time of consent to operate application.
6. The method of mining shall be opencast mining by shovel-dumper in overburden and surface miner with interlocking water sprinkling system, loader and tipper in coal. No change in mining technology and scope of working shall be made without prior approval of the Board.
7. A green belt of adequate width and density preferably with local species along the periphery of the mine, inactive dumps, backfilled area, vacant area and any other vacant area shall be raised so as to provide protection against particulates and noise to ameliorate the environment. A detailed plantation programme in this regard shall be prepared to cater to statutory requirement and submitted at the time of making application for consent to operate for assessment.
8. Adequate measures shall be taken for control of noise levels to meet the standards as per the Rule 2(1) of the Environmental (Protection) Amendment Rules, 2000 notified vide notification G.S.R. 742 (E), dated 25.09.2000
9. Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
10. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the organization.
11. Construction and demolition waste shall be managed strictly in accordance with the provisions of the Construction and Demolition Waste Management Rules, 2016.
12. The proponent shall comply to the provisions of E-Waste (Management) Rules, 2016 and shall handover e-waste to authorized collection centers/ register dismantlers/ recyclers for proper disposal of e-waste.
13. Plastic waste shall be stored in designated space and same shall be sent to authorized cement kiln for co-processing.
14. The unit shall abide by Env. (P) Act, 1986 and the rules framed there under.
15. The Board may impose further condition or modify the conditions stipulated in this order during installation, and / or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.
16. The conditions as stipulated in this consent to establish order will be enforced, inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 the Air (Prevention & Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

17. The construction shall be carried out with the fly ash bricks. If the fly ash bricks are not available locally the construction may be carried out with other bricks with prior intimation to the concerned Regional Office of SPC Board. A statement indicating use of fly ash bricks during construction period shall be submitted to the Board quarterly for record.

B. WATER POLLUTION:

18. An adequately designed Mine Drainage Water treatment Plant shall be provided for treatment of mine drainage water before discharged to outside. The quality of discharged water shall meet the standards specified for Coal mines as per E (P) Amendment Rules, 2000. Effort shall be made to utilize the discharged water in various purpose of mining activity.
19. The Mine shall utilize mine drainage water and rainwater harvesting water to reduce dependency on ground water for domestic requirement.
20. The mine shall construct settling tanks in series to settle the suspended solids in the surface run-off water.
21. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the hourly peak rain fall and maximum discharge in the area adjoining the mine site. Sump capacity shall have adequate retention period to allow proper settling of silt material.
22. No diversion or obstruction of flow of natural nallah shall be done.
23. Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data. The detail specification shall be worked out and submitted to the Board.
24. Catch drains of appropriate size shall be constructed to divert the run off from the OB dump to the siltation pond of appropriate size to arrest silt and sediment flows from soil, OB and mineral dumps. Similar arrangement shall be done around the coal stack pile area. The drains shall be regularly desilted and maintained properly. Surface run-off from OB dump area, coal pile area, top soil storage area shall be routed through adequate settling pond (designed maximum hourly rain fall basis) to meet prescribed standard of SS-100 mg/l and Oil & Grease-10 mg/l before discharge into natural stream/water courses during monsoon. Adequate surface runoff management system shall be installed so there shall not be any environmental impact on seasonal nala.
25. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells. The monitoring shall be done four times a year in pre-monsoon (April/May), monsoon (August), Post – monsoon (November) and winter (January) seasons. Data thus collected shall be submitted to the Board quarterly.
26. The domestic wastewater generated from the township will be treated in sewage treatment plant. The treated water shall be reused for gardening and plantation and the surplus water if any shall be discharged to outside after meeting the following prescribed standards as notified by the MoEF&CC, Govt. of India vide G.S.R. 1265 (E), dated 13.10.2017.

Sl. No.	Parameters	Standards
1.	pH	6.5-9.0
2.	BOD(mg/l)	30
3.	TSS(mg/l)	<100
4.	Fecal Coliform (MPN/100ml)	< 1000

27. Oil and grease trap shall be installed before discharge of effluent from workshop. Wastewater from the mine pit, check dams or any other discharge leaving lease boundary of the mine shall be properly collected, treated so as to conform the following standard i.e. pH = 5.5 – 9.0, SS = 100 mg/l, COD = 250 mg/l & Oil & Grease = 10 mg/l.
28. Rain water harvesting practice shall be followed by utilizing the rain water collected from the roof of the buildings for recharging of ground water within the premises and other large structures as per the concept and practices prescribed by CPCB, New Delhi and details of which is available in the web site.

C. AIR POLLUTION:

29. Mechanised wheel washing system shall be provided at the exit point of mine to minimize transfer of mud from unpaved approach roads to main paved and/or public roads.
30. Transportation road shall be black topped / concreted.
31. High efficiency bag filters shall be installed at crushers, of the Coal Handling Plant if any. Water sprinkling systems shall also be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points etc. Provision of movable chutes shall be made during loading at CHP to avoid free fall of coal.
32. Drilling shall be avoided to the maximum possible extent. However, drill shall be wet operated or with dust extractors and controlled blasting shall be practiced.
33. Mobile water tanker of adequate capacity and numbers shall be deployed for dust suppression on quarry, haul road, transport road etc.
34. The mine shall develop wind barrier wall of 10 meters height all around the coal stack yard to control fugitive coal dust emission.
35. The mine shall provide Fog Cannons for dust suppression.
36. Water sprinkling shall be carried out on unplanted surface of OB dump to control fugitive emission.
37. The mine shall provide water or water mixed chemicals for dust suppression at all strategic points such as coal stack yards, loading and unloading points, all transfer points, conveyors etc. to suppress dust fine atomizer nozzles arrangement shall be provided on the coal heaps and on land around the crusher / pulverizes. As far as possible conveyors and transfer points etc. shall be provided with enclosures.
38. Continuous ambient air quality monitoring stations with data transfer facility shall be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.5}, SO₂ and NO₂ monitoring. Location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. The online monitoring data on ambient air quality (PM₁₀, PM_{2.5}, SO₂ and NO₂) shall be transferred to server of SPCB.
39. At least 04 nos. of ambient air quality monitoring stations shall also be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.5}, SO₂ and NO₂ monitoring.

Location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of Ambient Air Quality of the mine shall be done once in a fortnight (24 hourly) and data shall be submitted to the State Pollution Control Board once in a year.

40. The mine shall comply the following standard at the loading or unloading, haul road, coal transportation road, coal handling plant (CHP), railway siding, blasting, drilling, overburden dumps or any other dust generating external sources as per the Rule 2(1) of the Environmental (Protection) Amendment Rules, 2000 notified vide notification G.S.R. 742 (E), dated 25.09.2000.

Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4
SPM	Annual Average* 24 hours**	360 $\mu\text{g}/\text{m}^3$ 500 $\mu\text{g}/\text{m}^3$	High volume sampling (Average flow rate not less than 1.1m ³ /min)
RPM(size less than 10 μm)	Annual Average* 24 hours**	180 $\mu\text{g}/\text{m}^3$ 250 $\mu\text{g}/\text{m}^3$	Respirable Particulate matter sampling and analysis
SO ₂	Annual Average* 24 hours**	80 $\mu\text{g}/\text{m}^3$ 120 $\mu\text{g}/\text{m}^3$	Improved west and Gaeke method Ultraviolet fluorescence
NO ₂	Annual Average* 24 hours**	80 $\mu\text{g}/\text{m}^3$ 120 $\mu\text{g}/\text{m}^3$	Jacob & Hochheiser Modified (Na-Arsenic) Method Gas phase Chemiluminescence

(*Annual Arithmetic mean for the measurements taken in a year, following the guidelines for frequency of sampling laid down in clause-2.

**24 hourly/ 8 hourly values shall be met 92% of the time in a year. However, 80% of the time may exceed but not on two consecutive days.)

41. The haul roads and arterial roads shall be made black topped / concrete with avenue plantation.

D. SOLID AND HAZARDOUS WASTE:

42. Top soil of mining area shall be stacked separately with proper slope at earmarked site (s) with adequate measures and shall be used for reclamation and rehabilitation of mined out areas.
43. The overburden generated during mining operation shall be stored and utilized for backfilling as per approved mining plan.
44. Backfilling of abandoned pit shall be carried out as per approved mining plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status in this regard shall be submitted to the Board on yearly basis. The mine shall explore the possibility for back filling of mine voids by fly ash generation from nearby thermal power plant
45. Hazardous waste and ETP sludge shall be stored under covered shed on concrete platform.



46. Municipal solid waste generated from the township shall be disposed off as per Solid Waste Management Rules, 2016. Intermediate storage area for Municipal Solid Waste (MSW) shall be developed inside the premises of township before handing over the MSW to the concerned ULBs for final disposal.
47. The proponent shall segregate organic waste from the MSW of township and segregated organic waste shall be converted to manure through organic waste converter. The proponent shall store the organic waste in closed shed inside the township before use the same in organic waste converter.
48. All required sanitary and hygienic measures shall be in place before starting construction activities of township and to be maintained throughout the construction phase.
49. All the top soil excavated during construction activities of township shall be stored for use in horticulture / landscape development within the project site.
50. Disposal of muck during construction phase of township shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
51. Construction spoils of township, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they shall not leach into the ground water.
52. The Project proponent shall obtain authorization and dispose off hazardous waste as per Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 as amended from time to time.


MEMBER SECRETARY

To,

The EVP Mines,
Utkal C Coal Mine, M/s Jindal Steel & Power Ltd.,
PO-Jindal Nagar, Dist-Angul, Odisha, Pin No.759111

Memo No. 23469 /Date 19.12.2022 /

Copy forwarded to:

1. The Director, Directorate of Mines, Govt. of Odisha, Bhubaneswar
2. The Collector & District Magistrate, Angul.
3. The DFO, Angul.
4. Consent to Operate Cell, SPC Board, Bhubaneswar.
5. Hazardous Waste Management Cell, SPC Board, Bhubaneswar
6. The Regional Officer, SPC Board, Angul.
7. Copy to Guard file


16/12/2022
ADDL. CHIEF ENV. ENGINEER



45
COLLECTORATE, ANGUL || ଜିଲ୍ଲାପାଳଙ୍କ କାର୍ଯ୍ୟାଳୟ, ଅନୁଗୋଳ
DISTRICT LAND ACQUISITION SECTION, ANGUL (GENERAL)

ଜିଲ୍ଲା-ଅର୍ଜନପରିଚାଳନା (ସାଧାରଣ), ଅନୁଗୋଳ

Telephone: 05764-230567(O)/230234(R)/230685(F) || Website: www.angul.nic.in E-mail: dm-angul@nic.in

Order No. 240 / Mines File No. V-19/2023 Date: 01.09.2023

In accordance with the provision of Clause-2 Part-III, Form-K of M.L. appended to Minerals Concession Rules-1960, Surface operation for over an area of 553.614 Ha out of 575.071Ha of land within leasehold area of Utkal-C Coal block (as per land Schedule attached) in the villages i.e. Rajharan, Golagadia, Similisahi & Nandichhod under the Chhendipada Tahasil of Angul district is hereby accorded in favour of **M/s. Jindal Steel & Power Ltd**, with the following terms and conditions.

1. After grant of Surface right the area will be jointly demarcated by the Mining Officials of office of Deputy Director Mines, Talcher, the revenue officials of Tahasil office, Chhendipada & Forest officials of D.F.O., Angul before taking over/ handing over possession of surface right granted areas.
2. The lessee shall follow the provisions of all the Acts, Rules, Regulations & Guidelines and covenants & terms and conditions of mining lease deed relating to mining activities.
3. All safety zone areas i.e., 53.619 ha (53.837 Ac. or 21.787 Ha of Forest land + 18.901 Ac or 7.649 Ha of Govt. Land + 59.757 Ac. or 24.183 Ha of Tenanted Land = 132.495 Ac. or 53.619 Ha) coming within the lease hold area shall not be used for mining activities.
4. The lessee shall pay surface rent as per Govt. prescribed rates from time to time.
5. That royalty & dead rent as admissible under the provisions of Mines and Minerals (Development and Regulation) Act, 1957 as amended from time to time shall be paid by the lessee.
6. No tree growth over the applied area will be disposed of without prior approval of the DFO, Angul.

Collector, Angul

Contd...



CONSENT ORDER
UTKAL-C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

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BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012

Phone-2561909, Fax: 2562822, 2560955 E-mail: paribesh1@ospcboard.org, Website: www.ospcboard.org

CONSENT ORDER

No. 6569 /

IND-I-CON-6901

Dt. 28.03.2025 /

CONSENT ORDER NO. 3098.

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application No.6074285, Dated 01-01-2025 and online reply dated 11-03-2025.

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: UTKAL- C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

Name of the Occupier & Designation: SRI NEERAJ KALLA, VICE PRESIDENT

Address: AT: RAIJHARAN, PO: CHHENDIPADA, DIST: ANGUL, PIN-759111, ODISHA

This consent order is valid for the period from 01.04.2025 to 31.03.2026.

Details of Products Manufactured

Sl. No.	Product	Quantity
1.	Coal	3.37 MTPA

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.



A. Discharge permitted through the following outlet subject to the standard

Out let No.	Description of outlet	Point of discharge	Quantity of discharge KL/hr	Prescribed Standard				
				pH	TSS (mg/l)	Oil & Grease (mg/l)	BOD (mg/l)	COD (mg/l)
01	Septic tank (Domestic effluent)	Soak pit	--	5.5 to 9.0	200	--	100	--
02	Mine Drainage water/surface runoff/ other wastewater	On land/ inland surface water body	--	5.5 to 9.0	100	10	--	250

B. Emission permitted through the following stack subject to the prescribed standard

Chimney Stack No.	Description of Stack	Stack height (m)	Quantity of emission	Prescribed Standard		
				PM (mg/Nm ³)	SO ₂	NO _x
						--

C. Disposal of solid waste permitted in the following manner

Sl. No.	Type of Solid waste	Quantity generated (TPD)	Quantity to be reused on site (TPD)	Quantity to be reused off site (TPD)	Quantity disposed off (TPD)	Description of disposal site.
1.	Top soil/over burden	As per approved mining plan	--	--	Quantity as generated	As per approved mining plan



CONSENT ORDER
UTKAL-C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

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D. GENERAL CONDITIONS FOR ALL UNITS

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground for liable to review/variation/revocation of the consent order under section 27 of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for the purpose of the Acts.
2. The occupier would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / products / manufacturing process or quantity / quality of the effluent rate of emission / air pollution control equipment / system etc.
3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order without any negligence on his/her part. In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law.
5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
9. An inspection book shall be opened and made available to Board's Officers during the visit to the factory.
10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
11. The applicant shall display suitable caution board at the place where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
12. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.
13. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
14. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
15. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed impervious.
16. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
17. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.
18. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the occupier must adopt alternate satisfactory treatment and disposal measures.
19. The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank.
20. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
21. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Acts or Rules made therein.



CONSENT ORDER
UTKAL-C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

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22. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.
23. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
24. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.
25. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner so as to meet the standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
26. The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time.
27. There shall not be any fugitive or episodal discharge from the premises.
28. In case of such episodal discharge/emissions the occupier shall take immediate action to bring down the emission within the limits prescribed by the Board and stop the operation of the plant if required. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
29. The applicant shall keep the premises and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
30. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned shall be reported to the Headquarters and Regional Office of the Board by E-mail within 2 hours of its occurrence.
31. The occupier has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
32. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the shall be disposed off scientifically to the satisfaction of the Board.
33. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
 - i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
 - ii) Controlled incineration, wherever possible in case of combustible organic material.
 - iii) Composting, in case of bio-degradable material.
34. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
35. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.
36. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
37. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
38. Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
39. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
40. The occupier shall comply to the conditions stipulated in CTE order issued by Odisha State Pollution Control Board and conditions stipulated in Environmental Clearances issued by MoEF&CC, Govt. of India.
41. The occupier shall abide by E(P) Act, 1986 and Rules framed there-under.
42. In case the consent fee is revised upward during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.



CONSENT ORDER
UTKAL-C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

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GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs.50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).

1. The applicant shall analyse the emissions every month for the parameters indicated in TABLE. B & C as mentioned in this order and shall furnish the report thereof to the Board by the 10th of the succeeding month.
2. The applicant shall provide and maintain at his own cost three ambient air quality monitoring stations for monitoring Suspended Particulate Matter, Sulphur Dioxide, Oxides of Nitrogen, Hydro-Carbon, Carbon-Monoxide and monitor the same once in a day/week/fortnight/month. The data collected shall be maintained in a register and a monthly extract be furnished to the Board.
3. The applicant shall provide and maintain at his own cost a meteorological station to collect the data on wind velocity, direction, temperature, humidity, rainfall, etc. and the daily reading shall be recorded and the extract sent to the Board once in a month.
4. The applicant shall forward the following information to the Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar regularly.
 - a. Report of analysis of stack monitoring, ambient air quality monitoring meteorological data as required every month.
 - b. Progress on planting of trees quarterly.
5. The applicant shall install mechanical composite sampling equipment and continuous flow measuring / recording devices on the effluent drains of trade as well as domestic effluent. A record of daily discharge shall be maintained.
6. The following information shall be forwarded to the Member Secretary on or before 10th of every month.
 - a. Performance / progress of the treatment plant.
 - b. Monthly statement of daily discharge of domestic and/or trade effluent.
7. Non-compliance with effluent limitations
 - a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of such notification.
 - i) Causes of non-compliance
 - ii) A description of the non-compliance discharge including its impact on the receiving waters.
 - iii) Anticipated time of continuance of non-compliance if expected to continue, or if such condition has been corrected the duration or period of non-compliance.
 - iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and
 - v) Steps to be taken by the applicant too prevent the condition of non-compliance.
 - b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.
 - c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.
8. The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approval laboratory every month for the parameters indicated in Part-D and shall submit in duplicate the report thereof to the Board.
9. The addition of various treatment chemicals should be done only with mechanical dozers and proper equipment for regulation of correct dosages determined daily and for proper uniform feeding. Crude practices such as dumping of chemicals in drains or sumps or trickling of acids or alkalies arbitrarily and utilizing poles for stirring etc. should not be resorted to.
10. In the disposal of treated effluent on land for irrigation, the industry shall keep in view of the need for;
 - a) Rotation of crops
 - b) Change of point of application of effluent on land
 - c) A portion of land kept fallow.
11. The adoption of these would avoid soil becoming sick or slate, the industry may ensure this in consultation with the Agriculture Department.
12. It is the sole responsibility of the industry to ensure that there are no complaints at any time from the royats in the surrounding areas as a result of discharge of sewage or trade effluent if any.
13. Proper housekeeping shall be maintained by a dedicated team.
14. The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned. Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.

**E. SPECIAL CONDITIONS :**

- 1) Mining operation is subject to availability of all other statutory clearances required under relevant Acts/Rules.
 - 2) Excavation of coal shall be done using surface miners. The surface miner shall be operated along with dust control measures.
 - 3) Drills shall either be operated with dust extractors or equipped with water injection system to minimize dust generation in the work environment. Controlled blasting shall also be done and blasting shall be carried out during day time.
 - 4) Loading, unloading and coal stack yard shall have adequate dust suppression measures. The pollution control systems shall be properly maintained and operated.
 - 5) All approach roads to mine and all other roads which are in regular use coal transportation roads shall be black topped/concreted. The maintenance of the roads shall be done in collaboration with State Government. Necessary dust suppression measures shall also be taken in these roads to prevent generation of dust during movement of vehicles. Plantation of thick leaf trees on both sides of the road shall be done.
 - 6) Mobile water sprinkling shall be provided for dust suppression on the temporary quarry haul roads and sprinkling of water shall be done at desired intervals so as to prevent generation of fugitive dust.
 - 7) All internal coal transportation roads, temporary mine haul roads and other material transportation roads of the mine shall be maintained properly to avoid creation of ruts and pot holes.
 - 8) Transportation of coal is proposed to be by road for first four years. Coal transportation through roads shall be done in covered vehicles. To ensure that the trucks are covered with tarpaulin, IP cameras shall be installed at the exit points of mine and shall be connected to the SPCB server.
 - 9) Coal conveying through belt conveyor or through rail shall be explored.
 - 10) Instant water shower system at the exit point of the quarry shall be provided and all heavy vehicles loaded with coal shall move through the instant shower system. Mechanized wheel washing facility for coal transport vehicles at the exit point of the quarry or at the coal stack yard as per the requirement shall be provided. The wheel washing facility shall be integrated with complete recirculation system. The existing wheel washing facility shall be upgraded to body washing facility alongwith wastewater treatment and recirculation system.
 - 11) The railway sidings if any shall be upgraded to silo-loading facilities integrated with air pollution control facilities. A time-bound action plan shall be prepared and submitted to the Board.
-



- 12) Transportation of coal through rail shall be enhanced to 80% of total coal to be despatched in the year 2025-26, in case coal transportation is done through rail mode.
- 13) All necessary precaution shall be taken to prevent fire in coal stack yards and coal seams. Necessary precautionary measures, inter alia, maintaining a minimum stock shall be taken to avoid fire hazards in the coal stack yard. A technology based mechanism shall be adopted for monitoring and mitigation of coal fire.
- 14) The mine shall develop wind barrier wall of 10 meters height all-round the coal stack yard to control fugitive coal dust emission.
- 15) Fog canons shall be deployed at the coal stockyard for control of fugitive dust emission.
- 16) Ambient air quality measured at a distance of 500m from the dust generating sources {Loading or un-loading, haul road, coal transportation road, coal handling plant (CHP), Railway siding, Blasting, Drilling, overburden dumps or any other dust generating source like nearby roads etc.} in the down wind direction shall meet the following standards.

<u>Pollutant</u>	<u>Concentration in (microgramme/m³) (24 hourly)</u>
SPM -	500
RPM -	250
SO ₂ -	120
NO _x -	120

In case any residential or commercial or industrial place falls within 500 metres of any generating sources, the National Ambient Air Quality Standards for industrial area notified shall be applicable.
- 17) Adequate Ambient Air Quality Monitoring Stations (at least 04 nos.) shall be established in core as well as in buffer zone and locations shall be decided in consultation with the Regional Officer, State Pollution Control Board. Monitoring of parameters shall as SPM, PM₁₀, PM_{2.5}, SO₂ and NO_x shall be done.
- 18) Monitoring of Ambient Air Quality of the mine shall be done once in a fortnight (24 hourly) and data shall be submitted to the State Pollution Control Board once in a year.
- 19) Action shall be taken for installation of continuous real time ambient air quality monitoring stations at appropriate locations preferably village side keeping in view of the criteria specified for coal mines in Environment (P) Rules, 1986/Standards specified in the consent order. Number and location of continuous online monitoring stations with data transfer facility to SPCB server shall be decided in consultation with the Regional Officer, SPCB.
- 20) The top soil and overburden shall be removed separately and stored it in separate heaps, duly covered with grass and vegetation and shall be utilized for backfilling of mined out area in future.



- 21) Action shall be taken for removal of residual coal going along with overburden so that spontaneous fire in the dump site can be eliminated. Water sprinkling arrangements shall also be provided at the coal seam faces and active dump sites to control fire.
- 22) The surface runoff generated from the mining area during monsoon shall be diverted to adequate size of sedimentation pond for storage and use. Systems shall be in place for collection and channelizing the surface runoff to the sedimentation pond.
- 23) Quantification of surface runoff and other wastewater generated in the mine shall be done. Report on runoff management practice as well as wastewater management practices along with time bound action plan for its implementation shall be furnished to the Board commencement of mining operation. The report of runoff and other wastewater management practices shall be submitted along with a map indicating the flow direction of runoff and management systems.
- 24) Strata water generated during mining operation shall be diverted to adequate size of sedimentation pond for storage and use.
- 25) Water from sedimentation pond shall be used for sprinkling purposes on haulage roads, other dust generating areas, vehicle washing and plantation activities. In case of discharge of strata water and runoff to outside, it shall conform to the prescribed standard (Part-A, Sl. No. 2).
- 26) ETP comprising of oil and grease trap with sedimentation pit shall be provided for treatment of workshop effluent and treated effluent shall remain within the following prescribed standards and shall be re-used for washing of vehicles:

pH	-	6.5 -8.5
TSS	-	50 mg/l
Oil & Grease	-	10 mg/l
COD	-	150 mg/l
- 27) Domestic effluents shall be treated in a sewage treatment plant (STP) and or shall be discharged to soak pit via septic tank constructed as BIS specification. The treated wastewater quality of STP shall remain within the following standards and shall be used for plantation:

pH	-	6.5 -9.0
TSS	-	<100 mg/l
BOD	-	30 mg/l
Fecal Coliform	-	<1000 MPN/100 ml.
- 28) Acid mine drainage water if any, shall be treated adequately and used only for sprinkling activity.
- 29) Adequate safety measures like construction of retaining wall, garland drain and settling ponds and embankment shall be made to prevent wash out during rain



CONSENT ORDER
UTKAL-C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

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- from the excavation area, OB dumping areas, topsoil dump, coal stockyard and other areas to nearby nallahs.
- 30) No diversion or obstruction of flow of natural nallah shall be done. The diversion of nearby nallah and realignment shall be done after obtaining permission from competent authority including Board.
 - 31) The following actions shall be completed within stipulated timeline for better environmental management as committed vide your letter No.JSPL/ UTKAL-C/24-25/03/248, dated 11.03.2025:
 - a) The construction & installation of 25 KLD ETP shall be completed by 10.4.2025.
 - b) The installation of wind barriers at coal stack shall be completed by 30th September 2025.
 - 32) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), monsoon (August), post-monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the Board quarterly.
 - 33) Adequate measures shall be taken for control of noise levels below the following limits.

(06.00 AM – 10.00 PM)	-	Leq 75 dB(A)
(10.00 PM – 06.00 AM)	-	Leq 70 dB(A)
 - 34) Ambient air quality monitoring data, noise monitoring data and wastewater quality monitoring data shall be electronically displayed at the entry point of the mine or at a suitable location of the mine for public view.
 - 35) The mine shall take action to supply of drinking water in the peripheral villages.
 - 36) The height of the stack connected to DG sets of capacity more than 800 KVA shall conform to the following:
 - i) $14Q^{0.3}$, Q = Total SO₂ emission from the plant in kg/hr.
 - ii) Minimum 6m. above the building where generator set is installed.
 - iii) 30 m.
 - 37) The height of the stack connected to DG set of capacity less than and upto 800 KVA shall conform to the following:
 - i) $H = h + 0.2\sqrt{KVA}$
 - ii) h= Height of the building where it is installed in meter
 - iii) KVA = Capacity of DG set
 - iv) H = Height of the stack in meter above ground level.
 - 38) All DG sets installed before 1.7.2004 shall be scrapped. DG sets complying with either State-I or Stage-II emission norms shall reduce Particulate Matter Emission by 70% by installing RECD without affecting any other emission

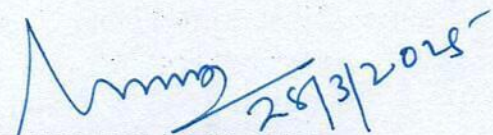


CONSENT ORDER
UTKAL-C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

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parameters as per the CPCB guidelines and Board's letter vide No.17927, dated 14.11.2023, in this regard.

- 39) Plantation of trees shall be undertaken in the colony/ township, over top soil dumps, OB dumps, along the side of haul road and in other areas of the mines not being utilized for mining activities. The mine shall take up avenue plantation and plantation in nearby village areas in consultation with DFO/Horticulture Department. The plantation details shall be submitted to the Board before end of April every year.
- 40) The annual coal production status shall be submitted to the Board latest by 30th April every year.
- 41) The environmental statement report for the financial year ending 31st March shall be submitted to the Board in Form-V on or before 30th September every year.


MEMBER SECRETARY

STATE POLLUTION CONTROL BOARD, ODISHA

TO,

THE VICE PRESIDENT,
UTKAL- C COAL MINE OF M/S JINDAL STEEL & POWER LIMITED,
PO: JINDAL NAGAR,
DIST: ANGUL, ODISHA - 759 111

Memo No. _____/Dt. _____/

Copy forwarded to :

- i) Regional Officer, State Pollution Control Board, Angul.
- ii) District Collector, Angul
- iii) Director of Mines, Govt. of Odisha, Bhubaneswar
- iv) Director, Environment-cum-Special Secretary, F, E & CC Dept., Govt. of Odisha, Bhubaneswar.
- v) D.F.O, Angul
- vi) Deputy Director of Mines, Talcher
- vii) Chief Env. Scientist, Central Lab. SPCB, Bhubaneswar
- viii) Addl. Chief Env. Engineer (Hazardous Waste Management Cell)
- ix) Guard File


CHIEF ENV. ENGINEER (M)
STATE POLLUTION CONTROL BOARD, ODISHA



CONSENT ORDER
UTKAL-C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

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**GENERAL STANDARDS FOR DISCHARGE OF
ENVIRONMENTAL POLLUTANTS**



GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART – A : EFFLUENTS

Sl. No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colourless/ Odourless as far as practicable	--	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (mg/l)	100	600	200	a. For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	--	--	--
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5°C above the receiving water temperature	--	--	Shall not exceed 5°C above the receiving water temperature
7.	Oil & Grease mg/l max.	10	20	10	20
8.	Total residual chlorine	1.0	--	--	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	--	50
10.	Total Kjeldahl nitrogen (as NH ₃) mg/l max.	100	--	--	100
11.	Free ammonia (as NH ₃) mg/l max.	5.0	--	--	5.0
12.	Biochemical Oxygen Demand (5 days at 20°C) mg/l max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/l max.	250	--	--	250
14.	Arsenic (as As) mg/l max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/l max.	0.01	0.01	--	0.001
16.	Lead (as pb) mg/l max.	01.	1.0	--	2.0



CONSENT ORDER
UTKAL-C COAL MINE OF M/S JINDAL STEEL & POWER LTD.

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Sl. No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
17.	Cadmium (as Cd) mg/l max.	2.0	1.0	--	2.0
18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	2.0	--	1.0
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0	--	2.0
20.	Copper (as Cu) mg/l max.	3.0	3.0	--	3.0
21.	Zinc (as Zn) mg/l max.	5.0	15	--	15
22.	Selenium (as Se) mg/l max.	0.05	0.05	--	0.05
23.	Nickel (as Ni) mg/l max.	3.0	3.0	--	5.0
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02
25.	Fluoride (as F) mg/l max.	2.0	15	--	15
26.	Dissolved Phosphates (as P) mg/l max.	5.0	--	--	--
27.	Sulphide (as S) mg/l max.	2.0	--	--	5.0
28.	Phenolic compounds as (C ₆ H ₅ OH) mg/l max.	1.0	5.0	--	5.0
29.	Radioactive materials				
	a. Alpha emitter micro curie/ml.	10 ⁷	10 ⁷	10 ⁸	10 ⁷
	b. Beta emitter micro curie/ml.	10 ⁶	10 ⁶	10 ⁷	10 ⁶
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31.	Manganese (as Mn)	2 mg/l	2 mg/l	--	2 mg/l
32.	Iron (Fe)	3 mg/l	3 mg/l	--	3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	--	0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l	--	--	20 mg/l



NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutants	Time Weighed Average	Concentrate of Ambient Air		
			Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO ₂), µg/m ³	Annual *	50	20	-Improved west and Gaeke
		24 Hours **	80	80	- Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO ₂), µg/m ³	Annual *	40	30	- Modified Jacob &Hochheiser (Na-Arsenite)
		24 Hours **	80	80	- Chemiluminescence
3.	Particulate Matter (size less than 10µm) or PM ₁₀ µg/m ³	Annual *	60	60	-Gravimetric
		24 Hours **	100	100	- TOEM
					- Beta Attenuation
4.	Particulate Matter (size less than 2.5µm) or PM _{2.5} µg/m ³	Annual *	40	40	-Gravimetric
		24 Hours **	60	60	- TOEM
					- Beta Attenuation
5.	Ozone (O ₃) µg/m ³	8 Hours **	100	100	- UV Photometric
		1 Hours **	180	180	- Chemiluminescence
					- Chemical Method
6.	Lead (Pb) µg/m ³	Annual *	0.50	0.50	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper.
		24 Hours **	1.0	1.0	- ED-XRF using Teflon filter
7.	Carbon Monoxide (CO) mg/m ³	8 Hours **	02	02	- Non Dispersive Infra Red (NDIR)
		1 Hours **	04	04	Spectroscopy
8.	Ammonia (NH ₃) µg/m ³	Annual*	100	100	-Chemiluminescence
		24 Hours**	400	400	- Indophenol Blue Method
9.	Benzene (C ₆ H ₆) µg/m ³	Annul *	05	05	-Gas Chromatography based continuous analyzer
					- Adsorption and Desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m ³	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), ng/m ³	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni),ng/m ³	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be compared with the limits. In a year, 2% of the time, they may exceed the limits but not on two consecutive days or during the same day.

Signature Not Verified

Digitally Signed by
Subhasmita Mallick

Date: 2025.03.28 19:34:44 IST



Ref. No. JSPL/Utkal C/25-26/43

Date:-24/05/2025

To,
The Addl. PCCF (C),
MoEF&CC, Regional Office (EZ),
A/3, Chandrasekharapur,
Bhuaneswar-751023, Odisha
E-mail: roez.bsr-mef@nic.in

Sub:- Submission of Six Monthly Environmental Clearance Compliance Report (Period Oct 2024 to Mar 2025) of Utkal-C Coal Mine, JSPL.

Ref:- Environmental clearance (EC) File No. J-11015/134/2006-IA.II(M), dt 5th Oct 2006 & Transfer of EC (from M/s Utkal Coal Ltd to M/s Jindal Steel & Power Ltd.), dt 28th February, 2023.

Dear Sir,

With kind reference to the above subject, please find attached herewith the Six Monthly Environmental Clearance Compliance Report (Period October 2024 to March 2025) of Utkal-C Coal Mine, of Jindal Steel & Power Limited, located in Village: Raijharan, Tehsil: Chendipada, District: Angul, Odisha in both hard and soft copy for your kind information & acknowledgement please.

The compliance report has also been uploaded in PARIVESH portal.

Thanking You,
Yours Faithfully,




Ashok Kumar,
Mine Agent
Utkal C Coal Mine

**Mine Agent
Utkal C Coal Mine
Jindal Steel and Power Limited**

Enclosed:-Six monthly EC compliance report with all annexures.

Copy to: 1. The Member Secretary, OSPCB, BBSR (E-mail: paribesh1@ospcbboard.org)
2. The Regional Officer, OSPCB, Angul (E-mail: rospcb.angul@ospcbboard.org)
3. The Regional Director, CPCB, Kolkatta (E-mail: mkbiswas.cpcb@nic.in)

JINDAL STEEL & POWER LTD

Angul Office Chhendipada Road, SH-63, At/Po-Jindal Nagar, Dist-Angul, Odisha-759111

T +91 6761 264191-95 F +91 6761 264141-44 W www.jindalsteelpower.com

Registered Office O P Jindal Marg, Hisar, 125 005, Haryana

Six Monthly Environmental Clearance Compliance Report

(Period: Oct 2024 to Mar 2025)

of

Utkal-C Coal Mine

Villages: Rajjharan, Tehsil: Chendipada, Dist: Angul Odisha

of



Jindal Steel & Power Ltd.

Jindal Centre, 12- R. N. Bhikaji Cama Place,
New Delhi - 110066 (Delhi) India

EC File No. J-11015/134/2006-IA.II(M), dt 5th Oct 2006 &
Transfer of EC (from M/s Utkal Coal Ltd to M/s Jindal Steel & Power Ltd.),
dt 28th February, 2023

Submitted to



Addl. PCCF (C) MoEF&CC,
Integrated Regional Office, A/3, Chandersekharapur, Bhubaneswar
Bhubaneswar, Odisha
[roez\[dot\]bsr-mef\[at\]nic\[dot\]in](mailto:roez[dot]bsr-mef[at]nic[dot]in)

24th May, 2025

Six Monthly Environmental Clearance Compliance Report

(Period: 1st Oct 2024 to 31st Mar 2025)

EC Transfer : F. No. J-11015/134/2006-IA.II(M), dated 28th Feb., 2023
 EC : No. J-11015/134/2006-IA.II(M), dated 5th Oct., 2006
 Production : 3.37 MTPA – by Opencast Coal Mine
 Lease Area : 575.071 Ha
 Location : Utkal C Coal Mine, JSPL, Village -Raijharan, Tehsil -Chendipada, Dist. -Angul, Odisha

EC Transferred Conditions

Addl. Conditions	PP Response 24.05.2025
(i) Any change in scope of work will attract the provisions of Environment (Protection) Act, 1986 and the Environmental Impact Assessment Notification, 2006 in conjunction with the subsequent amendments / circulars.	Noted
(ii) PP to take approval of mine plan and mine closure plan by changing the land type of forest area from 165.151 to 171.705 ha from Ministry of Coal as applicable.	Complied.
(iii) All conditions stipulated in the EC vide its letter EC letter No. J-11015/134/2006-IA.II(M) dated 5 th October, 2006 and EC amendment letter dated 28 th July, 2009 shall remain unchanged.	Noted & Agreed
(iv) The successful bidder shall be liable, if any, for any act of violation of the EPA 1986 / EIA Notification 2006 / subsequent amendments and circulars which it has inherited during the transfer.	Noted & Agreed
(v) Any liability arising from the previous allottee in term of compliances of EC, shall have to be addressed by the new allottee.	Noted & Agreed
(vi) Successful bidder shall be liable for compliance of all court directions, if any.	Noted & Agreed
(vii) Hon'ble Supreme Court in an Writ Petition(s) Civil No 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8 th January, 2020 has directed the Union of India to impose a condition in the mining lease and similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which any have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders / Project Proponent.	Noted & Agreed


Mine Agent
Utkal C Coal Mine
Jindal Steel and Power Limited



Six Monthly Environmental Clearance Compliance Report

(Period: 1st Oct 2024 to 31st Mar 2025)

EC Transfer : F. No. J-11015/134/2006-IA.II(M), dated 28th Feb., 2023
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EC Conditions

Specific Conditions	PP Response 24.05.2025
(i) All the conditions stipulated by SPCB in their NOC shall be effectively implemented	Noted & Complied. The mine has obtained Consent to Establish (CTE), an NOC from State Pollution Control Board, Odisha vide no 23468/IND-II-CTE-6787, dated 19.12.2022 & the compliance of stipulated conditions are in progress.
(ii) No mining operations shall be undertaken in the forestland until clearance has been obtained under the provisions of FC Act, 1980.	Noted & Complied. The total mine lease of Utkal C is 575.07 ha out of which, 171.7 Ha is a forest land & rest 403.37 ha non-forest land. The mine already has obtained forest diversion for entire forest land received on 07.10.2011 & 23.05.2012, which was transferred; vide letter no 8-25/2010-FC, dated 12.12.2022.
(iii) Mining shall be carried out as per statute at a safe distance from the river and nallah flowing within the lease boundary. At the time of depillaring, protective bunds and garland drains shall be provided so that no water from the water bodies enters the mining area.	Noted & complied.
(iv) An embankment shall be constructed along the southern boundary adjoining the ML. The slope of the embankment shall at least 2:1 towards the ML. The height of the embankment shall be at least 5 m higher than the HFL. The dimensions of the embankment shall be at least 1805m in length, 20m width at the bottom and 5 m at the top.	Noted & being complied. An expert consultant has appointed and an internal study is also being done from him regarding the design of construction & other details for embankments.
(v) Topsoil of 3.62 Mm ³ should be stacked properly with proper slope at earmarked site(s) and should not be kept active and shall be used for reclamation and development of green belt	As the mine has recently started to produce the coal, during development work as on date about 2,64,186m ³ top soil generated & stacked in separate area. This is also being used in green belt & plantation purpose. In the last year 2024-25, plantations of about 100 saplings were done in safety zone area. In this year 2025-26 plantation of about 30,000 saplings is proposed in this monsoon. 
(vi) OB should be stacked at earmarked external OB dumpsite within ML area and shall be a maximum height of 40m only and consist of benches of 10m each. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of reclaimed dumpsite should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional office located at Bhubaneshwar on yearly basis. The external OB dump shall be re-handled at the end of mine life and backfilled into the de-coaled area	Complied. 

Mine Agent
Utkal C Coal Mine
Jindal Steel and Power Limited

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EC Transfer : F. No. J-11015/134/2006-IA.II(M), dated 28th Feb., 2023
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EC Conditions

Specific Conditions	PP Response 24.05.2025
	The mine is maintaining external OB dump within ML area earmarked separately. The maximum height of 40m only and consist of benches of 10m each.
(vii) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development, etc. The drains should be regularly de-silted and maintained properly. Garland drains (size, gradient and length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provided adequate retention period to allow proper settling of silt material.	Noted & being complied. In the last year 2024-25, garland drain & catch drains of about 8.7km was made (around mine pit area - 3.5km, dump area -2.8km, stock yard -0.7km & along the road -1.7km). In this year garland drain & catch drains of 5 km long shall be made along with   Photo: Garland drain developed in Mine A three phase siltation pond of 0.18Ha was made by mine for de-siltation of mine water of approximate volume of 10,000KL (20m length x20m length x08 m depth x 3nos pits).   Photo: A three phase siltation cum settling pond To arrest the silt and sediment, check dam repairing work is also being done. All the drains & ponds are regularly cleaned & de-silted & maintained adequately. As like every year, this year 2025-26 also, additionally ~5km garland drain & 06 nos settling pits were developed around stock yard, OB dumps, top soil dump to allow proper settling of silt material.   Photo: Garland drain developed in mines




Mine Agent
Utkal C Coal Mine
Jindal Steel and Power Limited

EC Transfer : F. No. J-11015/134/2006-IA.II(M), dated 28th Feb., 2023
 EC : No. J-11015/134/2006-IA.II(M), dated 5th Oct., 2006
 Production : 3.37 MTPA – by Opencast Coal Mine
 Lease Area : 575.071 Ha
 Location : Utkal C Coal Mine, JSPL, Village -Raijharan, Tehsil -Chendipada, Dist. -Angul, Odisha

EC Conditions

Specific Conditions	PP Response 24.05.2025
(viii) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data	Noted & being complied. The mine operation is recently started; top soil & OB dumps are still in progress and planning to build a toe wall all long dumps with stone mesh once dump get stabilized.
(ix) Crushers at the CHP should be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc	Noted & shall be complied. However, at present, Crusher or CHP is not installed at mine. However, an eco-friendly, pipe conveyor system are being installed at Utkal C from mines to plant.  Photo: Eco-friendly pipe conveyor installation at Utkal C Coal Mine
(x) Drills should be wet operated	Noted & shall be complied when mine practices drilling & blasting activities in its mining operations.
(xi) Controlled blasting should be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders should be implemented	Noted & shall be complied in future, at present, no drilling-blasting is envisaged, surface miner is used for coal excavation & HEMM are used for OB removals in place of blasting due to local geology.
(xii) The total area brought under afforestation shall not be less than 315.87 ha, and shall include external OB dump (74.96 ha), topsoil dump (7.84 ha) backfilled area covering 163.04 ha, along ML boundary, infrastructure (10 ha), along roads, safety zone and vacant area (20.36 ha) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha. 	Noted & being complied. As the mine is recently started its operations and area is limited, In the last year 2024-25, plantation of about 100 saplings is done in safety zone of mine. The nursery development in mine is ongoing for development of in-house local saplings.  Photo: Plantation at Utkal C
(xiii) Backfilling shall begin from the first year of mining operations and concurrent backfilling from 6th year onwards. A Progressive Mine Closure Plan shall be implemented and OB generated shall be simultaneously backfilled covering an area of 163.04 ha. Plantation shall be developed to cover 179.73 ha over the backfilled area and the higher benches which are gently sloped.	The mine has recently started its coal production, backfilling will commence after creating of the sufficient space between active working to in-pit dumping area (100m from backfilling area to active working) as per DGMS guidelines.
(xiv) Regular monitoring of groundwater level and quality should be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity should be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected should be submitted to the Ministry of Environment & Forests	Complied The ground water levels in existing well are being checked regularly and the water quality is carried out.

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EC Conditions

Specific Conditions

and to the Central Pollution Control Board quarterly within one month of monitoring

PP Response 24.05.2025



Photo: Monthly ground water level monitoring at Utkal mine site, JSPL

A new piezometric well is constructed in mine site with regular monitoring. The flow meter with DWR is being installed at site. All the GW Level & Quality monitoring data is attached herewith as annexure -1.

(xv) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.

Noted & being complied.

(xvi) ETP should also be provided for workshop and CHP wastewater.

Noted & complied.

The ETP of 25KLD installation work is in-progress.

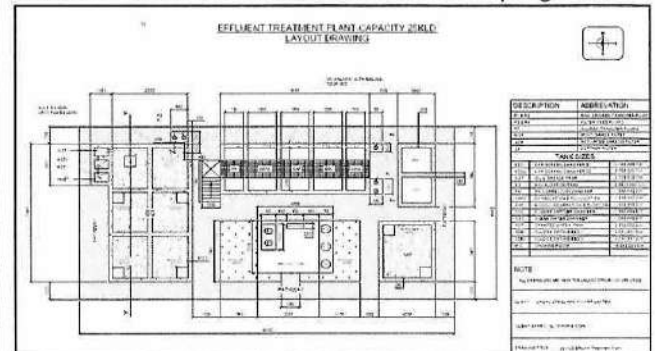


Photo: Layout of 25 KLD ETP at workshop under construction

(xvii) A Programme for conservation of the endangered species, particularly the Indian Elephant, found in the study area, shall be formulated and implemented in consultation with the concerned Department in the State Government. Separate funds shall be earmarked for implementation of the various activities there under and the status thereof shall be regularly reported to this Ministry and the MoEFC Regional Office, Bhubaneswar

The mine is committed for conservation of the endangered species, particularly the Indian Elephant. In this respect, the site specific wild life conservation plan (SSWLCP) is already prepared & approved from Chief Wild Life Warden, vide memo no 1776/1WL (C) SSP-275/2011 Bhubaneswar, dated 11th March 2011 & a fund of ₹ 331 Lakhs was also deposited by mine, which is being implemented by DFO, Angul. The Mine shall provide all necessary support in this regard.

(xviii) Digital processing of the entire lease area using remote sensing technique should be done regularly once in 3 years for monitoring land use pattern and report submitted to MOEF and its Regional office at Bhubaneswar.

Being complied.

The mine is recently started its coal production. For execution of digital processing of entire lease area by using remote sensing technique a study shall be undertaken, which shall be done from a reputed agency from FY- 2025-26.

(xix) Besides carrying out regular periodic health check up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any, through an agency such as NIOH,

Noted & being complied.

EC Transfer : F. No. J-11015/134/2006-IA.II(M), dated 28th Feb., 2023
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 Lease Area : 575.071 Ha
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EC Conditions

Specific Conditions	PP Response 24.05.2025
Ahmedabad within a period of one year and the results reported to this Ministry and to DGMS	
(xx) R&R of village Raijharan shall be completed within the specified time schedule and shall be not less than that of the National R&R Policy.	Complied.
(xxi) A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Noted & shall be complied.
(xxii) Consent to Operate shall be obtained before expanding mining operations.	Complied. The mine has valid Consent to Operate issued from OSPCB vide no 43330.IND-I-CON-6901, dated 28.03.2024, consent order no 3098.
General Conditions	
(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.	Noted & Complied.
(ii) No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.	Noted & Complied.
(iii) Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO ₂ and NO _x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.	Complied. Four ambient air quality monitoring stations are established in core & buffer zone, namely one at mine site office, three at surrounding villages such as Raijharan, Khosla etc. Apart from this additional two Continuous Ambient Air Quality Monitoring stations (CAAQMS) are also installed at site. Photo: Ambient Air Quality Monitoring at Utkal C Mine Photo: CAAQMS at (Core & Buffer zone) Utkal C Mine The entire air monitoring data is also attached herewith in this report as annexure-2.
(iv) Data on ambient air quality (SPM, RPM, SO ₂ and NO _x) should be regularly submitted to the Ministry including its Regional Office at Bhubaneshwar and to the State Pollution Control Board and the Central Pollution Control Board once in six	Complied.



Mine Agent

Utkal C Coal Mine

Jindal Steel and Power Limited

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EC Transfer : F. No. J-11015/134/2006-IA.II(M), dated 28th Feb., 2023
 EC : No. J-11015/134/2006-IA.II(M), dated 5th Oct., 2006
 Production : 3.37 MTPA – by Opencast Coal Mine
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EC Conditions

Specific Conditions	PP Response 24.05.2025
months.	 Photo: Air quality monitoring at working zone at Utkal C Mine The air quality at work zone at various locations is regularly done by mine as per GSR 742 (E), dated 25th Sept., 2000 and subsequent amendments. All the environmental data of air, water etc is submitted to IRO, MoEF&CC along with CPCB & SPCB with six monthly EC compliance. The entire air monitoring data is also attached herewith in this report as annexure-2.
(v) Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points should be provided and properly maintained 	Fugitive dust emissions from all sources is been controlled with 05 nos of mobile water sprinklers with mist gun on daily basis.   Photo: Mobile water sprinklers use in Utkal C Mine Apart from all above fixed fog cannon to arrest the fugitive dust from coal stock yard etc are procured & installed at site. Additionally 06 nos of fixed fog cannon are installed at coal stock area to control the fugitive dust.   Photo: Dust Suppression at coal stock yard with Fog Cannons
(vi) Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc should be provided with ear plugs/muffs.	Noted & complied. Surface miner is being used at mine and currently no drilling blasting is done at site. All the HEMM are equipped with a/c cabins.


Mine Agent
Utkal C Coal Mine
Jindal Steel and Power Limited

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EC Transfer : F. No. J-11015/134/2006-IA.II(M), dated 28th Feb., 2023
 EC : No. J-11015/134/2006-IA.II(M), dated 5th Oct., 2006
 Production : 3.37 MTPA – by Opencast Coal Mine
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EC Conditions

Specific Conditions	PP Response 24.05.2025
	 Photo: Noise Monitoring & Plantation at Site All the persons working in mine are provided PPE including ear plugs. Regular noise monitoring is also been done at site. To reduce the ambient noise, plantation and GB is done in mine. The ambient noise level monitoring reports are attached herewith as annexure-3.
(vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.	Noted & being complied. The industrial wastewater, specially generated from workshop shall be treated in a 25 KLD ETP with Oil & grease trap. All treated water generated is used for plantation purpose. The mine water quality is also been check on regular basis the monitoring report of the same is attached as annexure-4.
(viii) Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.	Complied. The transportation of coal to the adjacent steel & power plant shall be done by conveyor system in upcoming days. The civil & construction work is in-progress as erection of pillars etc for dust free eco-friendly mineral transport.  Photo: Eco-friendly pipe conveyor installation Coal Mine to Plant Till date all the mineral shall be dispatched through road network using i3MS software with tarpaulins covered vehicles.  Photo: Coal transportation with covered trucks Utkal C Coal Mine

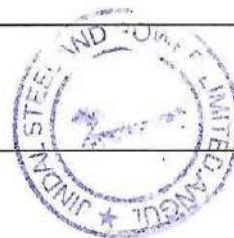


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EC Conditions

Specific Conditions	PP Response 24.05.2025
	Any dispatch vehicles are fit for transport having valid PUCs as all vehicles are tagged through i3MS software used by mine which ensures the fitness, PUC, insurance etc of all vehicles before dispatch.
(ix) Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board	Complied.
(x) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.	Complied
(xi) A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the company.	Complied
(xii) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should be reported to this Ministry and its Regional Office at Bhubaneshwar.	Noted & being complied.
(xiii) A copy of the EC will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.	Complied.
(xiv) State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.	Complied.
(xv) The Project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in	Complied.

Ad
Mine Agent
Utkal C Coal Mine
Jindal Steel and Power Limited



Six Monthly Environmental Clearance Compliance Report

(Period: 1st Oct 2024 to 31st Mar 2025)

EC Transfer : F. No. J-11015/134/2006-IA.II(M), dated 28th Feb., 2023
 EC : No. J-11015/134/2006-IA.II(M), dated 5th Oct., 2006 (Amendment in EC).
 Production : 3.37 MTPA by Opencast Coal Mine
 Lease Area : 575.071 Ha
 Location : Utkal C Coal Mine, JSPL, Village -Raijharan, Tehsil -Chendipada, Dist. -Angul, Odisha

Specific Condition (xii):

"The total area brought under afforestation and protected shall be not less than 312.55 ha, and shall include external OB dump (29 ha), excavated area (163.04 ha), roads (10 ha), embankment (4.51 ha) and undisturbed area (106 ha) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be not less than 2500 plants per ha"

Modification of EC Letter with Additional Conditions

Addl. EC Conditions	PP Response 24.05.2025
(i) Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in SPM and RSPM shall be carried out at least once in six months and data thereon recorded and regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board as part of the Monitoring report.	Complied. All the heavy metal monitoring data are also attached along with this report in annexure-5.
(ii) A copy of the clearance letter shall be displayed on the company's website. A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board.	Complied. The copy of Environment Clearance is also displayed on the company's website along with State Pollution Control Board. https://www.jindalsteel.com/environmental-compliance.html
(iii) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.	Complied. The 1 st June 2024 six monthly EC compliance report has already been uploaded in PARIVEH portal along with copy submission to IRO, MoEF&CC and the respective Zonal offices of CPCB and the SPCB. The compliance status of same is also uploaded on company's website. The environmental monitoring data also displayed in mine entry gate in LED digital display board.  Environmental data display at Entry Gate of Mine https://www.jindalsteel.com/environmental-compliance.html
(iv) The environmental statement for each financial year ending 31 st March in Form-V is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.	Complied. The environmental statement for the financial year 2023-24 ending 31 st March 2024 in Form-V is submitted vide no. JSPL/ANGUL/EMD/24-25/49, dated 20 th Sept., 2024. The copy of same also been uploaded on company's website. https://www.jindalsteel.com/environmental-compliance.html


Mine Agent
Utkal C Coal Mine
Jindal Steel and Power Limited



Ground Water Level Monitoring

TEST REPORT

Ref: Envlab/25-26/TR-00691

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ground Water Level	Sampling Procedure	:	As per IS 3025
Sample Condition	:	NA	Sampling done by	:	VCSPL representative

Sl. No	Dates of Monitoring	Monitoring Location	Result, mtr
1	10.03.2025	Piezometer at Mines Office in Rajiharana 20° 57' 48.33" N 84° 57' 14.5152" E	6.37
2	10.03.2025	Piezometer at near Weigh Bridge 20° 57' 31.6764" N 84° 57' 23.6988" E	1.50
3	10.03.2025	Dugwell at near Nandichor 20° 58' 27.9876" N 84° 55' 49.4328" E	7.11
4	10.03.2025	Dugwell at near Similisahi 20° 59' 45.7368" N 84° 56' 41.6328" E	3.79
5	10.03.2025	Dugwell at near Galagodia 20° 58' 8.7348" N 84° 57' 49.4928" E	6.16
6	10.03.2025	Dugwell at near Tangersahi 20° 57' 43.0992" N 84° 58' 2.0892" E	3.57
7	10.03.2025	Dugwell at near Koshala 21° 0' 44.928" N 84° 56' 8.3544" E	5.86
8	10.03.2025	Dugwell at near Chhotabereni 20° 57' 48.2076" N 84° 59' 26.9448" E	5.98
9	10.03.2025	Dugwell at near Nisha 20° 55' 39.0108" N 85° 0' 4.8348" E	6.27
10	10.03.2025	Dugwell at near Kankera 20° 57' 11.3616" N 84° 59' 13.4088" E	7.18



Reviewed By:



Approved By:

TEST REPORT

Ref: Envlab/24-25/TR-17263

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha.			
	:	Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ground Water Level	Sampling Procedure	:	As per IS 3025
Sample Condition	:	NA	Sampling done by	:	VCSPL representative

Sl. No	Dates of Monitoring	Monitoring Location	Result, mtr
1	18.02.2025	Piezometer at Mines Office in Rajiharana 20° 57' 48.33" N 84° 57' 14.5152" E	7.98
2	18.02.2025	Piezometer at near Weigh Bridge 20° 57' 31.6764" N 84° 57' 23.6988" E	1.6
3	18.02.2025	Dugwell at near Nandichor 20° 58' 27.9876" N 84° 55' 49.4328" E	7.81
4	18.02.2025	Dugwell at near Similisahi 20° 59' 45.7368" N 84° 56' 41.6328" E	4.50
5	18.02.2025	Dugwell at near Galagodia 20° 58' 8.7348" N 84° 57' 49.4928" E	5.00
6	18.02.2025	Dugwell at near Tangersahi 20° 57' 43.0992" N 84° 58' 2.0892" E	2.67
7	18.02.2025	Dugwell at near Koshala 21° 0' 44.928" N 84° 56' 8.3544" E	4.98
8	18.02.2025	Dugwell at near Chhotabereni 20° 57' 48.2076" N 84° 59' 26.9448" E	4.05
9	18.02.2025	Dugwell at near Nisha 20° 55' 39.0108" N 85° 0' 4.8348" E	5.15
10	18.02.2025	Dugwell at near Kankerai 20° 57' 11.3616" N 84° 59' 13.4088" E	5.68





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017 Certified

TEST REPORT

Ref: Envlab/24-25/TR-16431

Date: 05.02.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ground Water Level	Sampling Procedure	:	As per IS 3025
Sample Condition	:	NA	Sampling done by	:	VCSPL representative

Sl. No	Dates of Monitoring	Monitoring Location	Result, mtr
1	29.01.2025	Piezometer at Mines Office in Rajiharana 20° 57' 48.33" N 84° 57' 14.5152" E	7.95
2	29.01.2025	Piezometer at near Weigh Bridge 20° 57' 31.6764" N 84° 57' 23.6988" E	1.54
3	29.01.2025	Dugwell at near Nandichor 20° 58' 27.9876" N 84° 55' 49.4328" E	6.23
4	29.01.2025	Dugwell at near Similisahi 20° 59' 45.7368" N 84° 56' 41.6328" E	5.33
5	29.01.2025	Dugwell at near Galagodia 20° 58' 8.7348" N 84° 57' 49.4928" E	4.42
6	29.01.2025	Dugwell at near Tangersahi 20° 57' 43.0992" N 84° 58' 2.0892" E	1.80
7	29.01.2025	Dugwell at near Koshala 21° 0' 44.928" N 84° 56' 8.3544" E	5.49
8	29.01.2025	Dugwell at near Chhotaberani 20° 57' 48.2076" N 84° 59' 26.9448" E	4.62
9	29.01.2025	Dugwell at near Nisha 20° 55' 39.0108" N 85° 0' 4.8348" E	4.12
10	29.01.2025	Dugwell at near Kankera 20° 57' 11.3616" N 84° 59' 13.4088" E	4.82



Reviewed By:



Approved By:

TEST REPORT

Ref: Envlab/24-25/TR-14586

Date: 05.01.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ground Water Level	Sampling Procedure	:	As per IS 3025
Sample Condition	:	NA	Sampling done by	:	VCSPL representative

Sl. No	Dates of Monitoring	Monitoring Location	Result, mtr
1	13.12.2024	Piezometer at Mines Office in Rajjharana 20° 57' 48.33" N 84° 57' 14.5152" E	8.08
2	13.12.2024	Piezometer at near Weigh Bridge 20° 57' 31.6764" N 84° 57' 23.6988" E	0.61
3	13.12.2024	Dugwell at near Nandichor 20° 58' 27.9876" N 84° 55' 49.4328" E	3.55
4	13.12.2024	Dugwell at near Similisahi 20° 59' 45.7368" N 84° 56' 41.6328" E	2.04
5	13.12.2024	Dugwell at near Galagodia 20° 58' 8.7348" N 84° 57' 49.4928" E	1.13
6	13.12.2024	Dugwell at near Tangersahi 20° 57' 43.0992" N 84° 58' 2.0892" E	0.90
7	13.12.2024	Dugwell at near Koshala 21° 0' 44.928" N 84° 56' 8.3544" E	2.88
8	13.12.2024	Dugwell at near Chhotaberani 20° 57' 48.2076" N 84° 59' 26.9448" E	2.37
9	13.12.2024	Dugwell at near Nisha 20° 55' 39.0108" N 85° 0' 4.8348" E	2.21
10	13.12.2024	Dugwell at near Kankera 20° 57' 11.3616" N 84° 59' 13.4088" E	2.80
11	13.12.2024	Dugwell at near Balugadia	2.26



 Reviewed By:



 Approved By:



TEST REPORT

Ref: Envlab/24-25/TR-13945

Date: 05.12.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ground Water Level	Sampling Procedure	:	As per IS 3025
Sample Condition	:	NA	Sampling done by	:	VCSPL representative

Sl. No	Dates of Monitoring	Monitoring Location	Result, mtr
1	18.11.2024	Piezometer at Mines Office in Rajiharana 20° 57' 48.33" N 84° 57' 14.5152" E	8.36
2	18.11.2024	Piezometer at near Weigh Bridge 20° 57' 31.6764" N 84° 57' 23.6988" E	0.58
3	18.11.2024	Dugwell at near Nandichor 20° 58' 27.9876" N 84° 55' 49.4328" E	3.61
4	18.11.2024	Dugwell at near Similisahi 20° 59' 45.7368" N 84° 56' 41.6328" E	2.11
5	18.11.2024	Dugwell at near Galagodia 20° 58' 8.7348" N 84° 57' 49.4928" E	1.17
6	18.11.2024	Dugwell at near Tangersahi 20° 57' 43.0992" N 84° 58' 2.0892" E	0.92
7	18.11.2024	Dugwell at near Koshala 21° 0' 44.928" N 84° 56' 8.3544" E	3.01
8	18.11.2024	Dugwell at near Chhotabereni 20° 57' 48.2076" N 84° 59' 26.9448" E	2.48
9	18.11.2024	Dugwell at near Nisha 20° 55' 39.0108" N 85° 0' 4.8348" E	2.26
10	18.11.2024	Dugwell at near Kankera 20° 57' 11.3616" N 84° 59' 13.4088" E	2.89
11	18.11.2024	Dugwell at near Balugadia	2.31



Reviewed By:



Approved By:

TEST REPORT

Ref: Envlab/24-25/TR-12289

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ground Water Level	Sampling Procedure	:	As per IS 3025
Sample Condition	:	NA	Sampling done by	:	VCSPL representative

Sl. No	Dates of Monitoring	Monitoring Location	Result, mtr
1	21.10.2024	Piezometer at Mines Office in Rajiharana 20° 57' 48.33" N 84° 57' 14.5152" E	6.83
2	21.10.2024	Piezometer at near Weigh Bridge 20° 57' 31.6764" N 84° 57' 23.6988" E	5.35
3	21.10.2024	Dugwell at near Nandichor 20° 58' 27.9876" N 84° 55' 49.4328" E	1.45
4	21.10.2024	Dugwell at near Similisahi 20° 59' 45.7368" N 84° 56' 41.6328" E	0.81
5	21.10.2024	Dugwell at near Galagodia 20° 58' 8.7348" N 84° 57' 49.4928" E	1.52
6	21.10.2024	Dugwell at near Tangersahi 20° 57' 43.0992" N 84° 58' 2.0892" E	0.68
7	21.10.2024	Dugwell at near Koshal 21° 0' 44.928" N 84° 56' 8.3544" E	2.27
8	21.10.2024	Dugwell at near Chhotabereni 20° 57' 48.2076" N 84° 59' 26.9448" E	1.39
9	21.10.2024	Dugwell at near Nisha 20° 55' 39.0108" N 85° 0' 4.8348" E	0.60
10	21.10.2024	Dugwell at near Kankera 20° 57' 11.3616" N 84° 59' 13.4088" E	1.23


 Reviewed By:


 Approved By:

Ground Water Quality Monitoring

TEST REPORT

Ref: Envlab/24-25/TR-17266

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Drinking Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	DW-1	Sampling Location	:	Raijharana (Near Mines Office)
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

Sl.No	Parameters	Unit	Standard as per IS 10500: 2012 Amnd 2015 & 2018 (Acceptable Limit)	Test methods	Results
1	Color	Hazen	5	APHA 2120 B,C	<5
2	Odour	--	Agreeable	APHA 2120 B	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H+B	7.15
4	Turbidity	NTU, max	1.0	APHA 2130 B	4.8
5	Total Dissolved Solids at 180°C	mg/l	500	APHA 2540 C	510
6	Calcium (as Ca)	mg/l ,max	75	APHA 3500Ca B	18.2
7	Chloride (as Cl)	mg/l ,max	250	APHA 4500Cl- B	50.6
8	Copper (as Cu)	mg/l ,max	0.05	APHA 3111B,C	<0.01
9	Fluoride (as F)	mg/l ,max	1.0	APHA 4500F-C	0.29
10	Free Residual Chlorine	mg/l ,min	0.2	APHA 4500Cl B	0.11
11	Iron (as Fe)	mg/l ,max	1	APHA 3500Fe B	0.25
12	Magnesium (as Mg)	mg/l ,max	30	APHA 3500Mg,B	20.50
13	Manganese (as Mn)	mg/l ,max	0.1	APHA 3500Mn B	<0.05
14	Mineral oil	mg/l ,max	1.0	APHA 5220 B	<0.05
15	Phenolic compounds	mg/l ,max	0.001	APHA 5530 B,C	<0.001
16	Selenium(as Se)	mg/l ,max	0.01	APHA 3114B	<0.1
17	Sulphate (as SO4)	mg/l ,max	200	APHA 4500SO42-B	9.2
18	Nitrate (as NO3)	mg/l ,max	45	APHA 4500 NO3- B	1.11
19	Total Alkalinity	mg/l ,max	200	APHA 2320 B	140.6
20	Total Hardness	mg/l ,max	200	APHA 2340 C	129.8
21	Zinc(as Zn)	mg/l ,max	5.0	APHA 3111B,C	<1.0
22	Cadmium (as Cd)	mg/l ,max	0.003	APHA 3111B,C	<0.003
23	Cyanide (as CN)	mg/l ,max	0.05	APHA 4500CN-C,D	<0.05
24	Lead (as Pb)	mg/l ,max	0.01	APHA 3111B,C	<0.01
25	Mercury (as Hg)	mg/l ,max	0.001	APHA 3500 Hg	<0.001
26	Total arsenic (as As)	mg/l ,max	0.01	APHA 3114B	<0.004

27	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	<1.8
28	Fecal Coli Form	MPN/100ml	---	APHA 9221 E	<1.8
29	E. coli	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 F	<1.8
30	Boron	mg/l ,max	0.5	APHA 4500 B, B	<0.1
31	Molybdenum	mg/l ,max	0.07	IS 3025 (Part 2)	<0.005
32	Aluminum	mg/l ,max	0.03	APHA 3500 Al B	<0.005
33	Silver	mg/l ,max	0.1	IS 13428	<0.01
34	Anionic detergent as MBAS	--	0.2	IS 13428	<0.01
35	Barium	mg/l ,max	0.7	APHA 3111 B	<0.05
36	Total Chromium	mg/l ,max	0.05	APHA 3111 B	0.02
37	Sulphide as H ₂ S	mg/l ,max	0.05	APHA 4500 -S.D	ND
38	Ammonia as NH ₃ -N	mg/l ,max	0.5	APHA 4500 NH ₃ .C	<0.05


Reviewed by


Approved by

TEST REPORT

Ref: Envlab/24-25/TR-17267

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Drinking Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	DW-2	Sampling Location	:	Weigh Bridge
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

Sl.No	Parameters	Unit	Standard as per IS 10500: 2012 Amnd 2015 & 2018 (Acceptable Limit)	Test methods	Results
1	Color	Hazen	5	APHA 2120 B,C	<5
2	Odour	--	Agreeable	APHA 2120 B	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H+B	7.02
4	Turbidity	NTU, max	1.0	APHA 2130 B	27.4
5	Total Dissolved Solids at 180°C	mg/l	500	APHA 2540 C	472.6
6	Calcium (as Ca)	mg/l ,max	75	APHA 3500Ca B	30.2
7	Chloride (as Cl)	mg/l ,max	250	APHA 4500Cl- B	28.4
8	Copper (as Cu)	mg/l ,max	0.05	APHA 3111B,C	<0.01
9	Fluoride (as F)	mg/l ,max	1.0	APHA 4500F-C	0.42
10	Free Residual Chlorine	mg/l ,min	0.2	APHA 4500Cl B	0.12
11	Iron (as Fe)	mg/l ,max	1	APHA 3500Fe B	0.22
12	Magnesium (as Mg)	mg/l ,max	30	APHA 3500Mg,B	2.77
13	Manganese (as Mn)	mg/l ,max	0.1	APHA 3500Mn B	<0.05
14	Mineral oil	mg/l ,max	1.0	APHA 5220 B	<0.05
15	Phenolic compounds	mg/l ,max	0.001	APHA 5530 B,C	<0.001
16	Selenium(as Se)	mg/l ,max	0.01	APHA 3114B	<0.1
17	Sulphate (as SO4)	mg/l ,max	200	APHA 4500SO42-B	8.12
18	Nitrate (as NO3)	mg/l ,max	45	APHA 4500 NO3- B	0.21
19	Total Alkalinity	mg/l ,max	200	APHA 2320 B	202.6
20	Total Hardness	mg/l ,max	200	APHA 2340 C	86.8
21	Zinc(as Zn)	mg/l ,max	5.0	APHA 3111B,C	<1.0
22	Cadmium (as Cd)	mg/l ,max	0.003	APHA 3111B,C	<0.003
23	Cyanide (as CN)	mg/l ,max	0.05	APHA 4500CN-C,D	<0.05
24	Lead (as Pb)	mg/l ,max	0.01	APHA 3111B,C	<0.01
25	Mercury (as Hg)	mg/l ,max	0.001	APHA 3500 Hg	<0.001
26	Total arsenic (as As)	mg/l ,max	0.01	APHA 3114B	<0.004

27	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	<1.8
28	Fecal Coli Form	MPN/100ml	---	APHA 9221 E	<1.8
29	E. coli	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 F	<1.8
30	Boron	mg/l ,max	0.5	APHA 4500 B, B	<0.1
31	Molybdenum	mg/l ,max	0.07	IS 3025 (Part 2)	<0.005
32	Aluminum	mg/l ,max	0.03	APHA 3500 Al B	<0.005
33	Silver	mg/l ,max	0.1	IS 13428	<0.01
34	Anionic detergent as MBAS	--	0.2	IS 13428	<0.01
35	Barium	mg/l ,max	0.7	APHA 3111 B	<0.05
36	Total Chromium	mg/l ,max	0.05	APHA 3111 B	0.03
37	Sulphide as H ₂ S	mg/l ,max	0.05	APHA 4500 -S.D	ND
38	Ammonia as NH ₃ -N	mg/l ,max	0.5	APHA 4500 NH ₃ .C	<0.05



Reviewed by



Approved by

TEST REPORT

Ref: Envlab/24-25/TR-17268

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Drinking Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	DW-3	Sampling Location	:	Tangersahi
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

Sl.No	Parameters	Unit	Standard as per IS 10500: 2012 Amnd 2015 & 2018 (Acceptable Limit)	Test methods	Results
1	Color	Hazen	5	APHA 2120 B,C	<5
2	Odour	--	Agreeable	APHA 2120 B	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H+B	7.56
4	Turbidity	NTU, max	1.0	APHA 2130 B	1.22
5	Total Dissolved Solids at 180°C	mg/l	500	APHA 2540 C	530.6
6	Calcium (as Ca)	mg/l ,max	75	APHA 3500Ca B	42.6
7	Chloride (as Cl)	mg/l ,max	250	APHA 4500Cl- B	156.2
8	Copper (as Cu)	mg/l ,max	0.05	APHA 3111B,C	<0.01
9	Fluoride (as F)	mg/l ,max	1.0	APHA 4500F-C	1.72
10	Free Residual Chlorine	mg/l ,min	0.2	APHA 4500Cl B	0.14
11	Iron (as Fe)	mg/l ,max	1	APHA 3500Fe B	0.32
12	Magnesium (as Mg)	mg/l ,max	30	APHA 3500Mg,B	61.29
13	Manganese (as Mn)	mg/l ,max	0.1	APHA 3500Mn B	<0.05
14	Mineral oil	mg/l ,max	1.0	APHA 5220 B	<0.05
15	Phenolic compounds	mg/l ,max	0.001	APHA 5530 B,C	<0.001
16	Selenium(as Se)	mg/l ,max	0.01	APHA 3114B	<0.1
17	Sulphate (as SO4)	mg/l ,max	200	APHA 4500SO42-B	58.6
18	Nitrate (as NO3)	mg/l ,max	45	APHA 4500 NO3- B	27.9
19	Total Alkalinity	mg/l ,max	200	APHA 2320 B	670.5
20	Total Hardness	mg/l ,max	200	APHA 2340 C	358.6
21	Zinc(as Zn)	mg/l ,max	5.0	APHA 3111B,C	<1.0
22	Cadmium (as Cd)	mg/l ,max	0.003	APHA 3111B,C	<0.003
23	Cyanide (as CN)	mg/l ,max	0.05	APHA 4500CN-C,D	<0.05
24	Lead (as Pb)	mg/l ,max	0.01	APHA 3111B,C	<0.01
25	Mercury (as Hg)	mg/l ,max	0.001	APHA 3500 Hg	<0.001
26	Total arsenic (as As)	mg/l ,max	0.01	APHA 3114B	<0.004

27	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	<1.8
28	Fecal Coli Form	MPN/100ml	---	APHA 9221 E	<1.8
29	E. coli	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 F	<1.8
30	Boron	mg/l ,max	0.5	APHA 4500 B, B	<0.1
31	Molybdenum	mg/l ,max	0.07	IS 3025 (Part 2)	<0.005
32	Aluminum	mg/l ,max	0.03	APHA 3500 Al B	<0.005
33	Silver	mg/l ,max	0.1	IS 13428	<0.01
34	Anionic detergent as MBAS	--	0.2	IS 13428	<0.01
35	Barium	mg/l ,max	0.7	APHA 3111 B	<0.05
36	Total Chromium	mg/l ,max	0.05	APHA 3111 B	0.03
37	Sulphide as H ₂ S	mg/l ,max	0.05	APHA 4500 -S.D	ND
38	Ammonia as NH ₃ -N	mg/l ,max	0.5	APHA 4500 NH ₃ .C	<0.05


Reviewed by


Approved by

TEST REPORT

Ref: Envlab/24-25/TR-17269

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Drinking Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	DW-4	Sampling Location	:	Koshala
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

Sl.No	Parameters	Unit	Standard as per IS 10500: 2012 Amnd 2015 & 2018 (Acceptable Limit)	Test methods	Results
1	Color	Hazen	5	APHA 2120 B,C	<5
2	Odour	--	Agreeable	APHA 2120 B	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H+B	6.92
4	Turbidity	NTU, max	1.0	APHA 2130 B	<1.0
5	Total Dissolved Solids at 180°C	mg/l	500	APHA 2540 C	580.6
6	Calcium (as Ca)	mg/l ,max	75	APHA 3500Ca B	50.4
7	Chloride (as Cl)	mg/l ,max	250	APHA 4500Cl- B	88.4
8	Copper (as Cu)	mg/l ,max	0.05	APHA 3111B,C	<0.01
9	Fluoride (as F)	mg/l ,max	1.0	APHA 4500F-C	0.14
10	Free Residual Chlorine	mg/l ,min	0.2	APHA 4500Cl B	0.15
11	Iron (as Fe)	mg/l ,max	1	APHA 3500Fe B	0.26
12	Magnesium (as Mg)	mg/l ,max	30	APHA 3500Mg,B	18.60
13	Manganese (as Mn)	mg/l ,max	0.1	APHA 3500Mn B	<0.05
14	Mineral oil	mg/l ,max	1.0	APHA 5220 B	<0.05
15	Phenolic compounds	mg/l ,max	0.001	APHA 5530 B,C	<0.001
16	Selenium(as Se)	mg/l ,max	0.01	APHA 3114B	<0.1
17	Sulphate (as SO4)	mg/l ,max	200	APHA 4500SO42-B	64.6
18	Nitrate (as NO3)	mg/l ,max	45	APHA 4500 NO3- B	75.6
19	Total Alkalinity	mg/l ,max	200	APHA 2320 B	240
20	Total Hardness	mg/l ,max	200	APHA 2340 C	202.4
21	Zinc(as Zn)	mg/l ,max	5.0	APHA 3111B,C	<1.0
22	Cadmium (as Cd)	mg/l ,max	0.003	APHA 3111B,C	<0.003
23	Cyanide (as CN)	mg/l ,max	0.05	APHA 4500CN-C,D	<0.05
24	Lead (as Pb)	mg/l ,max	0.01	APHA 3111B,C	<0.01
25	Mercury (as Hg)	mg/l ,max	0.001	APHA 3500 Hg	<0.001
26	Total arsenic (as As)	mg/l ,max	0.01	APHA 3114B	<0.004

27	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	<1.8
28	Fecal Coli Form	MPN/100ml	---	APHA 9221 E	<1.8
29	E. coli	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 F	<1.8
30	Boron	mg/l ,max	0.5	APHA 4500 B, B	<0.1
31	Molybdenum	mg/l ,max	0.07	IS 3025 (Part 2)	<0.005
32	Aluminum	mg/l ,max	0.03	APHA 3500 Al B	<0.005
33	Silver	mg/l ,max	0.1	IS 13428	<0.01
34	Anionic detergent as MBAS	--	0.2	IS 13428	<0.01
35	Barium	mg/l ,max	0.7	APHA 3111 B	<0.05
36	Total Chromium	mg/l ,max	0.05	APHA 3111 B	0.02
37	Sulphide as H ₂ S	mg/l ,max	0.05	APHA 4500 -S.D	ND
38	Ammonia as NH ₃ -N	mg/l ,max	0.5	APHA 4500 NH ₃ .C	<0.05


Reviewed by


Approved by

TEST REPORT

Ref: Envlab/24-25/TR-17270

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Drinking Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	DW-5	Sampling Location	:	Chhotaberani
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

Sl.No	Parameters	Unit	Standard as per IS 10500: 2012 Amnd 2015 & 2018 (Acceptable Limit)	Test methods	Results
1	Color	Hazen	5	APHA 2120 B,C	<5
2	Odour	--	Agreeable	APHA 2120 B	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H+B	6.98
4	Turbidity	NTU, max	1.0	APHA 2130 B	58
5	Total Dissolved Solids at 180°C	mg/l	500	APHA 2540 C	586.4
6	Calcium (as Ca)	mg/l ,max	75	APHA 3500Ca B	12.2
7	Chloride (as Cl)	mg/l ,max	250	APHA 4500Cl- B	15.6
8	Copper (as Cu)	mg/l ,max	0.05	APHA 3111B,C	<0.01
9	Fluoride (as F)	mg/l ,max	1.0	APHA 4500F-C	<0.01
10	Free Residual Chlorine	mg/l ,min	0.2	APHA 4500Cl B	0.12
11	Iron (as Fe)	mg/l ,max	1	APHA 3500Fe B	0.31
12	Magnesium (as Mg)	mg/l ,max	30	APHA 3500Mg,B	2.95
13	Manganese (as Mn)	mg/l ,max	0.1	APHA 3500Mn B	<0.05
14	Mineral oil	mg/l ,max	1.0	APHA 5220 B	<0.05
15	Phenolic compounds	mg/l ,max	0.001	APHA 5530 B,C	<0.001
16	Selenium(as Se)	mg/l ,max	0.01	APHA 3114B	<0.1
17	Sulphate (as SO4)	mg/l ,max	200	APHA 4500SO42-B	21.6
18	Nitrate (as NO3)	mg/l ,max	45	APHA 4500 NO3- B	11.8
19	Total Alkalinity	mg/l ,max	200	APHA 2320 B	38.5
20	Total Hardness	mg/l ,max	200	APHA 2340 C	42.6
21	Zinc(as Zn)	mg/l ,max	5.0	APHA 3111B,C	<1.0
22	Cadmium (as Cd)	mg/l ,max	0.003	APHA 3111B,C	<0.003
23	Cyanide (as CN)	mg/l ,max	0.05	APHA 4500CN-C,D	<0.05
24	Lead (as Pb)	mg/l ,max	0.01	APHA 3111B,C	<0.01
25	Mercury (as Hg)	mg/l ,max	0.001	APHA 3500 Hg	<0.001
26	Total arsenic (as As)	mg/l ,max	0.01	APHA 3114B	<0.004

27	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	<1.8
28	Fecal Coli Form	MPN/100ml	---	APHA 9221 E	<1.8
29	E. coli	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 F	<1.8
30	Boron	mg/l ,max	0.5	APHA 4500 B, B	<0.1
31	Molybdenum	mg/l ,max	0.07	IS 3025 (Part 2)	<0.005
32	Aluminum	mg/l ,max	0.03	APHA 3500 Al B	<0.005
33	Silver	mg/l ,max	0.1	IS 13428	<0.01
34	Anionic detergent as MBAS	--	0.2	IS 13428	<0.01
35	Barium	mg/l ,max	0.7	APHA 3111 B	<0.05
36	Total Chromium	mg/l ,max	0.05	APHA 3111 B	0.03
37	Sulphide as H ₂ S	mg/l ,max	0.05	APHA 4500 -S.D	ND
38	Ammonia as NH ₃ -N	mg/l ,max	0.5	APHA 4500 NH ₃ .C	<0.05


Reviewed by


Approved by

TEST REPORT

Ref: Envlab/24-25/TR-17271

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Drinking Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	DW-6	Sampling Location	:	Nandichhor
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

Sl.No	Parameters	Unit	Standard as per IS 10500: 2012 Amnd 2015 & 2018 (Acceptable Limit)	Test methods	Results
1	Color	Hazen	5	APHA 2120 B,C	<5
2	Odour	--	Agreeable	APHA 2120 B	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H+B	7.18
4	Turbidity	NTU, max	1.0	APHA 2130 B	4.3
5	Total Dissolved Solids at 180°C	mg/l	500	APHA 2540 C	556.8
6	Calcium (as Ca)	mg/l ,max	75	APHA 3500Ca B	18.6
7	Chloride (as Cl)	mg/l ,max	250	APHA 4500Cl- B	29.8
8	Copper (as Cu)	mg/l ,max	0.05	APHA 3111B,C	<0.01
9	Fluoride (as F)	mg/l ,max	1.0	APHA 4500F-C	0.32
10	Free Residual Chlorine	mg/l ,min	0.2	APHA 4500Cl B	0.19
11	Iron (as Fe)	mg/l ,max	1	APHA 3500Fe B	0.24
12	Magnesium (as Mg)	mg/l ,max	30	APHA 3500Mg,B	24.31
13	Manganese (as Mn)	mg/l ,max	0.1	APHA 3500Mn B	<0.05
14	Mineral oil	mg/l ,max	1.0	APHA 5220 B	<0.05
15	Phenolic compounds	mg/l ,max	0.001	APHA 5530 B,C	<0.001
16	Selenium(as Se)	mg/l ,max	0.01	APHA 3114B	<0.1
17	Sulphate (as SO4)	mg/l ,max	200	APHA 4500SO42-B	0.19
18	Nitrate (as NO3)	mg/l ,max	45	APHA 4500 NO3- B	0.46
19	Total Alkalinity	mg/l ,max	200	APHA 2320 B	162.8
20	Total Hardness	mg/l ,max	200	APHA 2340 C	146.5
21	Zinc(as Zn)	mg/l ,max	5.0	APHA 3111B,C	<1.0
22	Cadmium (as Cd)	mg/l ,max	0.003	APHA 3111B,C	<0.003
23	Cyanide (as CN)	mg/l ,max	0.05	APHA 4500CN-C,D	<0.05
24	Lead (as Pb)	mg/l ,max	0.01	APHA 3111B,C	<0.01
25	Mercury (as Hg)	mg/l ,max	0.001	APHA 3500 Hg	<0.001
26	Total arsenic (as As)	mg/l ,max	0.01	APHA 3114B	<0.004

27	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	<1.8
28	Fecal Coli Form	MPN/100ml	---	APHA 9221 E	<1.8
29	E. coli	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 F	<1.8
30	Boron	mg/l ,max	0.5	APHA 4500 B, B	<0.1
31	Molybdenum	mg/l ,max	0.07	IS 3025 (Part 2)	<0.005
32	Aluminum	mg/l ,max	0.03	APHA 3500 Al B	<0.005
33	Silver	mg/l ,max	0.1	IS 13428	<0.01
34	Anionic detergent as MBAS	--	0.2	IS 13428	<0.01
35	Barium	mg/l ,max	0.7	APHA 3111 B	<0.05
36	Total Chromium	mg/l ,max	0.05	APHA 3111 B	0.02
37	Sulphide as H ₂ S	mg/l ,max	0.05	APHA 4500 -S.D	ND
38	Ammonia as NH ₃ -N	mg/l ,max	0.5	APHA 4500 NH ₃ .C	<0.05

P. P. Patra
Reviewed by

A. B. Patra
Approved by

Air Quality Monitoring

TEST REPORT

Ref: Envlab/25-26/TR-00684

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-1	Sampling Location	: Raijharana Near Mining Office 20° 57' 48.4992" N 84° 57' 14.5836" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
03.03.2025	52.2	29.2	14.8	12.5
06.03.2025	53.1	28.2	17.2	15.3
10.03.2025	52.8	28.8	19.8	15.4
13.03.2025	51.5	29.2	15.2	14.1
17.03.2025	54.4	29.3	17.8	16.6
20.03.2025	55.6	28.2	17.6	15.8
24.03.2025	54.8	28.8	15.5	12.8
27.03.2025	52.4	27.8	15.2	15.3
Monthly Averages	53.4	28.7	16.6	14.7
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



Reviewed By



Approved By

TEST REPORT

Ref: Envlab/25-26/TR-00685

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-2	Sampling Location	: Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
03.03.2025	50.8	29.8	14.8	17.9
06.03.2025	53.5	31.1	17.5	17.7
10.03.2025	54.3	31.2	16.2	14.9
13.03.2025	50.3	29.5	14.8	18.8
17.03.2025	51.7	31.5	15.5	19.7
20.03.2025	52.3	31.9	15.8	16.7
24.03.2025	52.8	32.5	17.8	15.9
27.03.2025	51.8	30.8	16.7	14.8
Monthly Averages	52.2	31.0	16.1	17.1
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012


Reviewed By


Approved By

TEST REPORT

Ref: Envlab/25-26/TR-00686

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-3	Sampling Location	: Similisahi 20° 59' 46.365" N 80° 56' 43.005" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

2. Chemical Testing

B. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
03.03.2025	52.4	30.3	14.2	16.8
06.03.2025	53.2	30.7	17.2	17.8
10.03.2025	52.8	32.1	15.8	16.9
13.03.2025	51.8	30.8	16.2	16.4
17.03.2025	53.3	31.5	15.7	13.8
20.03.2025	55.4	32.7	14.8	15.4
24.03.2025	52.9	31.2	16.1	14.6
27.03.2025	53.5	31.5	14.2	15.8
Monthly Averages	53.2	31.4	15.5	15.9
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

P. Pati
Reviewed By

Ab
Approved By

TEST REPORT

Ref: Envlab/25-26/TR-00687

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-4	Sampling Location	:	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSPL representative

3. Chemical Testing

C. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
03.03.2025	47.2	29.5	10.8	15.2
06.03.2025	46.4	29.3	10.2	18.7
10.03.2025	46.2	29.6	10.1	17.1
13.03.2025	46.8	27.5	9.8	12.4
17.03.2025	48.7	27.6	10.8	14.4
20.03.2025	50.2	28.3	11.5	15.5
24.03.2025	48.4	27.2	9.8	16.6
27.03.2025	47.3	26.0	9.2	15.8
Monthly Averages	47.7	28.1	10.3	15.7
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012


Reviewed By *P. Raha*


Approved By *[Signature]*

TEST REPORT

Ref: Envlab/24-25/TR-17259

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-1	Sampling Location	: Raijharana Near Mining Office 20° 57' 48.4992" N 84° 57' 14.5836" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
03.02.2025	52.6	29.5	15.8	13.6
06.02.2025	52.8	27.8	17.6	15.8
10.02.2025	53.4	29.6	19.4	5.2
13.02.2025	51.8	29.4	15.8	14.9
17.02.2025	54.2	28.8	18.4	17.2
20.02.2025	56.1	28.7	18.3	16.3
24.02.2025	55.2	29.2	16.2	13.4
27.02.2025	52.8	28.4	15.7	15.9
Monthly Averages	53.6	28.9	17.2	14.0
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-17260

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-2	Sampling Location	: Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
03.02.2025	51.6	30.6	15.6	18.5
06.02.2025	53.8	31.5	18.4	18.6
10.02.2025	55.4	32.2	17.2	15.9
13.02.2025	51.2	30.4	15.3	19.4
17.02.2025	52.9	32.6	15.9	20.1
20.02.2025	52.7	32.2	16.4	17.4
24.02.2025	53.4	33.1	18.2	16.3
27.02.2025	52.6	31.5	17.2	15.4
Monthly Averages	53.0	31.8	16.8	17.7
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-17261

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-3	Sampling Location	: Similisahi 20° 59' 46.365" N 80° 56' 43.005" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

2. Chemical Testing

B. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
03.02.2025	52.6	30.6	14.6	17.2
06.02.2025	54.3	31.8	17.5	18.1
10.02.2025	53.1	32.5	16.3	17.6
13.02.2025	52.8	31.9	16.5	16.5
17.02.2025	54.5	32.7	16.8	14.8
20.02.2025	55.9	33.1	15.9	16.5
24.02.2025	53.7	32.1	17.3	15.7
27.02.2025	54.1	32.1	14.9	16.6
Monthly Averages	53.9	32.1	16.2	16.6
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-17262

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-4	Sampling Location	:	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSPL representative

3. Chemical Testing

C. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
03.02.2025	48.2	30.6	11.2	15.6
06.02.2025	46.9	29.8	9.6	18.4
10.02.2025	46.5	29.8	10.5	17.6
13.02.2025	47.9	28.6	10.7	13.3
17.02.2025	49.8	28.7	11.3	14.9
20.02.2025	50.4	28.5	12.4	16.5
24.02.2025	49.9	28.6	9.5	16.5
27.02.2025	48.4	27.1	9.7	16.2
Monthly Averages	48.5	29.0	10.6	16.1
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-16427

Date: 05.02.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-1	Sampling Location	: Raijharana Near Mining Office 20° 57' 48.4992" N 84° 57' 14.5836" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
02.01.2025	49.8	28.7	17.5	11.5
06.01.2025	50.3	28.9	19.2	12.6
09.01.2025	51.2	29.3	15.4	10.8
13.01.2025	51.8	29.4	17.9	14.3
16.01.2025	51.6	30.1	16.8	15.2
20.01.2025	52.2	28.5	15.4	12.6
23.01.2025	52.7	28.4	18.4	12.8
27.01.2025	50.4	30.2	14.6	13.4
30.01.2025	50.8	31.1	15.4	12.9
Monthly Averages	51.2	29.4	16.7	12.9
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-16428

Date: 05.02.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-2	Sampling Location	: Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
02.01.2025	53.2	30.2	15.4	18.3
06.01.2025	52.1	31.6	16.2	19.5
09.01.2025	54.6	32.5	16.4	19.7
13.01.2025	52.5	32.4	15.9	20.6
16.01.2025	51.8	31.8	16.3	22.4
20.01.2025	52.7	32.4	17.2	21.3
23.01.2025	52.3	30.9	18.2	20.5
27.01.2025	52.7	32.1	15.4	19.4
30.01.2025	52.2	30.6	16.2	18.5
Monthly Averages	52.7	31.6	16.4	20.0
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-16429

Date: 05.02.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSP/L-F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-3	Sampling Location	:	Similisahi 20° 59' 46.365" N 80° 56' 43.005" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSP/L representative

2. Chemical Testing

B. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
02.01.2025	50.3	31.1	15.6	16.8
06.01.2025	49.8	30.1	15.2	19.1
09.01.2025	49.6	32.1	14.9	17.4
13.01.2025	50.2	30.6	18.2	16.8
16.01.2025	51.3	31.3	15.7	16.2
20.01.2025	50.7	30.6	17.1	15.6
23.01.2025	52.6	29.8	16.5	17.3
27.01.2025	53.8	30.8	16.2	18.1
30.01.2025	51.4	30.5	15.4	15.9
Monthly Averages	51.1	30.8	16.1	17.0
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By
ABSR

Approved By
ABSR

TEST REPORT

Ref: Envlab/24-25/TR-16430

Date: 05.02.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-4	Sampling Location	:	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSPL representative

3. Chemical Testing

C. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
02.01.2025	46.8	29.3	9.2	14.2
06.01.2025	48.5	29.6	10.6	16.2
09.01.2025	48.7	28.6	10.5	17.6
13.01.2025	46.9	27.6	11.8	14.5
16.01.2025	47.2	27.5	12.7	15.9
20.01.2025	47.5	28.6	13.2	16.2
23.01.2025	46.1	28.7	10.9	17.2
27.01.2025	47.9	29.1	12.4	18.4
30.01.2025	48.9	29.8	11.8	18.6
Monthly Averages	47.6	28.8	11.5	16.5
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

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Reviewed By
VISIONTEK CONSULTANCY SERVICES PVT. LTD.

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Approved By
VISIONTEK CONSULTANCY SERVICES PVT. LTD.

TEST REPORT

Ref: Envlab/24-25/TR-14582

Date: 05.01.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-1	Sampling Location	: Raijharana Near Mining Office 20° 57' 48.4992" N 84° 57' 14.5836" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
02.12.2024	50.2	28.7	19.2	10.5
05.12.2024	49.7	27.6	18.7	13.6
09.12.2024	51.3	29.4	13.4	14.8
12.12.2024	48.6	29.3	16.5	15.4
16.12.2024	49.7	30.6	17.3	17.9
19.12.2024	52.1	32.5	15.4	12.6
23.12.2024	50.7	31.7	18.6	11.4
26.12.2024	48.8	31.4	12.9	13.6
30.12.2024	49.5	29.9	14.5	15.2
Monthly Averages	50.1	30.1	16.3	13.9
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By  

Approved By  

TEST REPORT

Ref: Envlab/24-25/TR-14583

Date: 05.01.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-2	Sampling Location	: Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
02.12.2024	52.3	31.2	10.6	22.4
05.12.2024	55.6	32.2	13.9	20.8
09.12.2024	51.2	30.6	15.4	21.3
12.12.2024	52.4	30.4	18.6	19.7
16.12.2024	52.6	31.9	17.6	19.6
19.12.2024	49.8	29.9	11.9	18.7
23.12.2024	50.7	29.4	18.4	18.6
26.12.2024	52.6	31.3	16.3	20.4
30.12.2024	53.4	32.2	18.2	21.7
Monthly Averages	52.3	31.0	15.7	20.4
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By  

 Approved By 

TEST REPORT

Ref: Envlab/24-25/TR-14584

Date: 05.01.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-3	Sampling Location	: Similisahi 20° 59' 46.365" N 80° 56' 43.005" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

2. Chemical Testing

B. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
02.12.2024	51.6	29.9	15.6	17.5
05.12.2024	50.8	29.5	18.2	16.2
09.12.2024	49.6	28.8	17.4	15.9
12.12.2024	48.7	28.2	15.5	15.4
16.12.2024	48.2	28.0	13.9	18.6
19.12.2024	53.2	30.9	16.4	18.8
23.12.2024	54.8	31.8	16.8	12.6
26.12.2024	55.1	32.0	15.5	16.3
30.12.2024	50.6	29.3	17.9	15.4
Monthly Averages	51.4	29.8	16.4	16.3
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By  

 Approved By 

TEST REPORT

Ref: Envlab/24-25/TR-14585

Date: 05.01.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-4	Sampling Location	:	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSPL representative

3. Chemical Testing

C. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
02.12.2024	45.6	28.6	8.8	13.8
05.12.2024	48.5	30.4	8.6	14.5
09.12.2024	45.7	29.6	8.2	16.6
12.12.2024	46.9	27.2	9.3	17.3
16.12.2024	47.2	28.4	10.2	19.4
19.12.2024	46.8	28.3	10.4	18.7
23.12.2024	46.2	29.1	11.6	17.6
26.12.2024	47.1	27.3	12.7	18.4
30.12.2024	48.9	28.4	9.8	16.5
Monthly Averages	47.0	28.6	10.0	17.0
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By




Approved By




TEST REPORT

Ref: Envlab/24-25/TR-13941

Date: 05.12.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-1	Sampling Location	: Raijharana Near Mining Office 20° 57' 48.4992" N 84° 57' 14.5836" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
04.11.2024	49.5	28.7	18.6	9.6
07.11.2024	46.7	27.1	15.4	14.5
11.11.2024	48.5	28.1	17.5	16.2
14.11.2024	49.2	28.5	16.2	17.4
18.11.2024	50.1	29.1	16.4	18.2
21.11.2024	51.3	29.8	12.9	16.9
25.11.2024	49.7	28.8	15.4	14.3
28.11.2024	52.7	30.6	13.7	12.4
Monthly Averages	49.7	28.8	15.8	14.9
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-13942

Date: 05.12.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-2	Sampling Location	: Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
04.11.2024	46.8	27.1	9.4	9.2
07.11.2024	48.5	28.1	12.4	6.4
11.11.2024	49.5	28.7	13.4	9.4
14.11.2024	46.8	27.1	12.7	12.4
18.11.2024	51.2	29.7	10.6	12.7
21.11.2024	50.5	29.3	14.7	13.4
25.11.2024	49.9	28.9	13.5	11.6
28.11.2024	48.6	28.2	13.2	10.8
Monthly Averages	49.0	28.4	12.5	10.7
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-13943

Date: 05.12.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-3	Sampling Location	: Koshala 21° 0' 44.4528" N 84° 55' 43.9248" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

2. Chemical Testing

B. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
04.11.2024	42.9	24.9	17	16.4
07.11.2024	45.6	26.4	15.6	17.2
11.11.2024	43.4	25.2	12.4	19.5
14.11.2024	44.8	26.0	13.5	11.2
18.11.2024	45.7	26.5	13.2	13.4
21.11.2024	46.2	26.8	11	10.8
25.11.2024	46.9	27.2	12.3	16.4
28.11.2024	45.5	26.4	11.4	11.5
Monthly Averages	45.1	26.2	13.3	14.6
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012





TEST REPORT

Ref: Envlab/24-25/TR-13944

Date: 05.12.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-4	Sampling Location	: Chhotaberani 20° 57' 14.5728" N 84° 59' 13.0416" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

3. Chemical Testing

C. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
04.11.2024	45.3	26.3	7.6	12.6
07.11.2024	42.6	24.7	8.4	13.8
11.11.2024	43.5	25.2	10.2	15.4
14.11.2024	44.5	25.8	13.1	17.1
18.11.2024	45.7	26.5	10.4	11.5
21.11.2024	43.6	25.3	9.4	19.2
25.11.2024	46.5	27.0	8.6	14.7
28.11.2024	45.2	26.2	6.9	11.3
Monthly Averages	44.6	25.9	9.3	14.5
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-12281

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-1	Sampling Location	: Raijharana Near Mining Office 20° 57' 48.4992" N 84° 57' 14.5836" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
01.10.2024	48.7	25.8	11.6	10.5
03.10.2024	47.6	29.8	17.5	14.3
07.10.2024	51.6	32.3	14.9	16.8
10.10.2024	50.9	31.8	13.8	17.2
14.10.2024	49.7	31.1	17.3	14.2
17.10.2024	52.7	32.9	15.7	13.9
21.10.2024	52.6	32.9	11.8	18.4
24.10.2024	51.2	32.0	13.3	16.5
28.10.2024	49.9	31.2	11.5	15.7
31.10.2024	50.7	31.7	12.4	14.3
Monthly Averages	50.6	31.1	14.0	15.2
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012


 Reviewed By


 Approved By

TEST REPORT

Ref: Envlab/24-25/TR-12282

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-2	Sampling Location	: Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

1. Chemical Testing

A. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
01.10.2024	49.6	32.0	15.1	14.9
03.10.2024	52.3	33.7	13.6	15.6
07.10.2024	52.8	34.1	13.2	16.8
10.10.2024	53.6	34.6	10.9	16.2
14.10.2024	82.7	53.3	12.4	15.3
17.10.2024	51.5	33.2	15.7	12.4
21.10.2024	53.6	34.6	13.6	13.7
24.10.2024	53.8	34.7	14.1	12.4
28.10.2024	52.5	33.9	12.6	12.6
31.10.2024	53.7	34.6	14.1	14.8
Monthly Averages	55.6	35.9	13.5	14.5
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/24-25/TR-12283

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-3	Sampling Location	: Koshal 21° 0' 44.4528" N 84° 55' 43.9248" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

2. Chemical Testing

B. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
01.10.2024	40.6	24.8	8.9	10.2
03.10.2024	39.5	24.1	9.6	8.9
07.10.2024	37.8	23.1	9.7	11.6
10.10.2024	39.5	24.1	9.3	13.1
14.10.2024	41.2	25.1	9.8	12.4
17.10.2024	40.2	24.5	8.7	12.1
21.10.2024	41.8	25.5	8.2	9.8
24.10.2024	39.8	24.3	8.4	10.7
28.10.2024	38.7	23.6	9.2	10.2
31.10.2024	38.6	23.5	9.1	11.1
Monthly Averages	39.8	24.3	9.1	11.0
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

P.K.S.
Reviewed By

[Signature]
Approved By

TEST REPORT

Ref: Envlab/24-25/TR-12284

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-4	Sampling Location	:	Chhotaberani 20° 57' 14.5728" N 84° 59' 13.0416" E
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSPL representative

3. Chemical Testing

C. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
01.10.2024	36.8	21.8	10.2	10.6
03.10.2024	37.5	22.2	8.7	11.3
07.10.2024	39.4	23.4	9.6	12.9
10.10.2024	40.1	23.8	0.4	10.4
14.10.2024	42.3	25.1	8.3	9.8
17.10.2024	41.8	24.8	10.2	9.1
21.10.2024	40.1	23.8	10.4	8.5
24.10.2024	39.2	23.2	11.1	8.8
28.10.2024	40.3	23.9	9.3	11.2
31.10.2024	38.7	22.9	8.7	10.6
Monthly Averages	39.6	23.5	8.7	10.3
NAAQ Standard	100	60	80	80
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By
P. P. B. S. R.

Approved By
J. P. B. S. R.

Air Quality Monitoring -Mine Working Area

TEST REPORT

Ref: Envlab/25-26/TR-00688

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air (Work Zone)	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-1(WZ)	Sampling Location	: Haul Road
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

2. Chemical Testing

B. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	Suspended Particulate Matter (SPM) ($\mu\text{g}/\text{m}^3$)	Respirable Particulate Matter (size less than $10\ \mu\text{m}$) (RPM) ($\mu\text{g}/\text{m}^3$)	Sulphur Dioxide (SO_2) ($\mu\text{g}/\text{m}^3$)	Oxide of Nitrogen as NO_2 ($\mu\text{g}/\text{m}^3$)
10.03.2025	272.8	105.4	41.8	33.7
21.03.2025	274.5	108.7	38.9	36.2
Monthly Averages	273.7	107.1	40.4	35.0
As per MoEF & cc Standard Notification No. GSR 742 (E) for Coal mine	600/ 24 Hr	300/ 24 Hr	120/ 24 Hr	120/ 24 Hr
As per OSPC Board CTO	500/ 24 Hr	250/ 24 Hr	120/ 24 Hr	120/ 24 Hr
Testing method	Gravimetric IS 5182 (Part-4) RA2019	Gravimetric IS 5182 (Part-23) RA2019	Improved West and Geake method IS 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) IS 5182 (Part-6) RA 2012



TEST REPORT

Ref: Envlab/25-26/TR-00689

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air (Work Zone)	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-2(WZ)	Sampling Location	: Coal Stock Yard
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

4. Chemical Testing

D. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	Suspended Particulate Matter (SPM) ($\mu\text{g}/\text{m}^3$)	Respirable Particulate Matter (size less than $10\ \mu\text{m}$) (RPM) ($\mu\text{g}/\text{m}^3$)	Sulphur Dioxide (SO_2) ($\mu\text{g}/\text{m}^3$)	Oxide of Nitrogen as NO_2 ($\mu\text{g}/\text{m}^3$)
10.03.2025	308.8	111.4	48.2	39.2
21.03.2025	305.2	108.8	47.2	41.4
Monthly Averages	307.0	110.1	47.7	40.3
As per MoEF & cc Standard Notification No. GSR 742 (E) for Coal mine	600/ 24 Hr	300/ 24 Hr	120/ 24 Hr	120/ 24 Hr
As per OSPC Board CTO	500/ 24 Hr	250/ 24 Hr	120/ 24 Hr	120/ 24 Hr
Testing method	Gravimetric IS 5182 (Part-4) RA2019	Gravimetric IS 5182 (Part-23) RA2019	Improved West and Geake method IS 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) IS 5182 (Part-6) RA 2012

Reviewed By

Approved By

TEST REPORT

Ref: Envlab/25-26/TR-00690

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air (Work Zone)	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-3(WZ)	Sampling Location	: Mine Pit Office
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

5. Chemical Testing

E. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	Suspended Particulate Matter (SPM) (µg/m ³)	Respirable Particulate Matter (size less than 10 µm) (RPM) (µg/m ³)	Sulphur Dioxide (SO ₂) (µg/m ³)	Oxide of Nitrogen as NO ₂ (µg/m ³)
10.03.2025	291.6	104.8	42.5	33.8
21.03.2025	282.4	104.2	45.7	35.2
Monthly Averages	287.0	104.5	44.1	34.5
As per MoEF & cc Standard Notification No. GSR 742 (E) for Coal mine	600/ 24 Hr	300/ 24 Hr	120/ 24 Hr	120/ 24 Hr
As per OSPC Board CTO	500/ 24 Hr	250/ 24 Hr	120/ 24 Hr	120/ 24 Hr
Testing method	Gravimetric IS 5182 (Part-4) RA2019	Gravimetric IS 5182 (Part-23) RA2019	Improved West and Geake method IS 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) IS 5182 (Part-6) RA 2012

Reviewed By



Approved By



TEST REPORT

Ref: Envlab/24-25/TR-12285

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-5	Sampling Location	:	Mine Pit Office
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSPL representative

2. Chemical Testing

B. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	SPM ($\mu\text{g}/\text{m}^3$)	RPM ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
10.10.2024	76.9	52.2	14.2	18.5
21.10.2024	75.3	53.1	14.5	18.2
As per MoEF & cc Standard Notification No. GSR 742 (E) for Coal mine	500	250	120	120
NAAQ Standard	--	--	80	80
Testing method	Gravimetric ISO 5182 (Part-4) RA2019	Gravimetric ISO 5182 (Part-23) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By



Approved By



TEST REPORT

Ref: Envlab/24-25/TR-12286

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-6	Sampling Location	:	Coal Stock Yard
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSPL representative

4. Chemical Testing

D. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	SPM ($\mu\text{g}/\text{m}^3$)	RPM ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
10.10.2024	77.3	52.8	15.9	19.2
21.10.2024	75.8	53.4	16.2	18.4
As per MoEF & cc Standard Notification No. GSR 742 (E) for Coal mine	500	250	120	120
NAAQ Standard	--	--	80	80
Testing method	Gravimetric ISO 5182 (Part-4) RA2019	Gravimetric ISO 5182 (Part-23) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By 
BBSR

Approved By 
BBSR

TEST REPORT

Ref: Envlab/24-25/TR-12287

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-7	Sampling Location	: T Point Haul Road
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	: VCSPL representative

5. Chemical Testing

E. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	SPM ($\mu\text{g}/\text{m}^3$)	RPM ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
10.10.2024	73.8	51.7	13.2	12.4
21.10.2024	72.4	52.8	13.7	11.9
As per MoEF & cc Standard Notification No. GSR 742 (E) for Coal mine	500	250	120	120
NAAQ Standard	--	--	80	80
Testing method	Gravimetric ISO 5182 (Part-4) RA2019	Gravimetric ISO 5182 (Part-23) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By



Approved By



TEST REPORT

Ref: Envlab/24-25/TR-12288

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-8	Sampling Location	:	Bhalugadia Village
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C Barometric Pressure: 763 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550)
Sample Condition	:	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	VCSPL representative

6. Chemical Testing

F. Atmospheric Pollution

Date of Monitoring	PARAMETERS			
	SPM ($\mu\text{g}/\text{m}^3$)	RPM ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
10.10.2024	67.8	45.7	9.9	11.5
21.10.2024	69.1	43.8	10.1	9.8
As per MoEF & cc Standard Notification No. GSR 742 (E) for Coal mine	500	250	120	120
NAAQ Standard	--	--	80	80
Testing method	Gravimetric ISO 5182 (Part-4) RA2019	Gravimetric ISO 5182 (Part-23) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012

Reviewed By



Approved By





Noise Monitoring

TEST REPORT

Ref: Envlab/25-26/TR-00692

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	03.03.2025	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	46.7	39.5
2	03.03.2025	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		38.3	32.2
3	03.03.2025	Similisahi 20° 59' 46.365" N 80° 56' 43.005" E		51.2	42.7
4	03.03.2025	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E		48.6	40.8
Standard as per Noise Rule 2000				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.

Reviewed By:



Approved By:



TEST REPORT

Ref: Envlab/25-26/TR-00693

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	17.03.2025	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	45.7	38.9
2	17.03.2025	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		37.9	31.7
3	17.03.2025	Similisahi 20° 59' 46.365" N 80° 56' 43.005" E		48.2	40.4
4	17.03.2025	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E		48.7	41.6
Standard as per Noise Rule 2000				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.


Reviewed By:


Approved By:

TEST REPORT

Ref: Envlab/24-25/TR-17264

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	: VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	02.02.2025	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	46.8	39.3
2	02.02.2025	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		37.2	31.8
3	02.02.2025	Similisahi 20° 59' 46.365" N 80° 56' 43.005" E		50.9	42.5
4	02.02.2025	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E		48.1	40.3
Standard as per Noise Rule 2000				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.


Reviewed By:


Approved By:

TEST REPORT

Ref: Envlab/24-25/TR-17265

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	22.02.2025	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	45.9	38.8
2	22.02.2025	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		37.7	31.5
3	22.02.2025	Similisahi 20° 59' 46.365" N 80° 56' 43.005" E		48.6	40.2
4	22.02.2025	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E		47.7	41.1
Standard as per Noise Rule 2000				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.

Reviewed By: 

Approved By: 



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017 Certified

TEST REPORT

Ref: Envlab/24-25/TR-16432

Date: 05.02.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha.			
	:	Utkal C Coal Mine, Talcher, Angul			
Sample Description	:	Ambient Noise Level	Sampling Procedure		IS 9989: 2020
Sample Condition	:	NA	Sampling done by	:	VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	05.01.2025	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	46.2	39.1
2	05.01.2025	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		36.8	32.9
3	05.01.2025	Similisahi 20° 59' 46.365" N 80° 56' 43.005" E		51.7	48.4
4	05.01.2025	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E		48.3	42.2
Standard as per Noise Rule 2000 (Residential Area)				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.

Reviewed By:



Approved By:





Visiontek Consultancy Services Pvt. Ltd.

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(Committed For Better Environment)

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017 Certified

TEST REPORT

Ref: Envlab/24-25/TR-16433

Date: 05.02.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	23.01.2025	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	42.4	35.8
2	23.01.2025	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		38.3	31.2
3	23.01.2025	Similisahi 20° 59' 46.365" N 80° 56' 43.005" E		49.9	45.6
4	23.01.2025	Nisa (Highway Side) 20° 55' 51.241" N 84° 59' 34.526" E		56.7	50.1
Standard as per Noise Rule 2000 (Residential Area)				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.

Reviewed By:



Approved By:



TEST REPORT

Ref: Envlab/24-25/TR-14587

Date: 05.01.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	: VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	05.12.2024	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	44.5	39.4
2	05.12.2024	Koshala 21° 0' 44.4528" N 84° 55' 43.9248" E		38.4	34.2
3	05.12.2024	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		42.2	36.9
4	05.12.2024	Chhotabereni 20° 57' 14.5728" N 84° 59' 13.0416" E		44.6	35.8
Standard as per Noise Rule 2000 (Residential Area)				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.

Reviewed By:  

Approved By:  

TEST REPORT

Ref: Envlab/24-25/TR-14588

Date: 05.01.2025

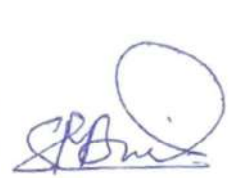
Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha.		
	:	Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	: VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	26.12.2024	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	43.2	38.5
2	26.12.2024	Koshala 21° 0' 44.4528" N 84° 55' 43.9248" E		40.2	34.6
3	26.12.2024	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		40.8	37.6
4	26.12.2024	Chhotabereni 20° 57' 14.5728" N 84° 59' 13.0416" E		43.2	36.1
Standard as per Noise Rule 2000 (Residential Area)				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.




Reviewed By:

Approved By:



TEST REPORT

Ref: Envlab/24-25/TR-13946

Date: 05.12.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	: VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	04.11.2024	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	43.8	39.1
2	04.11.2024	Koshala 21° 0' 44.4528" N 84° 55' 43.9248" E		39.6	33.9
3	04.11.2024	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		42.4	37.4
4	04.11.2024	Chhotabereni 20° 57' 14.5728" N 84° 59' 13.0416" E		44.9	36.5
Standard as per Noise Rule 2000 (Residential Area)				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.

Reviewed By:



Approved By:





TEST REPORT

Ref: Envlab/24-25/TR-13947

Date: 05.12.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	18.11.2024	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	42.8	38.7
2	18.11.2024	Koshala 21° 0' 44.4528" N 84° 55' 43.9248" E		39.2	34.5
3	18.11.2024	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		40.6	38.1
4	18.11.2024	Chhotabereni 20° 57' 14.5728" N 84° 59' 13.0416" E		43.7	36.4
Standard as per Noise Rule 2000 (Residential Area)				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.



TEST REPORT

Ref: Envlab/24-25/TR-12290

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	07.10.2024	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	42.7	38.7
2	07.10.2024	Koshal 21° 0' 44.4528" N 84° 55' 43.9248" E		38.9	34.2
3	07.10.2024	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		41.2	37.7
4	07.10.2024	Chhotabereni 20° 57' 14.5728" N 84° 59' 13.0416" E		43.8	36.3
Standard as per Noise Rule 2000 (Residential Area)				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.

P. Pat
Reviewed By:



[Signature]
Approved By:



TEST REPORT

Ref: Envlab/24-25/TR-12291

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha.		
	:	Utkal C Coal Mine, Talcher, Angul		
Sample Description	:	Ambient Noise Level	Sampling Procedure	IS 9989: 2020
Sample Condition	:	NA	Sampling done by	: VCSPL representative

Sl. No.	Date of monitoring	Location	Testing Method	Noise Level in dB(A)	Noise Level in dB(A)
				Day Time	Night Time
1	24.10.2024	Raijharana (Near Mines Office) 20° 57' 48.4992" N 84° 57' 14.5836" E	IS 9989: 2020	42.4	38.8
2	24.10.2024	Koshal 21° 0' 44.4528" N 84° 55' 43.9248" E		38.9	34.6
3	24.10.2024	Tangersahi 20° 57' 41.7096" N 84° 58' 2.4276" E		40.4	37.5
4	24.10.2024	Chhotabereni 20° 57' 14.5728" N 84° 59' 13.0416" E		43.6	36.1
Standard as per Noise Rule 2000 (Residential Area)				75	70

Note: Noise Levels are measured at a distance of 1 m from the operator's head in his usual working posture.

Reviewed By: 


Approved By: 




Waste Water Monitoring -Mine Water, ETP & Other Natural drains

TEST REPORT

Ref: Envlab/25-26/TR-00694

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	25.03.2025	Sample Received on	:	26.03.2025
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-5	Sampling Location	:	ETP Workshop Collection Tank Water 20° 57' 51.534" N 84° 57' 14.1192" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	26.03.2025	Test Completed on	:	29.03.2025

A. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.15
2.	Suspended solids	mg/l	APHA 2540 D	100.0	96
3.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
4.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	522
5.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	26.2
6.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	232.8

*** End Report***



Reviewed by



Approved by

TEST REPORT

Ref: **Envlab/25-26/TR-00695**

Date: **05.04.2025**

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	25.03.2025	Sample Received on	:	26.03.2025
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-1	Sampling Location	:	Mine Water after Settling Pond 20° 57' 48.0492" N 84° 57' 36.2088" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	26.03.2025	Test Completed on	:	29.03.2025

A. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	Colour	Hazen	APHA 2120 B	--	<5.0
2.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.09
3.	Temperature	°C	APHA 2550 B	Shall not exceed 5°C above the receiving water Temp	27.2
4.	Suspended solids	mg/l	APHA 2540 D	100.0	84
5.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
6.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	306
7.	Total Residual Chlorine (as RFC)	mg/l	APHA 4500 Cl ⁻ B	1.0	ND
8.	Ammonical Nitrogen (as NH ₃ -N)	mg/l	APHA 4500 NH ₃ F	50.0	8.8
9.	Total Kjeldahl Nitrogen (as N)	mg/l	APHA 4500 N _{org} B	100.0	13.4
10.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	14.4
11.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	50
12.	Nitrate Nitrogen (as N)	mg/l	APHA:4500 NO ₃ ⁻ B	10.0	2.4
13.	Hexavalent chromium (as Cr ⁺⁶)	mg/l	APHA 3500Cr B	0.1	0.02
14.	Sulphide (as S)	mg/l	APHA 4500 S ²⁻ D	2.0	BDL (<1.0)
15.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	APHA 5530 B,D	1.0	0.35
16.	Cyanide (as CN)	mg/l	APHA 4500 CN ⁻ C,D	0.2	BDL (<0.02)
17.	Fluoride (as F)	mg/l	APHA 4500 F C	2.0	0.4
18.	Dissolved phosphates (as P)	mg/l	APHA 4500 P,D	5.0	2.2
19.	Arsenic(as As)	mg/l	APHA 3114 B	0.2	BDL (<0.004)
20.	Mercury (As Hg)	mg/l	APHA 3500 Hg	0.01	BDL (<0.004)
21.	Lead (as Pb)	mg/l	APHA 3111 B,C	0.1	BDL (<0.01)
22.	Cadmium (as Cd)	mg/l	APHA 3111 B,C	2.0	BDL (<0.01)
23.	Total chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.3
24.	Copper (as Cu)	mg/l	APHA 3111 B,C	3.0	BDL (<0.02)
25.	Zinc (as Zn)	mg/l	APHA 3111 B,C	5.0	0.19
26.	Selenium (as Se)	mg/l	APHA 3114 B	0.05	BDL (<0.001)
27.	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	BDL (<0.05)
28.	Manganese (as Mn)	mg/l	APHA 3500Mn B	2.0	0.8
29.	Iron (as Fe)	mg/l	APHA 3500Fe B	3.0	1.5
30.	Vanadium (as V)	mg/l	APHA 3500V B	0.2	BDL (<0.2)

*** End Report***

Reviewed By:


Approved By:


TEST REPORT

Ref: Envlab/25-26/TR-00696

Date: 05.04.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	25.03.2025	Sample Received on	:	26.03.2025
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-2	Sampling Location	:	Mine Sump Water (Before Settling Pond) 20° 57' 48.0492" N 84° 57' 36.2088" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	26.03.2025	Test Completed on	:	29.03.2025

A. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	Colour	Hazen	APHA 2120 B	--	<5.0
2.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.04
3.	Temperature	°C	APHA 2550 B	Shall not exceed 5°C above the receiving water Temp	27.7
4.	Suspended solids	mg/l	APHA 2540 D	100.0	532
5.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
6.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	304
7.	Total Residual Chlorine (as RFC)	mg/l	APHA 4500 Cl ⁻ B	1.0	ND
8.	Ammonical Nitrogen (as NH ₃ -N)	mg/l	APHA 4500 NH ₃ F	50.0	13.5
9.	Total Kjeldahl Nitrogen (as N)	mg/l	APHA 4500 N _{org} B	100.0	8.8
10.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	134
11.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	54
12.	Nitrate Nitrogen (as N)	mg/l	APHA:4500 NO ₃ ⁻ B	10.0	2.5
13.	Hexavalent chromium (as Cr ⁺⁶)	mg/l	APHA 3500Cr B	0.1	0.01
14.	Sulphide (as S)	mg/l	APHA 4500 S ²⁻ D	2.0	BDL (<1.0)
15.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	APHA 5530 B,D	1.0	0.35
16.	Cyanide (as CN)	mg/l	APHA 4500 CN ⁻ C,D	0.2	BDL (<0.02)
17.	Fluoride (as F)	mg/l	APHA 4500 F C	2.0	0.8
18.	Dissolved phosphates (as P)	mg/l	APHA 4500 P,D	5.0	2.6
19.	Arsenic(as As)	mg/l	APHA 3114 B	0.2	BDL (<0.004)
20.	Mercury (As Hg)	mg/l	APHA 3500 Hg	0.01	BDL (<0.004)
21.	Lead (as Pb)	mg/l	APHA 3111 B,C	0.1	BDL (<0.01)
22.	Cadmium (as Cd)	mg/l	APHA 3111 B,C	2.0	BDL (<0.01)
23.	Total chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.4
24.	Copper (as Cu)	mg/l	APHA 3111 B,C	3.0	BDL (<0.02)
25.	Zinc (as Zn)	mg/l	APHA 3111 B,C	5.0	0.17
26.	Selenium (as Se)	mg/l	APHA 3114 B	0.05	BDL (<0.001)
27.	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	BDL (<0.05)
28.	Manganese (as Mn)	mg/l	APHA 3500Mn B	2.0	0.4
29.	Iron (as Fe)	mg/l	APHA 3500Fe B	3.0	1.6
30.	Vanadium (as V)	mg/l	APHA 3500V B	0.2	BDL (<0.2)

*** End Report***

Reviewed By:
P. P. Patra

Approved By:
[Signature]

TEST REPORT

Ref: Envlab/24-25/TR-17272

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-5	Sampling Location	:	ETP Workshop Collection Tank Water 20° 57' 51.534" N 84° 57' 14.1192" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

A. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.18
2.	Suspended solids	mg/l	APHA 2540 D	100.0	98
3.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
4.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	516
5.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	26.4
6.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	240.2

*** End Report***


 Reviewed by


 Approved by

TEST REPORT

Ref: Envlab/24-25/TR-17273

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-1	Sampling Location	:	Mine Water after Settling Pond 20° 57' 48.0492" N 84° 57' 36.2088" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

A. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	Colour	Hazen	APHA 2120 B	--	<5.0
2.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.06
3.	Temperature	°C	APHA 2550 B	Shall not exceed 5°C above the receiving water Temp	27.2
4.	Suspended solids	mg/l	APHA 2540 D	100.0	86
5.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
6.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	314
7.	Total Residual Chlorine (as RFC)	mg/l	APHA 4500 Cl ⁻ B	1.0	ND
8.	Ammonical Nitrogen (as NH ₃ -N)	mg/l	APHA 4500 NH ₃ F	50.0	8.8
9.	Total Kjeldahl Nitrogen (as N)	mg/l	APHA 4500 N _{org} B	100.0	13.3
10.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	14.5
11.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	50
12.	Nitrate Nitrogen (as N)	mg/l	APHA:4500 NO ₃ ⁻ B	10.0	2.6
13.	Hexavalent chromium (as Cr ⁺⁶)	mg/l	APHA 3500Cr B	0.1	0.02
14.	Sulphide (as S)	mg/l	APHA 4500 S ²⁻ D	2.0	BDL (<1.0)
15.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	APHA 5530 B,D	1.0	0.31
16.	Cyanide (as CN)	mg/l	APHA 4500 CN ⁻ C,D	0.2	BDL (<0.02)
17.	Fluoride (as F)	mg/l	APHA 4500 F C	2.0	0.5
18.	Dissolved phosphates (as P)	mg/l	APHA 4500 P,D	5.0	2.4
19.	Arsenic(as As)	mg/l	APHA 3114 B	0.2	BDL (<0.004)
20.	Mercury (As Hg)	mg/l	APHA 3500 Hg	0.01	BDL (<0.004)
21.	Lead (as Pb)	mg/l	APHA 3111 B,C	0.1	BDL (<0.01)
22.	Cadmium (as Cd)	mg/l	APHA 3111 B,C	2.0	BDL (<0.01)
23.	Total chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.2
24.	Copper (as Cu)	mg/l	APHA 3111 B,C	3.0	BDL (<0.02)
25.	Zinc (as Zn)	mg/l	APHA 3111 B,C	5.0	0.18
26.	Selenium (as Se)	mg/l	APHA 3114 B	0.05	BDL (<0.001)
27.	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	BDL (<0.05)
28.	Manganese (as Mn)	mg/l	APHA 3500Mn B	2.0	0.6
29.	Iron (as Fe)	mg/l	APHA 3500Fe B	3.0	1.3
30.	Vanadium (as V)	mg/l	APHA 3500V B	0.2	BDL (<0.2)

*** End Report***

P. P. S.
Reviewed By:

P. P. S.
Approved By:

TEST REPORT

Ref: Envlab/24-25/TR-17274

Date: 05.03.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	03.02.2025	Sample Received on	:	04.02.2025
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-2	Sampling Location	:	Mine Water 20° 57' 48.0492" N 84° 57' 36.2088" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	04.02.2025	Test Completed on	:	10.02.2025

A. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	Colour	Hazen	APHA 2120 B	--	<5.0
2.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.05
3.	Temperature	°C	APHA 2550 B	Shall not exceed 5°C above the receiving water Temp	27.4
4.	Suspended solids	mg/l	APHA 2540 D	100.0	548
5.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
6.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	304
7.	Total Residual Chlorine (as RFC)	mg/l	APHA 4500 Cl ⁻ B	1.0	ND
8.	Ammonical Nitrogen (as NH ₃ -N)	mg/l	APHA 4500 NH ₃ F	50.0	13.2
9.	Total Kjeldahl Nitrogen (as N)	mg/l	APHA 4500 N _{org} B	100.0	8.6
10.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	13.8
11.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	54
12.	Nitrate Nitrogen (as N)	mg/l	APHA:4500 NO ₃ ⁻ B	10.0	2.8
13.	Hexavalent chromium (as Cr ⁺⁶)	mg/l	APHA 3500Cr B	0.1	0.01
14.	Sulphide (as S)	mg/l	APHA 4500 S ²⁻ D	2.0	BDL (<1.0)
15.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	APHA 5530 B,D	1.0	0.32
16.	Cyanide (as CN)	mg/l	APHA 4500 CN ⁻ C,D	0.2	BDL (<0.02)
17.	Fluoride (as F)	mg/l	APHA 4500 F C	2.0	0.5
18.	Dissolved phosphates (as P)	mg/l	APHA 4500 P,D	5.0	2.6
19.	Arsenic(as As)	mg/l	APHA 3114 B	0.2	BDL (<0.004)
20.	Mercury (As Hg)	mg/l	APHA 3500 Hg	0.01	BDL (<0.004)
21.	Lead (as Pb)	mg/l	APHA 3111 B,C	0.1	BDL (<0.01)
22.	Cadmium (as Cd)	mg/l	APHA 3111 B,C	2.0	BDL (<0.01)
23.	Total chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.2
24.	Copper (as Cu)	mg/l	APHA 3111 B,C	3.0	BDL (<0.02)
25.	Zinc (as Zn)	mg/l	APHA 3111 B,C	5.0	0.15
26.	Selenium (as Se)	mg/l	APHA 3114 B	0.05	BDL (<0.001)
27.	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	BDL (<0.05)
28.	Manganese (as Mn)	mg/l	APHA 3500Mn B	2.0	0.4
29.	Iron (as Fe)	mg/l	APHA 3500Fe B	3.0	1.5
30.	Vanadium (as V)	mg/l	APHA 3500V B	0.2	BDL (<0.2)

*** End Report***

Reviewed By: 

Approved By: 

TEST REPORT

Ref: Envlab/24-25/TR-14589

Date: 05.01.2025

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	30.12.2024	Sample Received on	:	31.12.2024
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-5	Sampling Location	:	ETP Workshop Collection Tank Water 20° 57' 51.534" N 84° 57' 14.1192" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	31.12.2024	Test Completed on	:	05.01.2025

A. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.12
2.	Suspended solids	mg/l	APHA 2540 D	100.0	94
3.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
4.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	508
5.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	28.4
6.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	234.2

*** End Report***

Reviewed By:  

Approved By:  

TEST REPORT

Ref: Envlab/24-25/TR-12292

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	22.10.2024	Sample Received on	:	23.10.2024
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-1	Sampling Location	:	Mine Water after Settling Pond 20° 57' 48.0492" N 84° 57' 36.2088" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	23.10.2024	Test Completed on	:	29.10.2024

A. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	Colour	Hazen	APHA 2120 B	--	<5.0
2.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.04
3.	Temperature	°C	APHA 2550 B	Shall not exceed 5°C above the receiving water Temp	27.6
4.	Suspended solids	mg/l	APHA 2540 D	100.0	88
5.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
6.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	302
7.	Total Residual Chlorine (as RFC)	mg/l	APHA 4500 Cl ⁻ B	1.0	ND
8.	Ammonical Nitrogen (as NH ₃ -N)	mg/l	APHA 4500 NH ₃ F	50.0	13.4
9.	Total Kjeldahl Nitrogen (as N)	mg/l	APHA 4500 N _{org} B	100.0	8.7
10.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	14.6
11.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	52
12.	Nitrate Nitrogen (as N)	mg/l	APHA:4500 NO ₃ ⁻ B	10.0	2.9
13.	Hexavalent chromium (as Cr ⁺⁶)	mg/l	APHA 3500Cr B	0.1	0.02
14.	Sulphide (as S)	mg/l	APHA 4500 S ²⁻ D	2.0	BDL (<1.0)
15.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	APHA 5530 B,D	1.0	0.34
16.	Cyanide (as CN)	mg/l	APHA 4500 CN ⁻ C,D	0.2	BDL (<0.02)
17.	Fluoride (as F)	mg/l	APHA 4500 F C	2.0	0.6
18.	Dissolved phosphates (as P)	mg/l	APHA 4500 P,D	5.0	2.7
19.	Arsenic(as As)	mg/l	APHA 3114 B	0.2	BDL (<0.004)
20.	Mercury (As Hg)	mg/l	APHA 3500 Hg	0.01	BDL (<0.004)
21.	Lead (as Pb)	mg/l	APHA 3111 B,C	0.1	BDL (<0.01)
22.	Cadmium (as Cd)	mg/l	APHA 3111 B,C	2.0	BDL (<0.01)
23.	Total chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.3
24.	Copper (as Cu)	mg/l	APHA 3111 B,C	3.0	BDL (<0.02)
25.	Zinc (as Zn)	mg/l	APHA 3111 B,C	5.0	0.19
26.	Selenium (as Se)	mg/l	APHA 3114 B	0.05	BDL (<0.001)
27.	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	BDL (<0.05)
28.	Manganese (as Mn)	mg/l	APHA 3500Mn B	2.0	0.5
29.	Iron (as Fe)	mg/l	APHA 3500Fe B	3.0	1.2
30.	Vanadium (as V)	mg/l	APHA 3500V B	0.2	BDL (<0.2)

*** End Report***

Reviewed By:



Approved By:



TEST REPORT

Ref: Envlab/24-25/TR-12293

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	22.10.2024	Sample Received on	:	23.10.2024
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-2	Sampling Location	:	Natural Nala (Golagadia) 20° 57' 52.6896" N 84° 57' 49.32" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	23.10.2024	Test Completed on	:	29.10.2024

B. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	Colour	Hazen	APHA 2120 B	--	<5.0
2.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	7.71
3.	Temperature	°C	APHA 2550 B	Shall not exceed 5°C above the receiving water Temp	27.5
4.	Suspended solids	mg/l	APHA 2540 D	100.0	96
5.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
6.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	452
7.	Total Residual Chlorine (as RFC)	mg/l	APHA 4500 Cl ⁻ B	1.0	ND
8.	Ammonical Nitrogen (as NH ₃ -N)	mg/l	APHA 4500 NH ₃ F	50.0	15.2
9.	Total Kjeldahl Nitrogen (as N)	mg/l	APHA 4500 N _{org} B	100.0	9.2
10.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	16.9
11.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	60
12.	Nitrate Nitrogen (as N)	mg/l	APHA:4500 NO ₃ ⁻ B	10.0	<5.0
13.	Hexavalent chromium (as Cr ⁺⁶)	mg/l	APHA 3500Cr B	0.1	0.01
14.	Sulphide (as S)	mg/l	APHA 4500 S ²⁻ D	2.0	BDL (<1.0)
15.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	APHA 5530 B,D	1.0	0.32
16.	Cyanide (as CN)	mg/l	APHA 4500 CN ⁻ C,D	0.2	BDL (<0.02)
17.	Fluoride (as F)	mg/l	APHA 4500 F C	2.0	0.3
18.	Dissolved phosphates (as P)	mg/l	APHA 4500 P,D	5.0	2.1
19.	Arsenic(as As)	mg/l	APHA 3114 B	0.2	BDL (<0.004)
20.	Mercury (As Hg)	mg/l	APHA 3500 Hg	0.01	BDL (<0.004)
21.	Lead (as Pb)	mg/l	APHA 3111 B,C	0.1	BDL (<0.01)
22.	Cadmium (as Cd)	mg/l	APHA 3111 B,C	2.0	BDL (<0.01)
23.	Total chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.2
24.	Copper (as Cu)	mg/l	APHA 3111 B,C	3.0	BDL (<0.02)
25.	Zinc (as Zn)	mg/l	APHA 3111 B,C	5.0	0.18
26.	Selenium (as Se)	mg/l	APHA 3114 B	0.05	BDL (<0.001)
27.	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	BDL (<0.05)
28.	Manganese (as Mn)	mg/l	APHA 3500Mn B	2.0	<0.05
29.	Iron (as Fe)	mg/l	APHA 3500Fe B	3.0	1.0
30.	Vanadium (as V)	mg/l	APHA 3500V B	0.2	BDL (<0.2)

*** End Report***

Reviewed By:



Approved By:



TEST REPORT

Ref: Envlab/24-25/TR-12294

Date: 05.11.2023

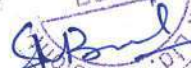
Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	22.10.2024	Sample Received on	:	23.10.2024
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-3	Sampling Location	:	Natural Nala (Raijharana) 20° 57' 51.9696" N 84° 57' 49.32" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	23.10.2024	Test Completed on	:	29.10.2024

C. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	Colour	Hazen	APHA 2120 B	--	<5.0
2.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	7.93
3.	Temperature	°C	APHA 2550 B	Shall not exceed 5°C above the receiving water Temp	27.6
4.	Suspended solids	mg/l	APHA 2540 D	100.0	74
5.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
6.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	328
7.	Total Residual Chlorine (as RFC)	mg/l	APHA 4500 Cl ⁻ B	1.0	ND
8.	Ammonical Nitrogen (as NH ₃ -N)	mg/l	APHA 4500 NH ₃ F	50.0	14.4
9.	Total Kjeldahl Nitrogen (as N)	mg/l	APHA 4500 N _{org} B	100.0	8.9
10.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	15.2
11.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	58
12.	Nitrate Nitrogen (as N)	mg/l	APHA:4500 NO ₃ ⁻ B	10.0	<5.0
13.	Hexavalent chromium (as Cr ⁺⁶)	mg/l	APHA 3500Cr B	0.1	0.01
14.	Sulphide (as S)	mg/l	APHA 4500 S ²⁻ D	2.0	BDL (<1.0)
15.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	APHA 5530 B,D	1.0	0.2
16.	Cyanide (as CN)	mg/l	APHA 4500 CN ⁻ C,D	0.2	BDL (<0.02)
17.	Fluoride (as F)	mg/l	APHA 4500 F C	2.0	1.01
18.	Dissolved phosphates (as P)	mg/l	APHA 4500 P,D	5.0	2.6
19.	Arsenic(as As)	mg/l	APHA 3114 B	0.2	BDL (<0.004)
20.	Mercury (As Hg)	mg/l	APHA 3500 Hg	0.01	BDL (<0.004)
21.	Lead (as Pb)	mg/l	APHA 3111 B,C	0.1	BDL (<0.01)
22.	Cadmium (as Cd)	mg/l	APHA 3111 B,C	2.0	BDL (<0.01)
23.	Total chromium (as Cr)	mg/l	APHA 3111 B	2.0	0.2
24.	Copper (as Cu)	mg/l	APHA 3111 B,C	3.0	BDL (<0.02)
25.	Zinc (as Zn)	mg/l	APHA 3111 B,C	5.0	0.2
26.	Selenium (as Se)	mg/l	APHA 3114 B	0.05	BDL (<0.001)
27.	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	BDL (<0.05)
28.	Manganese (as Mn)	mg/l	APHA 3500Mn B	2.0	<0.05
29.	Iron (as Fe)	mg/l	APHA 3500Fe B	3.0	0.8
30.	Vanadium (as V)	mg/l	APHA 3500V B	0.2	BDL (<0.2)

*** End Report***

Reviewed By: 


Approved By: 


TEST REPORT

Ref: Envlab/24-25/TR-12295

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	22.10.2024	Sample Received on	:	23.10.2024
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-4	Sampling Location	:	Singhadajoda Nala 20° 58' 30.1548" N 84° 57' 39.2508" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	23.10.2024	Test Completed on	:	29.10.2024

D. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	Colour	Hazen	APHA 2120 B	--	<5.0
2.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.02
3.	Temperature	°C	APHA 2550 B	Shall not exceed 5°C above the receiving water Temp	27.7
4.	Suspended solids	mg/l	APHA 2540 D	100.0	844
5.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
6.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	82
7.	Total Residual Chlorine (as RFC)	mg/l	APHA 4500 Cl ⁻ B	1.0	ND
8.	Ammonical Nitrogen (as NH ₃ -N)	mg/l	APHA 4500 NH ₃ F	50.0	14.1
9.	Total Kjeldahl Nitrogen (as N)	mg/l	APHA 4500 N _{org} B	100.0	8.6
10.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	15.0
11.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	55
12.	Nitrate Nitrogen (as N)	mg/l	APHA:4500 NO ₃ ⁻ B	10.0	<5.0
13.	Hexavalent chromium (as Cr ⁺⁶)	mg/l	APHA 3500Cr B	0.1	0.01
14.	Sulphide (as S)	mg/l	APHA 4500 S ²⁻ D	2.0	BDL (<1.0)
15.	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	APHA 5530 B,D	1.0	0.15
16.	Cyanide (as CN)	mg/l	APHA 4500 CN ⁻ C,D	0.2	BDL (<0.02)
17.	Fluoride (as F)	mg/l	APHA 4500 F C	2.0	0.73
18.	Dissolved phosphates (as P)	mg/l	APHA 4500 P,D	5.0	1.86
19.	Arsenic(as As)	mg/l	APHA 3114 B	0.2	BDL (<0.004)
20.	Mercury (As Hg)	mg/l	APHA 3500 Hg	0.01	BDL (<0.004)
21.	Lead (as Pb)	mg/l	APHA 3111 B,C	0.1	BDL (<0.01)
22.	Cadmium (as Cd)	mg/l	APHA 3111 B,C	2.0	0.18
23.	Total chromium (as Cr)	mg/l	APHA 3111 B	2.0	<0.1
24.	Copper (as Cu)	mg/l	APHA 3111 B,C	3.0	BDL (<0.02)
25.	Zinc (as Zn)	mg/l	APHA 3111 B,C	5.0	0.04
26.	Selenium (as Se)	mg/l	APHA 3114 B	0.05	BDL (<0.001)
27.	Nickel (as Ni)	mg/l	APHA 3111 B	3.0	BDL (<0.05)
28.	Manganese (as Mn)	mg/l	APHA 3500Mn B	2.0	<0.05
29.	Iron (as Fe)	mg/l	APHA 3500Fe B	3.0	0.94
30.	Vanadium (as V)	mg/l	APHA 3500V B	0.2	BDL (<0.2)

*** End Report***

Reviewed By: 

Approved By: 

TEST REPORT

Ref: Envlab/24-25/TR-12296

Date: 05.11.2023

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	22.10.2024	Sample Received on	:	23.10.2024
Sample Description	:	Waste Water	Sampling Procedure	:	As per IS 3025
Identification by Customer	:	WW-5	Sampling Location	:	ETP Workshop Collection Tank Water 20° 57' 51.534" N 84° 57' 14.1192" E
Sample Condition	:	Ice Preserved	Sampling done by	:	VCSPL Representative
Test Started on	:	23.10.2024	Test Completed on	:	29.10.2024

E. Pollution & environment

Sl. No	Parameter	Unit	Testing Methods	Schedule -VI General Standard for Discharge of Environmental Pollutants (Inland Surface Water)	Analysis Results
1.	pH Value (at 25 °C)	--	APHA 4500H ⁺ B	5.5-9.0	8.01
2.	Suspended solids	mg/l	APHA 2540 D	100.0	96
3.	Oil and grease	mg/l	APHA 5520 B	10.0	<5.0
4.	Total Dissolved Solids	mg/l	APHA 2540 C	2100.0	524
5.	Biochemical Oxygen Demand (3 days @ 27°C)	mg/l	APHA 5210 B	30.0	327
6.	Chemical Oxygen Demand	mg/l	APHA 5220 C	250.0	975

*** End Report***

Reviewed By:



Approved By:





Heavy Metal Monitoring TEST REPORT

Ref: Envlab/24-25/TR-17275

Date: 05.03.2028

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	10.02.2025	Date of Receiving	:	11.02.2025
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-1	Sampling Location	:	Raijharana Near Mining Office Latitude : 20.96347234° Longitude: 84.95405081°
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C	Instrument used for Sampling	:	RDS (APM 460 BL)
Sample Condition	:	Air Tight Sealed Pouch	Sampling done by	:	VCSPL representative
Test Started on	:	11.02.2025	Test Completed on	:	15.02.2025

1. Chemical Testing

A. Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	NAAQS Limit	Analysis Result
1	Lead as Pb	($\mu\text{g}/\text{m}^3$)	IS 5182(Part -22):2019	1	0.019
2	Nickel as Ni	(ng/m^3)	IS 5182(Part -26):2020	20	12.55
3	Arsenic as As	(ng/m^3)	EPA Method IO-3.5	6	<0.05
4	Mercury as Hg	($\mu\text{g}/\text{m}^3$)	EPA Method IO-3.5	--	<0.001
5	Cadmium as Cd	($\mu\text{g}/\text{m}^3$)	EPA Method IO-3.5	--	<0.05
6	Chromium as Cr	($\mu\text{g}/\text{m}^3$)	EPA Method IO-3.5	--	<0.05

*** End Report***





TEST REPORT

Ref: Envlab/24-25/TR-17276

Date: 05.03.2028

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	10.02.2025	Date of Receiving	:	11.02.2025
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSP/L/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-2	Sampling Location	:	Tangersahi Latitude : 20.96158629° Longitude: 84.9673415°
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C	Instrument used for Sampling	:	RDS (APM 460 BL)
Sample Condition	:	Air Tight Sealed Pouch	Sampling done by	:	VCSP/L representative
Test Started on	:	11.02.2025	Test Completed on	:	15.02.2025

1. Chemical Testing

A. Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	NAAQS Limit	Analysis Result
1	Lead as Pb	(µg/m ³)	IS 5182(Part -22):2019	1	0.022
2	Nickel as Ni	(ng/m ³)	IS 5182(Part -26):2020	20	16.18
3	Arsenic as As	(ng/m ³)	EPA Method IO-3.5	6	0.076
4	Mercury as Hg	(µg/m ³)	EPA Method IO-3.5	--	<0.001
5	Cadmium as Cd	(µg/m ³)	EPA Method IO-3.5	--	<0.05
6	Chromium as Cr	(µg/m ³)	EPA Method IO-3.5	--	<0.05

*** End Report***



Reviewed By



Approved By



TEST REPORT

Ref: Envlab/24-25/TR-17277

Date: 05.03.2028

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	10.02.2025	Date of Receiving	:	11.02.2025
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-3	Sampling Location	:	Koshal Latitude : 21.0123484° Longitude: 84.92886774°
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C	Instrument used for Sampling	:	RDS (APM 460 BL)
Sample Condition	:	Air Tight Sealed Pouch	Sampling done by	:	VCSPL representative
Test Started on	:	11.02.2025	Test Completed on	:	15.02.2025

1. Chemical Testing

A. Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	NAAQS Limit	Analysis Result
1	Lead as Pb	(µg/m ³)	IS 5182(Part -22):2019	1	0.029
2	Nickel as Ni	(ng/m ³)	IS 5182(Part -26):2020	20	12.66
3	Arsenic as As	(ng/m ³)	EPA Method IO-3.5	6	0.081
4	Mercury as Hg	(µg/m ³)	EPA Method IO-3.5	--	<0.001
5	Cadmium as Cd	(µg/m ³)	EPA Method IO-3.5	--	<0.05
6	Chromium as Cr	(µg/m ³)	EPA Method IO-3.5	--	<0.05

*** End Report***





TEST REPORT

Ref: Envlab/24-25/TR-17278

Date: 05.03.2028

Name & Address of the Customer	:	M/s Jindal Steel & Power Ltd, Angul, Odisha. Utkal C Coal Mine, Talcher, Angul			
Date of Sampling	:	10.02.2025	Date of Receiving	:	11.02.2025
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSP/L/F-SOP/001, Dt.04.09.2021
Identification by Customer	:	AAQMS-4	Sampling Location	:	Chhotaberani Latitude : 20.95404765° Longitude: 84.98695589°
Environment Condition during Sampling	:	Atmospheric Temp.: 27 – 39°C	Instrument used for Sampling	:	RDS (APM 460 BL)
Sample Condition	:	Air Tight Sealed Pouch	Sampling done by	:	VCSP/L representative
Test Started on	:	11.02.2025	Test Completed on	:	15.02.2025

1. Chemical Testing

A. Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	NAAQS Limit	Analysis Result
1	Lead as Pb	(µg/m ³)	IS 5182(Part -22):2019	1	0.022
2	Nickel as Ni	(ng/m ³)	IS 5182(Part -26):2020	20	9.02
3	Arsenic as As	(ng/m ³)	EPA Method IO-3.5	6	<0.05
4	Mercury as Hg	(µg/m ³)	EPA Method IO-3.5	--	<0.001
5	Cadmium as Cd	(µg/m ³)	EPA Method IO-3.5	--	<0.05
6	Chromium as Cr	(µg/m ³)	EPA Method IO-3.5	--	<0.05

*** End Report***



Coal mining in Odisha may turn out catastrophic for elephants, WII study says

Angul forest division, which accounts for 20% of India's coal reserve, may lose 390 sq km of area used by migrating elephants as foraging ground and corridor

Updated - June 28, 2025 10:26 am IST - BHUBANESWAR:

SATYASUNDAR BARIK

Odisha would lose about 390 sq km of area used by migrating elephants as foraging ground and corridor in one district on account of massive coal mining alone in Angul district, says a study of Wildlife Institute of India.

Beside, human-elephant conflict, which is already in a critical State, is likely to become acute following disturbance in elephant habitats.

A study 'Status and Management of Elephants in Coal Mine Landscape of Odisha' conducted by Karthy S and Gopi G. V, scholars of WII, says, "using geospatial analysis, habitat suitability modelling, and conflict data from forest department it is predicted that the Angul division would lose about 390 sq km of forest if the proposed coal blocks come into operation."

"This loss of forest habitat, combined with the growing number of human deaths due to elephants in the Angul forest division would result in increase in conflict situation and devastating for the elephant population in Odisha," they predicted.

The study appeared WII's quarterly magazine 'Trumpet' says Odisha holds the highest number of Asian elephants (1,976 individuals) in the east-central region of India. This is 63% of the entire east-central population (3,128) and 6.5% of the total elephant population in India as per 2017 estimation.

The State has elephant presence in 43 out of 50 forest divisions with a growth rate of 1.2% between 2015 and 2017. Some of the districts have recorded disproportionately high conflict.

The study was conducted on the background that Angul forest division is important to elephants while it is also recognized for its coal wealth which accounts for 20% of India's coal reserve.

"As per Site Specific Elephant Management Plan for Angul Forest Division, 2022, this has led to rapid developmental activities like thermal power plant, steel plant, road and

railway networks, transmission lines and pipelines in Angul division. Most part of the division is expected to be leased to coalmine industries in the near future, which may turn out catastrophic for the elephants as well as the existing conflict scenario in the entire state of Odisha,” the study finds.

The WII scholars had adopted the MaxEnt approach, a geospatial data analysis, to determine the suitable habitat for the elephants in the Angul division.

“The MaxEnt output shows that most of the habitat utilised by the elephants fall over the proposed coal block region. There are already operational coal mines in the Angul division which again hinder the movement of the elephant,” the study points out.

The WII scholars recommended reconsidering declaring the entire coal belt of Angul district for mining use. They also came up with a suggestion of establishing habitat connectivity between Satkosia Tiger Reserve and Sambalpur, Deogarh divisions by forest restoration along the west border of Angul division. (EOM)

<https://www.thehindu.com/sci-tech/energy-and-environment/coal-mining-in-odisha-may-turn-out-catastrophic-for-elephants-wii-study-says/article69745217.ece>

MECCANIZED WHEEL WASHING SYSTEM NOT OPERATIONAL

**NO LIVE DISPLAY BOARD OF POLLUTION DATA AT ENTRY GATE
OF UTKAL-C BLOCK COAL MINE , VILL : RAIJHARAN DIST :
ANGUL**





Date: 09-06-2025

To
The Regional Officer,
SPCB, Angul.

Subject: Violation of conditions of CTE in Utkal-C Coal Block by JSPL. Angul.

Reference:

- Consent To Establish Order by SPCB, Odisha (letter no. 23468, dated 19-12-2022).
(Annexure-I)

Respected Madam/Sir,

With reference to captioned subject & mentioned references, please find details of violations for your kind information & necessary action.

Violation of CTE(Consent To Establish) Order:

1- Specific Condition(C. AIR Pollution)- Point No. 29: Mechanised wheel washing system shall be provided at the exit point of mine to minimize transfer of mud from unpaved approach roads to main paved and/or public roads.

Violation: Mechanised Wheel Washing System has been installed by the company but it's not operational intentionally to save operational cost & to save time to fasten no of trips by the trucks. Such intentional violation is damaging environment. (Photographs attached as Annexure-II)

2- Specific Condition(C. AIR Pollution)- Point No.30:

Transportation road shall be black topped / concreted.

Violation: Coal transportation road from cola mines to dumping yard & further road from dumping yard to SH-63 are still not been black topped/ concreted. Which is causing high eleven of dust emission & causing damage to environment. (Photographs attached as Annexure-III)

3- Specific Condition(C. AIR Pollution)- Point No.34: The mine shall develop wind barrier wall of 10 meters height all around the coal stack yard to control fugitive coal dust emission.

Violation: No such wind harrier has been constructed by the company to control fugitive coal dust emission which is violation of CTE Condition & damaging environment.

4- Specific Condition(C. AIR Pollution)- Point No.36: Water sprinkling shall be carried out on unplanted surface of OB dump to control fugitive emission.

Violation: No such water sprinkling activity is being carried out on unplanted surface of OB dump to control fugitive emission which is violation of CTE & damaging environment.

1- Specific Condition(C. AIR Pollution)- Point No.41: The haul roads and arterial roads shall be made black topped / concrete with avenue plantation.

Violation: Black topped/ concrete of haul roads & arterial roads still not been done & even no avenue plantation done which is violation of CTE & damaging environment. **(Photographs of roads attached as Annexure-IV)**

Other Major Violation:

Violation of Article 21 as habitation of Rajjharana village is under compulsion to live with severe Air & Water Pollution caused by Utkal-C Coal Block Mining Operations without taking any preventive measures by PP & even not complying conditions of CTE and District Administration is not even taking any stern action against the coal mining company for not completing R&R measures for which villagers are having no other option left rather to live with inhabitable condition created by coal mining Company.

Based on above grounds, facts & observations, we urge your good self to initiate necessary action as per Act & Rules.

Further delay from office of your good self in the process to take appropriate action will give/allow time to lessee(the mining company) to cover up/suppress the intentional

PRAYER

1- Requesting for a joint visit of ROSPCB Team along with village committee to do impact assessment of air pollution caused by Utkal-C Coal Mines on life & livelihood of Rajjharana village.

2- Requesting for closure of mining operations as mining company has done intensional violations of CTE causing environmental damage, which is irreversible damage & criminal offence.

3- Request to initiate legal action against Owner, Agent & Manager of Utkal-C Coal Block as per Law of The Land.

Looking forward for faster & positive response to protect national interest & to act as per Law of The Land. Also, request to share outcome of the enquiry/investigation on high priority to keep it transparent.

With High Regards

Chittaranjan Sahu
Chitaranjan Sahu
President
Village Committee
Raijharana
Angul-759130
Odisha
M: 99376 12352

Chittaranjan Sahu
ସାଧାରଣ
ଗ୍ରାମ୍ୟ ପରିଷଦର କର୍ମୀ

Prasanta Kumar Sathy
Sarapanchi
Raijharan G.P

Encl: Annexure-1 to Annexure-4.

Copy To:

- 1- The Member Secretary, SPCB, Odisha.
- 2- The Consent to Operate Cell, SPCB, Odisha.
- 3- The Hazardous Waste Management Cell, SPCB, Odisha.
- 4- The Member Secretary, CPCB, MoEFCC, New Delhi.
The Mining Officer(Major Minerals),, Angul.
- 5- The Secretary Steel & Mines, Govt of Odisha, Bhubaneswar.
- 6- The Deputy Inspector General of Forest(C)
MoEF&CC, Eastern Regional Office, Bhubaneswar.
- 7- The Deputy Director General of Forest(C)
MoEF&CC, Eastern Regional Office, Bhubaneswar.
- 8- The Add. Director & Member Secretary (Industry-1)
MoEF&CC, Indira Paryavaran Bhawan
New Delhi
- 9- The Joint Secretary
MoEF&CC, Govt of India,
Indira Paryavaran Bhawan
New Delhi
- 10- The Chairman
Expert Appraisal Committee (Industry-1 Sector), MoEF&CC, Govt of India
- 11- The Director, Environment-cum-Special Secretary, F, E & CC Dept., Govt. of Odisha.
- 12- The Chief Secretary, Govt of Odisha, Bhubaneswar.
- 13- The Secretary, Ministry of Coal, Govt of India.
- 14- The Chairperson, National Green Tribunal.
- 15- The DM & Collector, Angul.
- 16- The ADM(Revenue), Angul.
- 17- The Sub-Collector, Angul.
- 18- The SP, Angul.
- 19- The SDPO, Angul.
- 20- The IIC, Industrial Police Station, Nisha, Angul.



FAX : 2562822/2560955
Tel : 2564033/2563924
EPABX : 2561909/2562847
E-mail: paribesh1@ospboard.org
Web site : www.ospboard.org

OFFICE OF THE STATE POLLUTION CONTROL BOARD, ODISHA

(Forest, Environment & Climate Change Department, Govt. of Odisha)
Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,
Bhubaneswar - 751012

BY SPEED POST/
THROUGH ONLINE

No. 23468 /

IND-II-CTE - 6787

Date 19.12.2022 /

CONSENT TO ESTABLISH ORDER

In consideration of the Online Application No. **4368836** for obtaining Consent to Establish for **Utkal C Coal Mine of M/s Jindal Steel & Power Ltd.**, the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for **coal production of 3.37 MTPA over ML area of 575.07 Ha.** At-Village-Raijharana, Golagadia, Similisahi, Nandichor alias Gopiballavpur, Tahasil-Chhendipada in the district of **Angul**, Odisha with the following conditions.

GENERAL CONDITIONS:

1. This Consent to Establish is valid for the product, method of mining and capacity mentioned in the application form. This order is valid for **five** years, which means the proponent shall commence mining activities for the proposal within a period of five years from the date of issue of this Consent to Establish order. If the proponent fails to commence mining activities for the proposal within five years, then a renewal of this consent to establish shall be sought by the proponent.
2. The mine shall apply for grant of Consent to Operate under Section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.
3. No change in mining technology and scope of working shall be made without prior approval of the Board.
4. This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.

SPECIAL CONDITIONS:

A. GENERAL CONDITIONS:

1. The proponent shall carryout mining activity as per Environmental Clearance issued vide letter No. J-11015/134/2006-IA,II(M) date 05.10.2006 and 28.07.2009 by MoEF&CC, Govt. of India.
2. The proponent shall comply with the provisions made under Fly Ash Notification of MoEF&CC, Govt. of India as amended on 31st December, 2021 as applicable for coal mines.

3. The unit shall obtain NOC from CGWA for using of ground water for getting Consent to Operate of State Pollution Control Board, Odisha.
4. The proponent shall obtain requisite permission from the Water Resources Department, Govt. of Odisha for drawal of water.
5. The mine shall not store for more than seven days of coal production / incubation period of coal to avoid coal fire in stock yard as well as coal seam. The mine shall take adequate preventive measures for spontaneous fire in the coal seam as well as stock yard and an action plan regarding this shall be submitted at the time of consent to operate application.
6. The method of mining shall be opencast mining by shovel-dumper in overburden and surface miner with interlocking water sprinkling system, loader and tipper in coal. No change in mining technology and scope of working shall be made without prior approval of the Board.
7. A green belt of adequate width and density preferably with local species along the periphery of the mine, inactive dumps, backfilled area, vacant area and any other vacant area shall be raised so as to provide protection against particulates and noise to ameliorate the environment. A detailed plantation programme in this regard shall be prepared to cater to statutory requirement and submitted at the time of making application for consent to operate for assessment.
8. Adequate measures shall be taken for control of noise levels to meet the standards as per the Rule 2(1) of the Environmental (Protection) Amendment Rules, 2000 notified vide notification G.S.R. 742 (E), dated 25.09.2000
9. Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
10. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the organization.
11. Construction and demolition waste shall be managed strictly in accordance with the provisions of the Construction and Demolition Waste Management Rules, 2016.
12. The proponent shall comply to the provisions of E-Waste (Management) Rules, 2016 and shall handover e-waste to authorized collection centers/ register dismantlers/ recyclers for proper disposal of e-waste.
13. Plastic waste shall be stored in designated space and same shall be sent to authorized cement kiln for co-processing.
14. The unit shall abide by Env. (P) Act, 1986 and the rules framed there under.
15. The Board may impose further condition or modify the conditions stipulated in this order during installation, and / or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.
16. The conditions as stipulated in this consent to establish order will be enforced, inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 the Air (Prevention & Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

17. The construction shall be carried out with the fly ash bricks. If the fly ash bricks are not available locally the construction may be carried out with other bricks with prior intimation to the concerned Regional Office of SPC Board. A statement indicating use of fly ash bricks during construction period shall be submitted to the Board quarterly for record.

B. WATER POLLUTION:

18. An adequately designed Mine Drainage Water treatment Plant shall be provided for treatment of mine drainage water before discharged to outside. The quality of discharged water shall meet the standards specified for Coal mines as per E (P) Amendment Rules, 2000. Effort shall be made to utilize the discharged water in various purpose of mining activity.
19. The Mine shall utilize mine drainage water and rainwater harvesting water to reduce dependency on ground water for domestic requirement.
20. The mine shall construct settling tanks in series to settle the suspended solids in the surface run-off water.
21. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the hourly peak rain fall and maximum discharge in the area adjoining the mine site. Sump capacity shall have adequate retention period to allow proper settling of silt material.
22. No diversion or obstruction of flow of natural nallah shall be done.
23. Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data. The detail specification shall be worked out and submitted to the Board.
24. Catch drains of appropriate size shall be constructed to divert the run off from the OB dump to the siltation pond of appropriate size to arrest silt and sediment flows from soil, OB and mineral dumps. Similar arrangement shall be done around the coal stack pile area. The drains shall be regularly desilted and maintained properly. Surface run-off from OB dump area, coal pile area, top soil storage area shall be routed through adequate settling pond (designed maximum hourly rain fall basis) to meet prescribed standard of SS-100 mg/l and Oil & Grease-10 mg/l before discharge into natural stream/water courses during monsoon. Adequate surface runoff management system shall be installed so there shall not be any environmental impact on seasonal nala.
25. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells. The monitoring shall be done four times a year in pre-monsoon (April/May), monsoon (August), Post – monsoon (November) and winter (January) seasons. Data thus collected shall be submitted to the Board quarterly.
26. The domestic wastewater generated from the township will be treated in sewage treatment plant. The treated water shall be reused for gardening and plantation and the surplus water if any shall be discharged to outside after meeting the following prescribed standards as notified by the MoEF&CC, Govt. of India vide G.S.R. 1265 (E), dated 13.10.2017.

Sl. No.	Parameters	Standards
1.	pH	6.5-9.0
2.	BOD(mg/l)	30
3.	TSS(mg/l)	<100
4.	Fecal Coliform (MPN/100ml)	< 1000

27. Oil and grease trap shall be installed before discharge of effluent from workshop. Wastewater from the mine pit, check dams or any other discharge leaving lease boundary of the mine shall be properly collected, treated so as to conform the following standard i.e. pH = 5.5 – 9.0, SS = 100 mg/l, COD = 250 mg/l & Oil & Grease = 10 mg/l.
28. Rain water harvesting practice shall be followed by utilizing the rain water collected from the roof of the buildings for recharging of ground water within the premises and other large structures as per the concept and practices prescribed by CPCB, New Delhi and details of which is available in the web site.

C. AIR POLLUTION:

29. Mechanised wheel washing system shall be provided at the exit point of mine to minimize transfer of mud from unpaved approach roads to main paved and/or public roads.
30. Transportation road shall be black topped / concreted.
31. High efficiency bag filters shall be installed at crushers, of the Coal Handling Plant if any. Water sprinkling systems shall also be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points etc. Provision of movable chutes shall be made during loading at CHP to avoid free fall of coal.
32. Drilling shall be avoided to the maximum possible extent. However, drill shall be wet operated or with dust extractors and controlled blasting shall be practiced.
33. Mobile water tanker of adequate capacity and numbers shall be deployed for dust suppression on quarry, haul road, transport road etc.
34. The mine shall develop wind barrier wall of 10 meters height all around the coal stack yard to control fugitive coal dust emission.
35. The mine shall provide Fog Cannons for dust suppression.
36. Water sprinkling shall be carried out on unplanted surface of OB dump to control fugitive emission.
37. The mine shall provide water or water mixed chemicals for dust suppression at all strategic points such as coal stack yards, loading and unloading points, all transfer points, conveyors etc. to suppress dust fine atomizer nozzles arrangement shall be provided on the coal heaps and on land around the crusher / pulverizes. As far as possible conveyors and transfer points etc. shall be provided with enclosures.
38. Continuous ambient air quality monitoring stations with data transfer facility shall be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.5}, SO₂ and NO₂ monitoring. Location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. The online monitoring data on ambient air quality (PM₁₀, PM_{2.5}, SO₂ and NO₂) shall be transferred to server of SPCB.
39. At least 04 nos. of ambient air quality monitoring stations shall also be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.5}, SO₂ and NO₂ monitoring.

Location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of Ambient Air Quality of the mine shall be done once in a fortnight (24 hourly) and data shall be submitted to the State Pollution Control Board once in a year.

40. The mine shall comply the following standard at the loading or unloading, haul road, coal transportation road, coal handling plant (CHP), railway siding, blasting, drilling, overburden dumps or any other dust generating external sources as per the Rule 2(1) of the Environmental (Protection) Amendment Rules, 2000 notified vide notification G.S.R. 742 (E), dated 25.09.2000.

Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4
SPM	Annual Average* 24 hours**	360 $\mu\text{g}/\text{m}^3$ 500 $\mu\text{g}/\text{m}^3$	High volume sampling (Average flow rate not less than 1.1m ³ /min)
RPM(size less than 10 μm)	Annual Average* 24 hours**	180 $\mu\text{g}/\text{m}^3$ 250 $\mu\text{g}/\text{m}^3$	Respirable Particulate matter sampling and analysis
SO ₂	Annual Average* 24 hours**	80 $\mu\text{g}/\text{m}^3$ 120 $\mu\text{g}/\text{m}^3$	Improved west and Gaeke method Ultraviolet fluorescene
NO ₂	Annual Average* 24 hours**	80 $\mu\text{g}/\text{m}^3$ 120 $\mu\text{g}/\text{m}^3$	Jacob & Hochheiser Modified (Na-Arsenic) Method Gas phase Chemiluminescence

(*Annual Arithmetic mean for the measurements taken in a year, following the guidelines for frequency of sampling laid down in clause-2.

**24 hourly/ 8 hourly values shall be met 92% of the time in a year. However, 80% of the time may exceed but not on two consecutive days.)

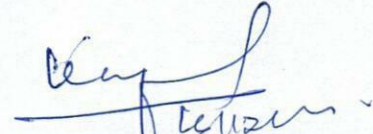
41. The haul roads and arterial roads shall be made black topped / concrete with avenue plantation.

D. SOLID AND HAZARDOUS WASTE:

42. Top soil of mining area shall be stacked separately with proper slope at earmarked site (s) with adequate measures and shall be used for reclamation and rehabilitation of mined out areas.
43. The overburden generated during mining operation shall be stored and utilized for backfilling as per approved mining plan.
44. Backfilling of abandoned pit shall be carried out as per approved mining plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status in this regard shall be submitted to the Board on yearly basis. The mine shall explore the possibility for back filling of mine voids by fly ash generation from nearby thermal power plant
45. Hazardous waste and ETP sludge shall be stored under covered shed on concrete platform.



46. Municipal solid waste generated from the township shall be disposed off as per Solid Waste Management Rules, 2016. Intermediate storage area for Municipal Solid Waste (MSW) shall be developed inside the premises of township before handing over the MSW to the concerned ULBs for final disposal.
47. The proponent shall segregate organic waste from the MSW of township and segregated organic waste shall be converted to manure through organic waste converter. The proponent shall store the organic waste in closed shed inside the township before use the same in organic waste converter.
48. All required sanitary and hygienic measures shall be in place before starting construction activities of township and to be maintained throughout the construction phase.
49. All the top soil excavated during construction activities of township shall be stored for use in horticulture / landscape development within the project site.
50. Disposal of muck during construction phase of township shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
51. Construction spoils of township, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they shall not leach into the ground water.
52. The Project proponent shall obtain authorization and dispose off hazardous waste as per Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 as amended from time to time.


MEMBER SECRETARY

To,

The EVP Mines,
Utkal C Coal Mine, M/s Jindal Steel & Power Ltd.,
PO-Jindal Nagar, Dist-Angul, Odisha, Pin No.759111

Memo No. 23469 /Date 19.12.2022 /

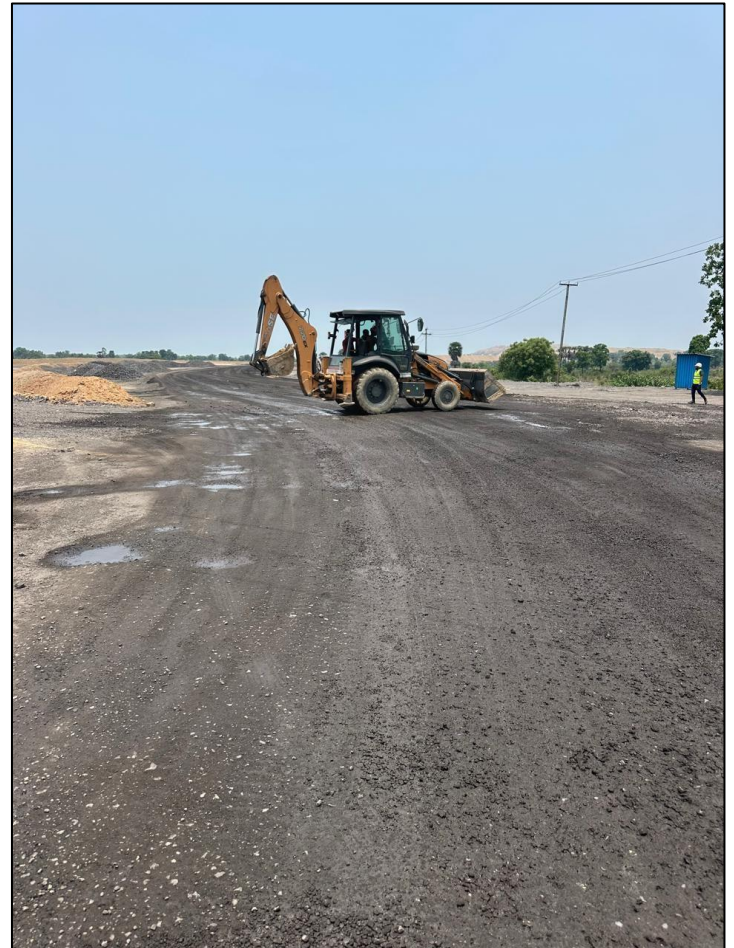
Copy forwarded to:

1. The Director, Directorate of Mines, Govt. of Odisha, Bhubaneswar
2. The Collector & District Magistrate, Angul.
3. The DFO, Angul.
4. Consent to Operate Cell, SPC Board, Bhubaneswar.
5. Hazardous Waste Management Cell, SPC Board, Bhubaneswar
6. The Regional Officer, SPC Board, Angul.
7. Copy to Guard file

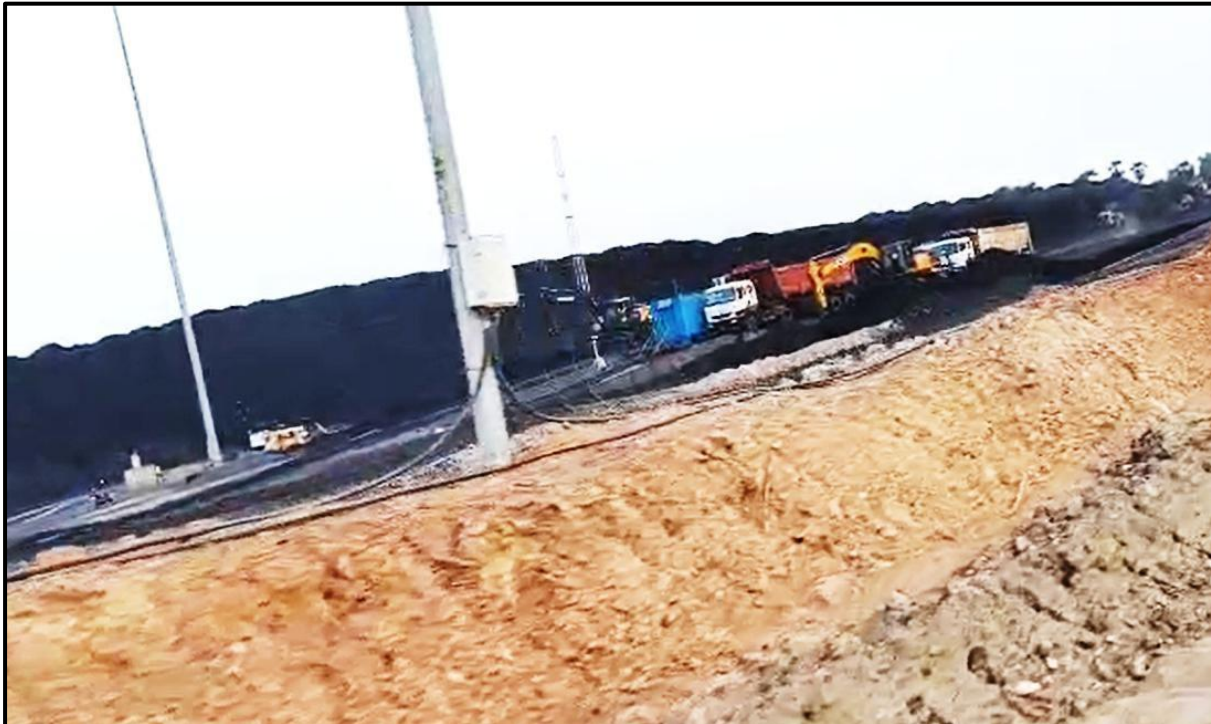

16/12/2022
ADDL. CHIEF ENV. ENGINEER

MECCANIZED WHEEL WASHING SYSTEM NOT OPERATIONAL



UTKAL- 'C' COAL BLOCK : COAL TRANSPORTATION ROAD FROM COAL STOCK YARD TO SH-63

HAUL ROAD AND ARTERIAL ROADS BLACK TOP AND AVENUE PLANTATION NOT DONE

HAUL ROAD AND ARTERIAL ROADS BLACK TOP AND AVENUE PLANTATION NOT DONE



REGIONAL OFFICE OF

STATE POLLUTION CONTROL BOARD, ODISHA

(DEPARTMENT OF FOREST & ENVIRONMENT, GOVERNMENT OF ODISHA)

S-3/3. Industrial Estate, Hakimpada, Angul-759143

E-mail: rospcb.angul@ospcbboard.org**RTI MATTER**

No3236...../

Estt/ROSPCB/AgI/145/19-20

Date..12.09.25.. /

From

Sri S K Bhoi,
Asst. Scientific Officer-cum-PIO

To

Sri Satam Pattanaik,
Amlapada, Angul.

Sub: Information under RTI Act, 2005.

Ref: Your RTI application received on dt.12.08.2025.

Sir,

With reference to the subject cited above the information are as follows

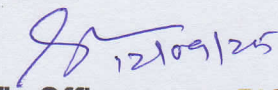
1. Please find enclosed herewith the copy of enquiry report on Utkal-C Coal Block.
2. Please find enclosed herewith the copy of Consent to Establish and Consent to operate of stone crusher at JSPL Angul.
3. Please find enclosed herewith the NOC from Dist. Administration for stone crusher at JSPL.

However if you feel unsatisfied or if require more information w.r.t to this RTI, you may visit the files in office hours free of cost with prior intimation to the undersigned.

This is for your kind information.

Yours faithfully,

Encl: As above


12/09/25
Asst. Scientific Officer -cum PIO



Email : rospcb.angul@ospcbboard.org
Website : www.ospcbboard.org

OFFICE OF THE REGIONAL OFFICE, ANGUL
STATE POLLUTION CONTROL BOARD, ODISHA
[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]
Plot No.-S 3/3 Industrial Estate, Hakimpada, Angul, Odisha, Pin-759143

No. 3198 / MINE/ROSPCB/AGL/13/2013-14

Date 11.09.2025

From

Er. R. K. Ekka
Regional Officer

To

The Chief Env. Engineer (M),
State Pollution Control Board, Odisha,
Bhubaneswar - 751012.

Sub: Submission of inspection report with respect public complaint received against Utkal-C Coal Mine of M/s Jindal Steel & Power Ltd., At- Raijharana, PO- Jindal Nagar, Dist.- Angul, Odisha, Pin- 759111- Reg.

Ref: Head Office Letter No. 11564, Dated 19.06.2025

Sir,

In inviting a reference to the subject cited above, please find enclosed herewith the inspection report with respect to public complaint received from Shri Chitaranjan Sahu, President, Village Committee, Raijharan, Angul against Utkal-C Coal Mine of M/s Jindal Steel & Power Ltd., At- Raijharana, PO- Jindal Nagar, Dist.- Angul, Odisha, Pin- 759111

This is for your kind information and necessary action.

Yours faithfully,

Encl: As above


Regional Officer

Memo No. 3199, Date 11.09.2025

Copy forwarded to Shri Chitaranjan Sahu, President, Village Committee, Raijharana, Angul-759130 for information.


Regional Officer

ofc

**Inspection report of Utkal C Coal Mine of M/s. Jindal Steel & Power Ltd.,
At- Rajiharana, PO- Jindal Nagar, Dist.- Angul, Odisha, Pin- 759111**

A site visit was conducted on dated 13.08.2025 in connection with the public complaints against Utkal-C Coal Block of M/s. Jindal Steel & Power Ltd., received from the president, Village Committee, Rajiharana, Angul. During visit, Sri S. M. Nasim, Mines Manager, Utkal C, Sri Ashok Kumar, HOD, Mines and Sri Vinayak Deshpande, Environment Officer was accompanied during site visit.

Observations:

The complainant has mentioned about violations of Consent to establish (CTE) order specific conditions and detailed observations mentioned below:

Sl. No.	Complainant allegations	Observations on the day of visit
1.	Mechanical wheel washing system shall be provided at the exit point of mine to minimize transfer of mud from unpaved approach roads to main paved and/or public roads.	The mine has installed wheel washing facility with instant shower system at exit main gate of Utkal C mine to SH-66. Presently, the mine has installed DG set-1x125 KVA for power supply for the operation of wheel washing facility. During visit, no dispatch of coal over coal loading vehicles was going on, however operational condition of wheel washing facility was verified. 
2.	Transportation road shall be black topped/ concreted.	The mine has made compact road using slags and other concrete mixture from mines to coal stockyard and further road from coal stockyard to Wheel washing system. However, the compaction of road portion from wheel washing system to SH-63 has not done and also pothole in many places of the entire road was observed. Hence, the mines may be directed to carry out proper maintenance of roads and water sprinkling on regular interval to arrest dust pollution.

		 Check in Similisahi, Odisha, India Similisahi, Odisha 759130, India, Similisahi, Odisha 759130, India Lat 20.945282° Long 84.975476° 13/08/2025 01:19 PM GMT +05:30
3.	The mine shall develop wind barrier wall of 10 meters height all around the coal stack yard to control fugitive coal dust emission.	The mine has not provided any wind barrier around the coal stack yard.
4.	Water sprinkling shall be carried out on unplanted surface of OB dump to control fugitive dust emission.	It was reported that, presently OB dump was active and sprinkling is done by using mobile water sprinklers.
5.	The haul roads and arterial roads shall be made black topped/ concrete with avenue plantation.	The haul roads has been made compacted with slag and other concrete mixture and plantation was not done at the haul roads. However, plantation at safety zone at west side of the mine pit office was observed.  Check in Nandichhoda, Odisha, India Xx62+q8, Nandichhoda, Odisha 759130, India Lat 20.964176° Long 84.952123° 13/08/2025 03:33 PM GMT +05:30

Remark:

In view of the above, a suitable decision may be taken in this matter.

P. K. Behera
Dr. P. K. Behera
 Asst. Env. Scientist
 S.P.C. Board, Angul
 Asst. Env. Scientist
 State Pollution Control Board
 Regional Office, Angul

VAKALATNAMA

**IN THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN
BENCH, KOLKATA**

ORIGINAL APPLICATION NO. _____/2025

IN THE MATTER OF:

CHITTARANJAN SAHU

...APPLICANT

VERSUS

ASHOK KUMAR & ORS.

...RESPONDENTS

KNOW ALL to whom this present shall come that I/We, Chitranjan Sahu, the above-named Applicant do hereby appoint Mr. Sunil J Mathews (herein after called the advocate/s) to be our Advocate in the above noted case authorized him: -

SUNIL J. MATHEWS
D/87/2002
Mob. +91 9311567212
sjmathews@gmail.com

DR. BISWAJIT MOHANTY
D/123/1987

JYOTI CHIB
D/13114/2023

ASHTAMI KHATRI
D/15135/2025

To act, appear and plead in the above-noted case in this Court or in any other Court in which the same may be tried or heard and also in the appellate Court including High Court subject to payment of fees separately for each Court by me/ us.

To sign, file verify and present pleadings, appeals cross objections or petitions for execution review, revision, withdrawal, compromise or other petitions or affidavits or other documents as may be deemed necessary or proper for the prosecution of the said case in all its stages.

To file and take back documents to admit and/or deny the documents of opposite party.

To withdraw or compromise the said case or submit to arbitration any differences or disputes that may arise touching or in any manner relating to the said case.

To take execution proceedings.

The deposit, draw and receive money, cheques, cash and grant receipts thereof and to do all other acts and things which may be necessary to be done for the progress and in the course of the prosecution of the said case.

To appoint and instruct any other Legal Practitioner, authorizing him to exercise the power and authority hereby conferred upon the Advocate whenever he may think

it to do so and to sign the Power of Attorney on our behalf.

And I/We the undersigned do hereby agree to ratify and confirm all acts done by the Advocate or his substitute in the matter as my/our own acts, as if done by me/us to all intents and purposes.

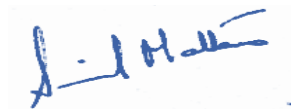
And We undertake that we or our duly authorized agent would appear in the Court on all hearings and will inform the Advocates for appearance when the case is called.

And we undersigned do hereby agree not to hold the advocate or his substitute responsible for the result of the said case. The adjournment costs whenever ordered by the Court shall be of the Advocate which he shall receive and retain himself.

And we the undersigned do hereby agree that in the event of the whole or part of the fee agreed by me/us to be paid to the Advocate remaining unpaid he shall be entitled to withdraw from the prosecution of the said case until the same is paid up. The fee settled is only for the above case and above Court. We hereby agree that once the fee is paid. I /we will not be entitled for the refund of the same in any case whatsoever. If the case lasts for more than three years, the advocate shall be entitled for additional fee equivalent to half of the agreed fee for every addition three years or part thereof.

IN WITNESS WHEREOF we do hereunto set our hand to these presents the contents of which have been understood by us on this 14th day of October, 2025.

Accepted subject to the terms of fees.



Biswajit Mohanta




(Sunil J. Mathews)

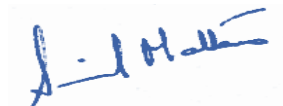
Advocate, Enrolment No. D/87/2002

Email : sjmathews@gmail.com

(M) +91 9311567212

Chittaranjan Sahu

Client



Signature Identified