

Let.No.: JPL/GP-IV/1/2022-23 - 108

To,

Date: 28<sup>th</sup> November, 2022

**Regional Director**  
**Ministry of Environment and Forest**  
**Regional Office (WCZ), Ground Floor**  
**East Wing, New Secretariat Building,**  
**Civil Lines, Nagpur-440001**

**Sub:** Compliance Status of Environmental Clearance of Gare Palma IV/1 Coal Mine

**Ref:** Environmental Clearance No.J-11015/81/2008.IA.II (M) dated 28.10.2021

Dear Sir,

Please find enclosed herewith the duly filled compliance status for the period 01.04.2022 to 30.09.2022 of Gare Palma IV/1 Coal Mine of M/s Jindal Power Ltd, Dongamahua as per the EC granted vide your letter No.J-11015/81/2008.IA.II (M) dated 28.10.2021. Further, it is to be noted that as the mines stated on 23<sup>rd</sup> Feb 2022 the reports are submitted in line with the mine opening.

Enclosure:

Annexures enclosed for the compliance are given below.

1. Ground Water Level
2. Water quality
3. CSR Expenditure
4. Air quality report by the third party
5. Monitoring report (Six Months)

Thanking you

Yours Sincerely



**Om Prakash**  
**EVP & Agent**  
**GP IV/1 Coal Mines, Jindal Power Ltd**

CC:

**Integrated Regional Office (IRO)**  
Aranya Bhawan, North Block, Sector-19  
Naya Raipur, Atal Nagar  
Chhattisgarh-492002

**The Member Secretary**  
Chhattisgarh Environment Conservation Board  
Naya Raipur, Atal Nagar  
Chhattisgarh, 492099, (CG)

**The Zonal Officer**  
Central Pollution Control Board  
3<sup>rd</sup> floor, Sahkar Bhawan, North T.T Nagar,  
Bhopal-462003

## **Jindal Power Limited**

**CIN No. :** U04010CT1995PLC008985

**Corporate Office** Jindal Centre, 12 Bhikaiji Cama Place, New Delhi 110 066

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**Registered Office** Tamnar 496 107, District Raigarh, Chhattisgarh

**The compliance status of conditions of Environmental Clearance (No.J-11015/81/2008.IA.II (M) dated 28.10.2021) granted to Gare IV/1 Open Cast Coal Mines for period 01.04.2022 to 30.09.2022**

S.no	Condition	Compliance
i	Any change in the scope of work will attract provisions of the environment act,1986 and Environment Impact Assessment Notification, 2006 in conjunction with the subsequent amendments/circulars	<b>No Change has been done. Noted for future compliance.</b>
ii.	All the conditions stipulated in shall remain unchanged.	<b>Agreed.</b> Compliance to the EC letter No. J 11015/81/2008.IA.II dated 21 <sup>st</sup> May, 2012 is given below.
fiii.	The successful bidders shall be liable, if any, for any act of violation of EPA 1986/EIA Notification 2006/Subsequent amendments and circulars.	It may be noted that the condition is in contravention of the prevalent law and an application for seeking EC amendment for deletion of the said condition is being submitted to MoEF&CC.
iv	Successful bidder shall be liable for compliance of all court conditions, if any.	<b>Noted for future Compliance.</b>

**Compliance status of conditions stipulated in EC letter No. J 11015/81/2008.IA.II dated 21.5.2012**

S.no	Condition	Compliance
A.	Specific conditions :	
(i)	Maximum production from the mine shall not exceed 6 MTPA and the washery capacity of Washery-II shall not exceed 3.2 MTPA without prior environmental clearance. The clean coal, middling and rejects from Gare IV/1 shall be utilized in accordance with MOC Allocation Letter for Gare IV/1.	<b>Noted for Compliance.</b>  Coal production from the mine has started from 2 <sup>nd</sup> March, 2022 after obtaining necessary statutory permissions. Production for the FY 2022-23 upto September is <b>24.15</b> Lakh ton only. Washery was not in operation during the reporting period.
(ii)	The diverted stretch of the Bendra Nala shall be strengthened and grouting of weak portions of the embankment to protect the mine from flooding. The slope of the embankment towards the river shall be at least 1:3 for stability and shall be stabilized with plantation using native species selected from the study area.	<b>Noted for compliance.</b> Bendra Nala has been strengthened and grouted in weak portions of the embankment to protect the mine from flooding.
(iii)	Topsoil shall be stored in the earmarked area and used within a year of its generation for green belt development and for plantation/reclamation.	<b>Noted for Compliance.</b> During this period topsoil excavated are used for reclamation on the top OB benches before plantation.
(iv)	No external OB dump shall be created for the expansion project. Monitoring and	<b>Noted for compliance.</b>



	management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional office located at Bhopal on yearly basis	As no external OB dump will be created for the expansion project. Timely monitoring and proper management of existing dumps will ensure the stability of reclaimed dumpsites. More plants will be planted above these dumps. Compliance status are being submitted to the Ministry of Environment & Forests and its Regional office located at Bhopal on half-yearly basis.
(vi)	Garland drains (size, gradient and length) and sump capacity shall 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 shall also provide adequate retention period to allow proper settling of silt material.	<b>Noted for compliance.</b> The garland drains have been constructed for running parallel to foot of the dumps. This shall be used for collecting, cleaning and channelizing the runoff water to receive settling pond. All the mine water will be generated from seepage is utilized in following applications.  1. Dust suppressions on haul road & 2. Irrigation of green belts/greenery.  Multiple settling ponds at different distances along the length of drain has been made to allow settling of suspended solids present in runoff water. There will be no process water discharge from the mines.
(vii)	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.	<b>Noted for compliance</b> JPL has started mining operations from 23 <sup>rd</sup> February, 2022. The retaining wall at the Toe of Dump and overburden benches will be suitably designed to check run-off and siltation.
(viii)	Crushers at the CHP shall be operated with high efficiency bag filters/water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system which shall be closed, haulage roads, transfer points, etc.	<b>Complied</b> Agglomerative dust suppression (ADS) has been installed at all belt conveyors, transfer points, junction points, crushers, screens, and ground hoppers to control Fugitive dust. Mobile water sprinkling system has been arranged for haul road and coal transportation roads for dust suppression.
(ix)	Drills shall be wet operated only.	<b>Complied</b> Wet operated drills are deployed for drilling.
(x)	Controlled blasting shall be practiced with the use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	<b>Complied</b> Controlled blasting is being practiced with use of delay detonators and only conducted during daytime.  a. We are adopting sequential blasting system to control the vibration. b. The mitigative measures for control of ground vibration are in place. Ground vibration is measured by vibrometer on regular basis.



		c. Personal protective Equipment like Earplugs and ear muff are provided to the workers working in noisy areas.
(xi)	The Washery-II shall be a zero-discharge facility and no wastewater shall be discharged from the washery into the drains/natural watercourses. No groundwater shall be used for washery operations. Recycled water shall be used for development and maintenance of the green belt and in the plant operations.	<p><b>Noted for Compliance</b> Presently, the washery is not in operation and zero discharge will be ensured while running the washery.</p> <p>No Groundwater will be used for washery operation. All the mine water being generated from seepage will be utilized in the following applications.</p> <ol style="list-style-type: none"> <li>1. Makeup up water at coal washery (Coal Washery not started)</li> <li>2. Dust suppressions on haul road &amp;</li> <li>3. Irrigation of green belts/greenery.</li> </ol>
(xii)	The raw coal, washed coal and middling and coal wastes (rejects) shall be stacked properly at earmarked site(s) within sheds/stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored minerals do not catch fire. The storage period shall be not more than 2-3 days.	<p><b>Noted for Compliance</b> Presently, the washery is not in operation. Raw coal is being is being stacked properly at the earmarked site.</p> <p>Adequate measures will be taken to ensure that the stored minerals do not catch fire. The storage period for not more than 2-3 days is being maintained.</p>
(xiii)	The proponent shall maintain proper records of the ash content of raw (ROM) coal, clean coal, middling and coal rejects along with quantum of raw coal obtained and washed and dispatched every month and the same shall be uploaded on the company website every month	<p><b>Noted for Compliance</b> Presently, the washery is not in operation. Proper records of the ash content and quantum of raw (ROM) coal dispatched every month are being maintained.</p>
(xiv)	All internal roads shall be concreted or black topped and the approach roads used for the project shall be blacked topped. Facilities for parking of trucks carrying raw coal from the linked coalmines shall be created within the Unit.	<p><b>Complied</b> All internal roads are concreted/blacktopped inside the CHP/washery area. Approach roads to the mine are also black topped. The parking space is also provided and maintained.</p>
(xv)	Roads used for coal transportation to the linked DRI/TPP shall be developed with 3-tier avenue plantation using a mix of native species. The trucks used for coal transportation shall be high capacity trucks. Drivers of trucks for coal transportation shall be engaged based on past records of road safety and compliance of safety regulations and shall be suitably sensitized about road safety and maintenance of vehicles to keep vehicular emissions to be within prescribed limits.	<p><b>Noted for compliance.</b> Roads used for coal transportation to the TPP is being developed with 3-tier avenue plantation using a mix of native species. The trucks used for coal transportation are high capacity trucks. Drivers of trucks for coal transportation are regularly sensitized about the road safety rules and regulations. All vehicles used in the mine are having valid PUC certificate.</p>
(xvi)	The roads (internal/approach/and roads used for the project) shall be regularly	<b>Noted for compliance.</b>

	<p>cleaned with mechanical sweepers and with water sprinklers.</p> <p>A 3-tier avenue plantation shall be developed along the major approach roads, internal roads and nearby roads used by the company.</p>	<p>All internal roads and approach roads are regularly cleaned. Fog canon is employed for water sprinkling of the roads. Avenue plantation along the road has been undertaken and will be continued in the monsoon season.</p>
(xvii)	<p>Green belt shall be developed along the areas such as the washery unit, crushing unit, and stockyards and at transfer points and in between mine operations and habitations.</p>	<p><b>Noted for compliance.</b></p> <p>Existing green belt in areas such as Washery unit, crushing unit and stockyards, transfer points, etc. will be strengthened by undertaking gap plantation.</p>
(xviii)	<p>Hoppers of the coal crushing unit at the crushing shed and washery unit shall be fitted with high efficiency bag filters/Dust extractors and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of belt conveyor systems which shall be closed and from transportation roads.</p>	<p><b>Noted for Compliance</b></p> <p>Agglomerative dust suppression (ADS) will be installed at all belt conveyors, transfer points, junction points, crushers, screen and ground hoppers to control Fugitive dust.</p> <p>Water sprinkling arrangements have been made for haul road and coal transportation roads using water tanker and water sprinklers (rain gun).</p>
(xix)	<p>The proponent shall ensure that coal such as stones, shale and other wastes of an ash content of 77% or more only shall dumped into the mine voids. Coal rejects with an ash content of 76% or less shall be fully utilised for power generation in linked TPP.</p>	<p><b>Noted for Compliance</b></p> <p>Stones, shale and other wastes from mining with an ash content of 77% or more will be dumped into the mine voids.</p> <p>Coal rejects with an ash content of 76% or less will be utilized for power generation to the maximum extent possible.</p>
(xx)	<p>An estimated 18.832 Mm<sup>3</sup> of fly ash generated from the 4x 150 MW pit head TPS proposed to be dumped in the mine void shall be accommodated in alternate layers of flyash and OB in the ratio of 25:75 after the initial row of OB of not less than 15m thickness as per DGMS recommendation to prevent dump failures.</p>	<p><b>Noted for compliance.</b></p>
(xxi)	<p>Continuous monitoring of long-term impacts of dumping of flyash (for life of the mine) and leaching of heavy metals on soil and water quality of the study area shall be undertaken and the details of which shall be submitted to the Central Ground Water Board, SPCB and to the Regional Office of this Ministry at Bhopal as part of the compliance report. Permanent monitoring arrangements such as peizometers shall be</p>	<p><b>Noted for compliance.</b></p>



	<p>established in and around the mine area covering the potential impact zone for contamination of heavy metals such as Hg, Cd, Cr., Se, etc due to leachates from the flyash and in case of increasing levels of heavy metals detected in the groundwater, further dumping of flyash shall be stopped immediately. Independent Third-Party monitoring of the impacts of dumping of flyash shall also be undertaken and reported to the regulatory authorities and uploaded on the company website. In case disposal of flyash into the decoaled voids is not found to be an environmentally suitable option, the balance void shall be converted into a water reservoir of a max. depth of 35m and shall be gently sloped and the upper benches of the reservoir shall be stabilised with plantation and the periphery of the reservoir fenced. Water quality monitoring of the water reservoir shall be undertaken.</p>	
(xxii)	<p>Regular monitoring of groundwater level and quality including levels of heavy metals such as Hg, Cd, Cr, Se, etc shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity and quality of groundwater as per IS:10500 shall be done four times a year in the pre-monsoon (May), monsoon (August), post-monsoon (November), and winter (January) seasons. Proper records of the data thus collected shall be maintained and submitted to the Ministry of Environment &amp; Forests and to the Central Pollution Control Board quarterly within one month of monitoring.</p>	<p><b>Noted for compliance.</b></p> <p>The water table is being regularly monitored using piezometers installed in core and buffer zone at the required frequency.</p> <p>Groundwater quality is being monitored by the MoEF&amp;CC recognized laboratory M/s Ultimate Envirollytical Solutions.</p> <p>Report of the ground water level is attached as <b>Annexure-1</b> and report of the quality of the groundwater is attached as <b>Annexure-2</b>.</p>
(xxiii)	<p>As the entire mine water is proposed to be used for the mine-cum-washery operations, measures shall be taken for recharging ground water in and around the mine in the study area. A Plan for water conservation and recharge measures of ground water along with budgetary provisions be prepared and implemented in consultation with the Central/State Ground Water Board to mitigate the adverse impact of mining which may lead to depletion of ground water in the area. The Company shall put</p>	<p><b>Noted for compliance.</b></p>

	up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring of groundwater levels indicate decline of water table. Any additional water requirement for mining operation shall be met from rainwater use only. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	
(xxiv)	ETP shall also be provided for treatment of effluents from workshop, CHP and an STP shall be provided in the colony and the treated effluents shall be used for green belt development. Outflow of rainfall, if any, from the mine shall meet prescribed norms and the water quality of such discharge including levels of heavy metals such as Hg, Cd, Cr, Se, etc shall be monitored at the exit points and records maintained there of and also uploaded on the company website. Online monitoring equipment shall be installed by the proponent to ensure that the water quality parameters of mine water discharge are well within the General Discharge Standards under EP, Rules, 1986.	<p><b>Noted for compliance.</b></p> <p>There is well established oil and grease trap at the work shop. A STP off 500 KLD has been constructed and being fully operational.</p>
(xxv)	An afforestation plan covering an area not less than 699.64 ha shall be implemented, which includes reclaimed external dump (70.36 ha), backfilled area (591.11 ha), along ML boundary, green belt (30.17 ha), along roads and infrastructure, undisturbed/vacant land (8 ha) by planting native species such as Sal, Tendu, Mahua, etc in consultation with the local DFO / Agriculture Department/institution with the relevant discipline. The density of the trees shall be around 2500 plants per ha.	<p><b>Noted for compliance.</b></p> <p>In 2022 planted 74125 species in the backfilled area and as gap filling with native species like Sal, Sisam, Neem, Arjun, Mango, Amla, Bel, Arjun, Jack fruit, jamun, Harda , Behra etc,</p>
(xxvi)	Of the total excavated area of 718.79 ha, an area of 699.64 ha shall be backfilled and reclaimed with plantation / afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. The balance 127.65 ha of de-coaled quarry area being left as a water body of a max. depth of 161m shall be gently sloped and stabilised and reclaimed with plantation.	<p><b>Noted for compliance.</b></p> <p>In 2022 planted 74125 species in the backfilled area and as gap filling with native species like Sal, Sisam, Mango, Amla, Bel, Arjun, jamun, Harda , Bahara etc,</p>



(xxvii)	<p>A Wildlife Conservation Plan for conservation and protection of elephants in the study area prepared for a cost of Rs 454.75 lakhs shall be implemented in consultation with Departments of Forest and Wildlife, Govt. of Chhattisgarh. The WLCP shall comprise of components of habitat improvement and conservation of biodiversity, provision of water holes, and augmenting water bodies, nursery and plantation of species of natural food and fodder found in the natural habitat, salt licks, measures for protection against forest fires and poaching, awareness campaign of villagers in the study area and compensation in case of man-animal conflicts. The status of implementation of the WL Conservation Plan including budgetary provisions of various activities and status of expenditure shall be regularly uploaded on the website of the Forest and Wildlife Departments of Govt. of Chhattisgarh and of the project proponent and the status shall be regularly reported to this Ministry and the MOEF Regional Office, as part of the compliance report.</p>	<p><b>Complied.</b></p> <p>Conservation measures for protection of flora and fauna in the core &amp; buffer zone drawn on the basis of wild life conservation plan for the area has been prepared. Same has been approved by CWLW vide letter dated 10.6.2011.</p> <p>The wild life conservation plan was revised based on the revised rate of 2022 and approved by PCCF vide letter No142 dated 23.8.2022 and the differential amount of Rs1.3045 crores was deposited.</p>
(xxviii)	<p>The project authorities shall also participate in a Regional Action Plan of the State Government for conservation of flora and fauna found within the study area, in addition to the above funds shall also contribute financially for implementation of the RWLCP. Habitat development such as grasslands/conservation measures along the migratory route/habitats of elephants found/visiting the area shall form a part of the Regional Action Plan.</p>	<p><b>Noted for compliance.</b></p>
(xxix)	<p>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 a recognised agency found in the district, and the results reported to this Ministry and to DGMS.</p>	<p><b>Noted for compliance.</b></p>
(xxx)	<p>For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and</p>	<p><b>Noted for compliance.</b></p>



	buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhopal.	
(xxxi)	Cost for additional environmental protection measures shall be not less than Rs 1080.28 lakhs (capital) and the annual recurring costs shall be not less than Rs. 295.43 lakhs. The status of implementation including costs incurred shall be regularly reported to this Ministry and the MOEF Regional Office, as part of the compliance report and also uploaded on the company website.	<b>Noted for compliance.</b>
(xxxii)	R&R Plan prepared for 113 households from villages Aamgaon (23), Nagramunda (52), Tapranga (21) and Dongamuha (17) and for 185 land losers for an estimated Rs. 798.248 lakhs shall be not less than the norms laid down/approval by the State Government and shall not be inferior than that in the National R&R Policy and shall be completed within a specified time-frame. R&R shall include specific income generation schemes and setting up of SHGs and cooperatives, and activities and assistance under the Tribal development Plan for the tribals being displaced and provision of annuities for the under-privileged sections. The R&R Colony for the 113 households being displaced shall be completed before the process of displacement commences and shall be provided with facilities not below the norms specified by the State Government. In addition, a Corpus Fund of Rs 1 crore/annum shall be provided for the maintenance of the Resettlement site. The status of the implementation of the R&R Plan along with financial status of the activities undertaken shall be uploaded on the company website and updated at least once in a year.	The R&R plan of M/s Jindal Steel & Power was approved by District level committee and recommended R&R plan will be implemented.
(xxxiii)	A CSR Plan for 10 villages- 6 within the ML and 4 adjoining the ML are predominantly (96%) tribal and/or backward communities (SC/ST) with a budgetary provision of 3.728 crores and an additional Rs 2.88 crores for	<b>Noted for Compliance.</b> Details of CSR Activities is attached as <b>Annexure-3</b>

	tribal development as capital expenditure and a provision of Rs 5/T of coal as recurring expenditure shall be prepared and implemented for the balance life of the project. Details of village-wise activities under CSR along with the activities and budgetary provision shall be uploaded on the company website and the status of its implementation along with expenditure thereon and also desired that a Third-party audit of the implementation of CSR shall be done periodically.	
(xxxiii)	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests five year before mine closure for approval. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem, which were conserved in-situ and ex-situ in an identified area within the lease for reintroduction in the mine during mine reclamation and at the post mining stage for habitat restoration and for development of grasslands.	<b>Noted for compliance</b>
(xxxiv)	Corporate Environment Responsibility: a) The Company shall have a well laid down Environment Policy approved by the Board of Directors. b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	<b>Noted for compliance</b>
<b>B</b>	<b>General Conditions</b>	
i	No change in mining technology and scope of working shall be made without prior	<b>Noted</b>



	approval of the Ministry of Environment and Forests.	
ii	No change in the calendar plan including excavation, quantum of mineral coal and waste shall be made	<b>Noted for compliance.</b>
iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring PM10, PM2.5, SO2 and NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in PM10 and PM2.5 etc. shall be carried out at least once in a year.	Four ambient air quality monitoring stations are established in the core zone as well as in the buffer zone for monitoring PM10, PM2.5, SO2 and NOx. Location of the stations have been decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in PM10 and PM2.5 etc. are being carried out at least once in a year. A CAAQMS has established at the Mines office in October, 2022.
iv	Data on ambient air quality (PM10, PM2.5, SO2, and NOx and heavy metals such as Hg, As, Ni, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhopal, and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EP Rules, 1986 shall be furnished as part of the compliance report.	<b>Noted for compliance.</b>  Report of ambient air quality from MoEF&CC recognized laboratory is attached as <b>Annexure-4</b>
v	Fugitive dust emissions (PM10, PM2.5, and heavy metals such as Hg, Pb, Cr, As, etc) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points shall be provided and properly maintained.	<b>Noted for compliance.</b>  Water sprinkling arrangements have been made for haul road and coal transportation roads using water tankers and water sprinklers (rain gun). Fugitive emissions are being regularly monitored and records maintained.
vi	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	<b>Noted for compliance.</b>  Adequate measures are being taken for control of noise levels well below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc have been provided with earplugs/muffs
vii	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st	<b>Noted for compliance.</b>  Industrial wastewater (workshop and wastewater from the mine) is being properly collected and treated. Oil and grease trap has been installed.

	December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	
viii	Vehicular emissions shall be kept under control and regularly monitored.	<b>Noted for compliance.</b> Vehicular emissions are being kept under control and vehicles with valid PUC certificates are permitted to be used.
ix	Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	<b>Noted for compliance.</b> We have established well equipped laboratory for monitoring environmental parameters.
x	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.	<b>Noted for compliance</b>
xi	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 company.	<b>Noted for compliance.</b> A full-fledged Environment Management cell has been established headed by a Sr. executive who reports to the head of the mine.
xii	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bhopal.	<b>Noted for compliance</b>
xiii	The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	<b>Noted for compliance</b>
xiv	A copy will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.	<b>Noted for compliance</b>
xv	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Topsider's Office for 30	NA



	days.	
xvi	<p>The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment &amp; Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a>. The compliance status shall also be uploaded by the project authorities in their website and regularly updated at least once in six months so as to bring the same in the public domain. The data shall also be displayed at the entrance of the project premises and mines office and in corporate office.</p>	<p><b>Complied.</b>  The name of newspaper with dates are:   Kelo Prawah: 26th May 2012  Nav Bharat : 26th May 2012</p>

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Piezometer Monitoring Report			
Month: May - 2022 & August - 2022			
Water Level Distance (Mbgl)			
Sl. No	Monitoring Location	May - 2022	August -2022
P-1	NG colony Playground	16.65	13.75
P-2	VTC office behind the site	13.47	13.40
P-3	Near Brick plant	37.15	31.42
P-4	Barrier No #1	52.97	51.86
P-5	Near Temple	31.7	27.08
P-6	Near Bendra nalla	19.41	15.65
P-7	Pit - III (Nagaramunda Side)	16.82	11.16





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

<b>TO,</b> <b>M/S JINDAL POWER LIMITED,</b> <b>GARE PALMA IV/1 COAL MINE,</b> <b>VILLAGE: DONGAMAHUA</b> <b>TEHSIL: TAMNAR, DISTRICT: RAIGARH,</b> <b>(C.G.) 496107</b>		<b>Report No</b>		<b>UES/TR/22-23/02957</b>	
		<b>Lab Ref No</b>		<b>UES/22-23/W/08119</b>	
		<b>Date of Sampling</b>		<b>24/08/2022</b>	
		<b>Date of Receipt</b>		<b>25/08/2022</b>	
		<b>Date of Report</b>		<b>31/08/2022</b>	
		<b>Date of analysis</b>		<b>Start: 25/08/2022</b>	<b>End: 31/08/2022</b>
<b>SAMPLE DETAILS</b>					
<b>Customer Sample Id /Sampling Location</b>		<b>DONGAMAHUA VILLAGE</b>			
<b>Sample Type</b>		<b>Drinking Water</b>			
<b>Packing Of Sample</b>		<b>Plastic Bottle (5.0ltr.)</b> <b>Glass Bottle (1.0ltr.)</b>			
<b>Sample Collected By</b>		<b>Laboratory Chemist</b>			
<b>Sample Condition At Receipt</b>		<b>Ok</b>			

REPORT NO.02957

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
A. Organoleptic & Physical Parameters						
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.04
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	1.48
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	154.2
B. General Parameters Concerning Substances undesirable in excessive amounts						
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	16.0
7	Chloramines (as Cl <sub>2</sub> )	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
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REPORT NO.02957

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
8	Chloride (as Cl)	mg/L	IS 3025: (Part-32)	250	1000	32.9
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	N.D.
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.14
11	Free Residual Chlorine	mg/L	IS 3025: (Part-26)	0.2	1	N.D.
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	N.D.
13	Magnesium (as Mg)	mg/L	IS 3025: (Part-46)	30	100	9.72
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	N.D.
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.
16	Nitrate (as NO <sub>3</sub> )	mg/L	IS 3025(part-34)	45	No Relaxation	2.12
17	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(part-43)	0.001	0.002	N.D.
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.
20	Sulphate (as SO <sub>4</sub> )	mg/L	IS 3025: (Part-24)	200	400	20.4
21	Sulphide (as H <sub>2</sub> S)	mg/L	IS 3025: (Part-29)	0.05	No Relaxation	N.D.
22	Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	IS 3025: (Part-23)	200	600	20.0
23	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025: (Part-21)	200	600	80.0
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	N.D.
<b>C. Parameters concerning toxic substances:-</b>						
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	N.D.
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	N.D.
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No Relaxation	N.D.
4	Mercury (as Hg)	mg/L	IS 3025(part-48)	0.001	No Relaxation	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025(part-2)	0.07	No Relaxation	N.D.
6	Nickel (as Ni)	mg/L	IS 3025(part-54)	0.02	No Relaxation	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.





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REPORT NO.02957

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.
11	Trihalomethanes:					
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.
D.	Pesticides:-					
1	Alpha HCH	µg/l	USEPA 508	0.01		N.D.
2	Beta HCH	µg/l	USEPA 508	0.04		N.D.
3	Delta HCH	µg/l	USEPA 508	0.04		N.D.
4	Alachlor	µg/l	USEPA 525.2, 507	20		N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508	0.03		N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A	2		N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A	125		N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A	30		N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508	1		N.D.
10	Gamma HCH	µg/l	USEPA 508	2		N.D.
11	2,4-Dichlorophenoxyacetic Acid	µg/l	USEPA 515.1	30		N.D.
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508	0.4		N.D.
13	Ethion	µg/l	USEPA 1657 A	3		N.D.
14	Isoproturon	µg/l	USEPA 532	9		N.D.
15	Malathion	µg/l	USEPA 8141 A	190		N.D.



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## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.
<b>E. Microbial Parameters</b>						
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

### REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/08/22 <b>REVIEWED BY</b>		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  31/08/22 <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----





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<b>Name &amp; Address Of The Customer</b>  <b>TO,</b> <b>M/S JINDAL POWER LIMITED,</b> <b>GARE PALMA IV/1 COAL MINE,</b> <b>VILLAGE: DONGAMAHUA</b> <b>TEHSIL: TAMNAR, DISTRICT: RAIGARH,</b> <b>(C.G.) 496107</b>	Report No	UES/TR/22-23/02956	
	Lab Ref No	UES/22-23/W/08118	
	Date of Sampling	24/08/2022	
	Date of Receipt	25/08/2022	
	Date of Report	31/08/2022	
	Date of analysis	Start: 25/08/2022	End: 31/08/2022
<b>SAMPLE DETAILS</b>			
Customer Sample Id /Sampling Location	DHOORABHANTHA VILLAGE		
Sample Type	Drinking Water		
Packing Of Sample	Plastic Bottle (5.0ltr.) Glass Bottle (1.0 ltr.)		
Sample Collected By	Laboratory Chemist		
Sample Condition At Receipt	Ok		

REPORT NO.02956

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
A.	Organoleptic & Physical Parameters					
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.06
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	0.64
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	234.6
B.	General Parameters Concerning Substances undesirable in excessive amounts					
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	28.0
7	Chloramines (as Cl <sub>2</sub> )	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.
8	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	250	1000	12.9



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REPORT NO.02956

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	N.D.
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.12
11	Free Residual Chlorine	mg/L	IS 3025:(Part-26)	0.2	1	N.D.
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	0.14
13	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	30	100	26.7
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	0.08
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.
16	Nitrate (as NO <sub>3</sub> )	mg/L	IS 3025(part-34)	45	No Relaxation	0.61
17	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(part-43)	0.001	0.002	N.D.
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.
20	Sulphate (as SO <sub>4</sub> )	mg/L	IS 3025:(Part-24)	200	400	18.4
21	Sulphide (as H <sub>2</sub> S)	mg/L	IS 3025:(Part-29)	0.05	No Relaxation	N.D.
22	Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	IS 3025:(Part-23)	200	600	140
23	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025:(Part-21)	200	600	180
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	0.11
<b>C. Parameters concerning toxic substances:-</b>						
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	N.D.
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	N.D.
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No Relaxation	N.D.
4	Mercury (as Hg)	mg/L	IS 3025(part-48)	0.001	No Relaxation	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025(part-2)	0.07	No Relaxation	N.D.
6	Nickel (as Ni)	mg/L	IS 3025(part-54)	0.02	No Relaxation	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.
8	Polynuclear aromatic	mg/L	APHA 6440	0.0001	No Relaxation	N.D.





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REPORT NO.02956

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
	hydrocarbons (as PAH)					
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.
11	Trihalomethanes:					
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.
D.	Pesticides:-					
1	Alpha HCH	µg/l	USEPA 508	0.01		N.D.
2	Beta HCH	µg/l	USEPA 508	0.04		N.D.
3	Delta HCH	µg/l	USEPA 508	0.04		N.D.
4	Alachlor	µg/l	USEPA 525.2, 507	20		N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508	0.03		N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A	2		N.D.
	Butachlor	µg/l	USEPA 525.2, 8141 A	125		N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A	30		N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508	1		N.D.
10	Gamma HCH	µg/l	USEPA 508	2		N.D.
11	2,4-Dichlorophenoxyacetic Acid	µg/l	USEPA 515.1	30		N.D.
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508	0.4		N.D.
13	Ethion	µg/l	USEPA 1657 A	3		N.D.
14	Isoproturon	µg/l	USEPA 532	9		N.D.
15	Malathion	µg/l	USEPA 8141 A	190		N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A	0.3		N.D.



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REPORT NO.02956

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.
<b>E. Microbial Parameters</b>						
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

### REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/08/22 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  31/08/22 AUTHORIZED SIGNATORY
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-----End of the test report-----





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<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>M/S JINDAL POWER LIMITED,</b> <b>GARE PALMA IV/1 COAL MINE,</b> <b>VILLAGE: DONGAMAHUA</b> <b>TEHSIL: TAMNAR, DISTRICT: RAIGARH,</b> <b>(C.G.) 496107</b>	Report No	UES/TR/22-23/02959	
	Lab Ref No	UES/22-23/W/08121	
	Date of Sampling	24/08/2022	
	Date of Receipt	25/08/2022	
	Date of Report	31/08/2022	
	Date of analysis	Start: 25/08/2022	End: 31/08/2022
<b>SAMPLE DETAILS</b>			
Customer Sample Id /Sampling Location	KALAL LOGESTIC CAMP		
Sample Type	Drinking Water		
Packing Of Sample	Plastic Bottle (5.0ltr.) Glass Bottle (1.0ltr.)		
Sample Collected By	Laboratory Chemist		
Sample Condition At Receipt	Ok		

REPORT NO.02959

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
A.	Organoleptic & Physical Parameters					
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	6.91
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	4.68
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	162.0
B.	General Parameters Concerning Substances undesirable in excessive amounts					
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	24.2
7	Chloramines (as Cl <sub>2</sub> )	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.
8	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	250	1000	4.99



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REPORT NO.02959

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	N.D.
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.12
11	Free Residual Chlorine	mg/L	IS 3025:(Part-26)	0.2	1	N.D.
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	N.D.
13	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	30	100	7.26
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	N.D.
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.
16	Nitrate (as NO <sub>3</sub> )	mg/L	IS 3025(part-34)	45	No Relaxation	0.14
17	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(part-43)	0.001	0.002	N.D.
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.
20	Sulphate (as SO <sub>4</sub> )	mg/L	IS 3025:(Part-24)	200	400	23.4
21	Sulphide (as H <sub>2</sub> S)	mg/L	IS 3025:(Part-29)	0.05	No Relaxation	N.D.
22	Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	IS 3025:(Part-23)	200	600	72.0
23	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025:(Part-21)	200	600	96.0
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	N.D.
<b>C. Parameters concerning toxic substances:-</b>						
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	N.D.
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	N.D.
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No Relaxation	N.D.
4	Mercury (as Hg)	mg/L	IS 3025(part-48)	0.001	No Relaxation	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025(part-2)	0.07	No Relaxation	N.D.
6	Nickel (as Ni)	mg/L	IS 3025(part-54)	0.02	No Relaxation	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.
8	Polynuclear aromatic	mg/L	APHA 6440	0.0001	No Relaxation	N.D.





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REPORT NO.02959

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
	hydrocarbons (as PAH)					
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.
11	Trihalomethanes:					
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.
b)	Dibromochlorom ethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.
c)	Bromodichlorom ethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.
D.	Pesticides:-					
1	Alpha HCH	µg/l	USEPA 508	0.01		N.D.
2	Beta HCH	µg/l	USEPA 508	0.04		N.D.
3	Delta HCH	µg/l	USEPA 508	0.04		N.D.
4	Alachlor	µg/l	USEPA 525.2, 507	20		N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508	0.03		N.D.
6	Atrazine	µg/l	USEPA 525.2,8141 A	2		N.D.
7	Butachlor	µg/l	USEPA 525.2,8141 A	125		N.D.
8	Chlorpyriphos	µg/l	USEPA 525.2,8141 A	30		N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508	1		N.D.
10	Gamma HCH	µg/l	USEPA 508	2		N.D.
11	2,4-Dichlorophenox yacetic Acid	µg/l	USEPA 515.1	30		N.D.
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508	0.4		N.D.
13	Ethion	µg/l	USEPA 1657 A	3		N.D.
14	Isoproturon	µg/l	USEPA 532	9		N.D.
15	Malathion	µg/l	USEPA 8141 A	190		N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A	0.3		N.D.



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REPORT NO.02959

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.
<b>E. Microbial Parameters</b>						
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

### REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/08/22 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  31/08/22 AUTHORIZED SIGNATORY
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-----End of the test report-----





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Name & Address Of The Customer		Report No	UES/TR/22-23/02960	
<b>To,</b> <b>M/S JINDAL POWER LIMITED,</b> <b>GARE PALMA IV/1 COAL MINE,</b> <b>VILLAGE: DONGAMAHUA</b> <b>TEHSIL: TAMNAR, DISTRICT: RAIGARH,</b> <b>(C.G.) 496107</b>		Lab Ref No	UES/22-23/W/08122	
		Date of Sampling	24/08/2022	
		Date of Receipt	25/08/2022	
		Date of Report	31/08/2022	
		Date of analysis	Start: 25/08/2022	End: 31/08/2022
<b>SAMPLE DETAILS</b>				
Customer Sample Id /Sampling Location	VTC OFFICE RO WATER			
Sample Type	Drinking Water			
Packing Of Sample	Plastic Bottle (5.0ltr.) Glass Bottle (1.0ltr.)			
Sample Collected By	Laboratory Chemist			
Sample Condition At Receipt	Ok			

REPORT NO.02960

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
A. Organoleptic & Physical Parameters						
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.11
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	1.34
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	86.0
B. General Parameters Concerning Substances undesirable in excessive amounts						
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	7.64
7	Chloramines (as Cl <sub>2</sub> )	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.



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REPORT NO.02960

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
8	Chloride (as Cl)	mg/L	IS 3025: (Part-32)	250	1000	6.99
9	Copper (as Cu)	mg/L	IS 3025 (part-42)	0.05	1.5	N.D.
10	Fluoride (as F)	mg/L	IS 3025 (part-60)	1	1.5	0.06
11	Free Residual Chlorine	mg/L	IS 3025: (Part-26)	0.2	1	N.D.
12	Iron (as Fe)	mg/L	IS 3025 (part-53)	0.3	No Relaxation	N.D.
13	Magnesium (as Mg)	mg/L	IS 3025: (Part-46)	30	100	2.6
14	Manganese (as Mn)	mg/L	IS 3025 (part-59)	0.1	0.3	N.D.
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.
16	Nitrate (as NO <sub>3</sub> )	mg/L	IS 3025 (part-34)	45	No Relaxation	0.43
17	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (part-43)	0.001	0.002	N.D.
18	Selenium (as Se)	mg/L	IS 3025 (part-56)	0.01	No Relaxation	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.
20	Sulphate (as SO <sub>4</sub> )	mg/L	IS 3025: (Part-24)	200	400	12.0
21	Sulphide (as H <sub>2</sub> S)	mg/L	IS 3025: (Part-29)	0.05	No Relaxation	N.D.
22	Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	IS 3025: (Part-23)	200	600	42.0
23	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025: (Part-21)	200	600	60.0
24	Zinc (as Zn)	mg/L	IS 3025 (part-49)	5	15	N.D.
<b>C. Parameters concerning toxic substances:-</b>						
1	Cadmium (as Cd)	mg/L	IS 3025 (part-41)	0.003	No Relaxation	N.D.
2	Cyanide (as CN)	mg/L	IS 3025 (part-27)	0.05	No Relaxation	N.D.
3	Lead (as Pb)	mg/L	IS 3025 (part-47)	0.01	No Relaxation	N.D.
4	Mercury (as Hg)	mg/L	IS 3025 (part-48)	0.001	No Relaxation	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025 (part-2)	0.07	No Relaxation	N.D.
6	Nickel (as Ni)	mg/L	IS 3025 (part-54)	0.02	No Relaxation	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.





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REPORT NO.02960

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.
11	Trihalomethanes:-					
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.
D.	Pesticides:-					
1	Alpha HCH	µg/l	USEPA 508	0.01		N.D.
2	Beta HCH	µg/l	USEPA 508	0.04		N.D.
3	Delta HCH	µg/l	USEPA 508	0.04		N.D.
4	Alachlor	µg/l	USEPA 525.2, 507	20		N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508	0.03		N.D.
6	Atrazine	µg/l	USEPA 525.2,8141 A	2		N.D.
7	Butachlor	µg/l	USEPA 525.2,8141 A	125		N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2,8141 A	30		N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508	1		N.D.
10	Gamma HCH	µg/l	USEPA 508	2		N.D.
11	2,4-Dichlorophenoxyacetic Acid	µg/l	USEPA 515.1	30		N.D.
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508	0.4		N.D.
13	Ethion	µg/l	USEPA 1657 A	3		N.D.
14	Isoproturon	µg/l	USEPA 532	9		N.D.
15	Malathion	µg/l	USEPA 8141 A	190		N.D.



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REPORT NO.02960

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.
<b>E. Microbial Parameters</b>						
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent
-	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

### REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/08/22 REVIEWED BY		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  31/08/22 AUTHORIZED SIGNATORY
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-----End of the test report-----





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<b>Name &amp; Address Of The Customer</b> <b>To,</b> <b>M/S JINDAL POWER LIMITED,</b> <b>GARE PALMA IV/1 COAL MINE,</b> <b>VILLAGE: DONGAMAHUA</b> <b>TEHSIL: TAMNAR, DISTRICT: RAIGARH,</b> <b>(C.G.) 496107</b>	<b>Report No</b>	UES/TR/22-23/02958	
	<b>Lab Ref No</b>	UES/22-23/W/08120	
	<b>Date of Sampling</b>	24/08/2022	
	<b>Date of Receipt</b>	25/08/2022	
	<b>Date of Report</b>	31/08/2022	
	<b>Date of analysis</b>	Start: 25/08/2022	End: 31/08/2022
<b>SAMPLE DETAILS</b>			
<b>Customer Sample Id /Sampling Location</b>	PIT "III" DRINKING WATER		
<b>Sample Type</b>	Drinking Water		
<b>Packing Of Sample</b>	Plastic Bottle (5.0ltr.) Glass Bottle (1.0ltr.)		
<b>Sample Collected By</b>	Laboratory Chemist		
<b>Sample Condition At Receipt</b>	Ok		

REPORT NO.02958

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
A. Organoleptic & Physical Parameters						
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	6.98
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	1.2
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	102.0
B. General Parameters Concerning Substances undesirable in excessive amounts						
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	10.6
7	Chloramines (as Cl <sub>2</sub> )	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.



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REPORT NO.02958

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
8	Chloride (as Cl)	mg/L	IS 3025: (Part-32)	250	1000	6.99
9	Copper (as Cu)	mg/L	IS 3025 (part-42)	0.05	1.5	N.D.
10	Fluoride (as F)	mg/L	IS 3025 (part-60)	1	1.5	0.11
11	Free Residual Chlorine	mg/L	IS 3025: (Part-26)	0.2	1	N.D.
12	Iron (as Fe)	mg/L	IS 3025 (part-53)	0.3	No Relaxation	N.D.
13	Magnesium (as Mg)	mg/L	IS 3025: (Part-46)	30	100	3.48
14	Manganese (as Mn)	mg/L	IS 3025 (part-59)	0.1	0.3	N.D.
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.
16	Nitrate (as NO <sub>3</sub> )	mg/L	IS 3025 (part-34)	45	No Relaxation	0.24
17	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (part-43)	0.001	0.002	N.D.
18	Selenium (as Se)	mg/L	IS 3025 (part-56)	0.01	No Relaxation	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.
20	Sulphate (as SO <sub>4</sub> )	mg/L	IS 3025: (Part-24)	200	400	14.6
21	Sulphide (as H <sub>2</sub> S)	mg/L	IS 3025: (Part-29)	0.05	No Relaxation	N.D.
22	Total Alkalinity (as CaCO <sub>3</sub> )	mg/L	IS 3025: (Part-23)	200	600	40.0
23	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025: (Part-21)	200	600	68.0
24	Zinc (as Zn)	mg/L	IS 3025 (part-49)	5	15	N.D.
<b>C. Parameters concerning toxic substances:-</b>						
1	Cadmium (as Cd)	mg/L	IS 3025 (part-41)	0.003	No Relaxation	N.D.
2	Cyanide (as CN)	mg/L	IS 3025 (part-27)	0.05	No Relaxation	N.D.
3	Lead (as Pb)	mg/L	IS 3025 (part-47)	0.01	No Relaxation	N.D.
4	Mercury (as Hg)	mg/L	IS 3025 (part-48)	0.001	No Relaxation	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025 (part-2)	0.07	No Relaxation	N.D.
6	Nickel (as Ni)	mg/L	IS 3025 (part-54)	0.02	No Relaxation	N.D.
7	Nickel (as Ni)	mg/L	IS 3025 (part-54)	0.02	No Relaxation	N.D.





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REPORT NO.02958

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.
11	Trihalomethanes:					
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.
D.	Pesticides:-					
1	Alpha HCH	µg/l	USEPA 508	0.01		N.D.
2	Beta HCH	µg/l	USEPA 508	0.04		N.D.
3	Delta HCH	µg/l	USEPA 508	0.04		N.D.
4	Alachlor	µg/l	USEPA 525.2, 507	20		N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508	0.03		N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A	2		N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A	125		N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A	30		N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508	1		N.D.
10	Gamma HCH	µg/l	USEPA 508	2		N.D.
11	2,4-Dichlorophenoxyacetic Acid	µg/l	USEPA 515.1	30		N.D.
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508	0.4		N.D.
13	Ethion	µg/l	USEPA 1657 A	3		N.D.
14	Isoproturon	µg/l	USEPA 532	9		N.D.



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REPORT NO.02958

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
15	Malathion	µg/l	USEPA 8141 A		190	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.
<b>E. Microbial Parameters</b>						
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

### REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/08/22 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  31/08/22 AUTHORIZED SIGNATORY
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-----End of the test report-----



## **Physical Achievement Report- Gare IV/1 Mines-CSR JPL (April to Sept - 2022) FY-2022-23**

As per EC condition Jindal Power Limited implementing CSR activities in 10 villages near (06 core villages and 04 nearby village) of Gare IV/1 mine from July 2021. Under CSR we are working in village Nagramuda, Janjgeer, Tapranga, Amgaon, Jharadeeh, Dhaurabhanta, Dongamauha, Beljor, Libra, and Jharna. Following CSR projects/activities initiated in above mentioned villages from April to Sept-22 -FY-2022-23

### **1. Health & Nutrition**

**1.0 Rural Health Camps-** 54 health camps were organised through mobile dispensary against the target of 56 camps in which 985 (Male- 242, Female-415, Children-151 and Old Age-71) patients were catered. 27 Patients were referred to e- health centre for consultancy from super specialist and further treatment. 38 patients were referred to Fortis OP Jindal Hospital Tamnar and 27 patients were referred to Govt. hospital. Disease wise bifurcations of the patients are as following:-

Hypertension	51	Dental	28
Pregnant women(ANC)	03	URTI	239
Under nutrition	57	GI	68
Fever	74	Skin	135
Gyne	11	Anemia	44
PNC	18	Cataract	1
Other general patients	229	Referred	27

**1.1 Project Vatsalya-** Community based village health volunteers i.e. Swasthya Sanginis were played a very catalytic role in mother and child health care in their respective villages. They are the point of contacts in their respective villages as a resource person about disseminating preventive awareness messages, vaccination details and other related aspects. Following activities were done under project Vatsalya:-

- Antenatal care services were provided to 70 women against the target of 70 women. During the pregnancy period of an expecting mother, care is being taken for early registration, ante natal check-ups ensuring intake of IFA tablets, TT injections and necessary tests.
- The lactating mothers received Post-natal care service (40 women, 100% target achieved) ensuring Colostrum feeding to the new born child, exclusive breast feeding, and supplementary nutrition for both the mother and the child was ensured.

Apart from the above stated, following activities were carried out to ensure maternal & child health care-nutrition and health education in this quarter:-

- 92 community meetings were organised (against target of 100 meetings) with 935 women.
- 35 Ante Natal & 39 Post Natal care sessions were organised against a target of 84 sessions (40 ANC and 40 PNC sessions) attended by 143 pregnant women and 253 mothers respectively.
- 68 health education sessions (Khelwadi) was organized against the target of 70 sessions in which 645 children participated.

- 16 meetings with the Village Health and Sanitation Committee (VHSC) was organised against the target of 20. The “Swasthaya Sanginis” strengthen the existing VHSC formed under the NRHM.

On 9<sup>th</sup> of every month, safe motherhood day is observed in coordination with Health department in which complete care for ante natal and post-natal is done at Community Health Centre by specialist. The VHV's mobilized and facilitate the target women to avail the services. *During the period of April to Sept'22, 35 pregnant mothers attended the safe motherhood day sensitization programme.*

Reduction in maternal and child mortality is a major objective of Vatsalya program. Zero MMR reported in this quarter.

*During the said period, a total 14 institutional deliveries out of 15 deliveries were facilitated, achieving 93.33% of the target.*

*144 out of targeted 144 children got vaccination for proper immunization achieving 100 % of the target.*

71 Kishori Swasthaya Pathshala by VHVs were organised against the target of 75 in which 526 adolescent girls participated.

*In the Pathshalas, 125 counselling sessions of adolescent girls were carried out in Vatsalya Kendra out of which 35 identified girls were referred to e-hc for the treatment of anaemia and menstruation related problems.*

**1.2 Project Chiranjeevi-** JPL CSR has successfully undertaken the project Chiranjeevi in convergence with ICDS. Under the project, BMI of 528 children (age group: 6 months old to 5 years) was measured. 42 malnourished children were identified (**Moderate-27, Severe -15**) from 06 villages. Under this project regular clinical and nutritional intervention is being taken care for all 42 identified children.

The identified malnourished children are linked to ICDS schemes with the help of “Swasthaya Sangini” (VHVs) for nutrition supplement. For better clinical support these children were referred to further treatment at e-health centre.

Take Home Ration (THR) and Ready to Eat food was provided to the children in convergence with ICDS.

*By providing regular nutritional and clinical support. In this period a total 14 malnourished children turned to normal category.*

**1.3 Population stabilization programme-**32 eligible couple meetings were organised against the target of 40 by VHVs in which 270 couple attended. 200 individual counselling was done and the total contraceptive users registered in the village were 1842

#### **1.4 High Risk Pregnancy check up and treatment camp**

To reduce IMR & MMR Vatsalya program is executing in 10 villages of Gare IV/1 mines area under the Vatsalaya project 07 Swasthya Sangini is working to ensure safe mother hood and child care. In the operational area 08 high risk pregnant women identified. To counsel and ensure better health of high risk mother 04 special camps organized at OPJHRC- Tamnar. All 07 high risk mothers attended and counselled



and treated with Gyne specialist Dr. Bishkha Day. The follow-up of the mothers will be continued. Out of 07 -04 mothers turned from high risk.04 normal delivery reported of high risk mothers.

## **1.5 Theme days & Health awareness program**

### **1.5.1 National Doctors day**

National doctors day observed on 1<sup>st</sup> July -22 at OPJHRC –Tamnar. On the occasion felicitation program of doctors organized. In the program Dr. D.S. Painkara Block medical officer –Tamnar ,Dr. U.K. Patti- CMO – OPJHRC Tamnar Dr. Rajesh Patel -Medical officer PHC-Libra , Dr. Bishkha Day –Gynaecologist, Dr. Vinay Kumar Patel –Sonologist,Dr. Priya Rai – General surgeon were presented and honoured .

### **1.5.2 World Population Day**

World Population Day is celebrated annually on 11 July to focus attention on the urgency and importance of population issues. On the occasion JSP Foundation in JPL Tamnar organised a felicitations program for ideal couple who were married on right age of marriage, maintained three year of spacing between first and second child and adopted sterilization as a family planning norms on completion of family (1/2 child) . In the program resource person from CHC Tamnar sensitized to all Swasthya Sangini about various scheme and services of population stabilization. Total 06 ideal couples were felicitated. A weeklong awareness program from 11<sup>th</sup> to 17<sup>th</sup> July organized in surrounding villages more than 125 people attended

### **1.5.3 World Breast Feeding week (1<sup>st</sup> to 7<sup>th</sup> August)**

To encourage breastfeeding and improve the health of babies, world breast feeding week celebrated from 1<sup>st</sup> to 7<sup>th</sup> August in operational area under Vatsalaya project. Under the week awareness program organized in operational villages.

### **1.5.4 Blood Donation Camp-10<sup>th</sup> August-22**

Blood Donation Camp was organized on 10<sup>th</sup> August at OPJHRC Tamnar in joint collaboration with RED Cross Society and OPJHRC-Raigarh. In the camp 43 unit blood were voluntarily donated by JPL employee.

### **1.5.5 National Nutrition week**

National Nutrition Week (NWN) is observed from 1-7 every year to educate the populace about the significance of nutrition. Adequate nutrition is the corner stone that determines the overall well-being of a person, as it supports individuals in mainstreaming health status and average growth and development. To lead a healthy lifestyle and stay disease free, every individual should adopt mindful eating practices. JSP Foundation in JPL Tamnar observed National Nutrition week awareness and nutrition classes organized among parents of malnourished children, Pregnant and lactating mothers. The program organised in 10 villages more than 250 people attended.

### **1.5.6 World First AID day**

On the occasion of World First AID Day 10<sup>th</sup> September, first Aid training organized by JSP Foundation in JPL Tamnar for Swasthya Sangini –Women Village Health workers working under Vatsalaya project. Dr. Ashwani Patel MO –OPJHRC Tamnar delivered the training.

### **1.5.7 National Eye care week**

Promoting the importance of good eye health and the need of regular eye test for all. National eye care week observed from 1<sup>st</sup> to 7<sup>th</sup> September-22 by JSP Foundation in JPL Tamnar. Under the program eye health awareness and eye test program conducted in the Govt. schools. More than 90 students attended awareness program and eye check-up of 30 students done.

## **2. Drinking water & Sanitation**

**2.1 ODF-** 33 meetings were organised to change behaviour of the people on sanitation and use of toilet 329 people attended. *The attendees were sensitized on hygiene and cleanliness aspects.*

### **2.2 Drinking water facilities in villages**

Drinking water arranged in 02 villages during stress period through water tanker( Janjgeer, Jharadeeh ) , One submersible pump was installed at village Janjgeer, more than 365 family benefiting.

### **2.3 Supply of safe drinking water through water Tanker**

40 water tanker / 2000 people (drinking water supplied in villages through water tanker in stress period)

### **2.4 Project Shubhangi– Menstrual health & hygiene**

CSR JPL initiated Shubhangi project to enhance the menstrual health status and promote use of low cost Sanitary napkins among adolescent girls and women through social marketing. To make aware and sensitize adolescent girls on menstrual health & hygiene during the period of April to Sept- 2022, 54 educational sessions were organised in villages through VHVs 513 women & adolescent girls were attended.

*The social business model of manufacturing and distribution of sanitary napkin witnessed a total sale of 1400 and adolescent girls of worth Rs. 40,000/.*

## **3.00 COMMUNITY EDUCATION :**

**3.1 Little Angels Schools-** Pre-Primary education is being undertaken at Little Angels Schools in villages Libra with strength of 30 children. In education session 2022-23, 14 children mainstreamed in nearby by schools for further education. 02 new Little Angel centre proposed to open at village – Amgaon & Tapranga

**3.2 Knowledge Park-** The Knowledge Park is located at Libra and Rabo. The centres consist of library and indoor sports facilities for school children in the form of Child Learning centre and Community Information centre for rural youths. Newspapers, Magazines, Books, Journals and associated resource materials are available at the centres. 350 children and youths are the part of the centres in the said period.



### **3.3 Facilitation program of meritorious students**

On 6<sup>th</sup> September-22 facilitation programs was organized for meritorious students of OP Jindal School Savitri Nagar, and OPJS Kunjemura who were passed class 10<sup>th</sup> & 12<sup>th</sup> with excellent number. Plant head Sh. C.N. Singh graced the occasion. Under the program 60 students awarded with certificate and mementoes.

## **4. ENTREPRENEURSHIP DEVELOPMENT PROGRAMME**

### **4.1 Mushroom Production:**

**Training and Capacity Building-** The mushroom production resource centre has been established to provide technical support to the farmers and entrepreneurs. Technical assistance to 1160 farmers is being provided from the centre. During the period of July to Sept.-22, 10 training programmes have been conducted on Paddy straw mushroom cultivation with 310 SHGs/ farmers.

**4.2 Mushroom Production** – Mushroom production is very popular among farmers because of its high protein values. More than 50 farmers, women SHGs members are regularly producing mushroom and this is an easy livelihood generation option for them.

06 Mushroom shed 40 bedded constructed in village – 03 in Amgaon & 03 in Janjgeer , benefiting more than 100 women

## **5. Natural Resource Development**

### **5.1 Create Carbon Sink**

To create carbon sink Pond deepening work done at village Tapranga Pond , benefiting more than 950 people.

## **6.0 Agriculture Development**

### **6.1 Promotion of Paddy cultivation through SRI**

To enhance the income of farmers, paddy cultivation through SRI is being promoted in 186 acres of land, benefitting 40 farmers. The System of Rice Intensification (SRI) is a methodology for increasing the yield of rice produced in farming. In this quarter training and hybrid paddy seed provided to 180 farmers.

### **6.2 Training to adopt innovative practices in farming**

To improve the skill of farmers and make them adequate enough on new technologies and innovative practices in farming, 05 training programmes were organised with 100 Farmers in collaboration with Agriculture Department. In the training new technique in Paddy cultivation, crop insurance, other govt. schemes for farmers, promotion of pulses cultivation was discussed and appraised.

**6.3 Promotion of Vegetable cultivation** – To increase the income of farmer's vegetable cultivation among farmers is being promoted. 10 farmers have been undertaking vegetable cultivation. In the said period, 10 farmers earned Rs.1.60 Lakhs as an additional income from vegetable selling.

## **7.00 Sports, Art & culture**

**7.1 Sports promotion among youths:** - To promote sports activities among youth CSR JPL supporting to youth to organised sports competition. In this period Kabbadi Tournament at village-Janjgeer, Amgaon organised. Sankul level sports organised at village –Dhaurabhanta, more than 300 children's from Govt. Schools participated.

### **7.2 CSR week celebration**

CSR week celebrated from 7th to 13th August-22. Various community development and social welfare programs organized under the Mahila Sammelan -8th August ,World Tribal day -9th August, Blood Donation camp -10th August-43 unit blood collected, serving old age people-11th August, International Youth day -12th August, Har Ghar Tiranga campaign -13th August organized more than 1600 people attended

## **8.00 Social inclusion**

### **8.1 Jindal Children home**

Jindal Children home establish at JPL Tamnar with an approval of 50 boys & 50 girls from February-22 with 35 orphan children. The home is executing under JJ Act -2015, regular monitoring of home is being done by Child welfare committee –Raigarh and district Child protection officer. At present 86 boys & girls are residing in the home (boys-48, girls -39).

**9.0 Rural Infrastructure Development:** - Under RDP following work executed in operational villages

- 80 RM CC Road at village –Jharadeeh ( Dhaurabhanta-Jharadeeh) constructed
  - Painting work at Gothan Amgaon completed
  - 05 Km road repairing from Amgaon to Tapranga is in progress
  - Painting at community assests
-



Corporate Social Responsibility -Jindal Power Limited -Tamnar			
Financial Expenditure- April -September-22 (FY-2022-23 ) Gare -IV/1 Mines -CSR JPL Tamnar			
S. No.	Area of intervention	Proposed Project	Eexpenditure ( April to Sept-22 ) FY-22-23 (In Lakh)
1	Health, Nutrition & Drinking water	Mobile Health camp	0.76
		Vatsalya Project	1.89
		Establishment of 06 Vatsalaya Center	1.5
		Chiranjivi Project	0.54
		Health Awareness Program	0.25
		Renovation/strengthening of PHC	0
		Rennnovation of sub center	0
		Rennovation of Aganwadi Center	0
		Subhangi-Menstural health & Hygeine	0.25
		Clean and safe Drinking water in all 6 villages	15.83
		ODF	0.36
Sub total of Health ,Nutrition & Drinking water			21.38
3	Community Education	Renovation of primary/middle and secondary Schools along with drinking water water & sanitation facilties	1.50
		Estabishmnet of 02 little angel center for pre primary education	0
Total Community Education			1.50

4	Sustainable Livelihood & Women Empowerment	Promotion of IGAs	13.15
		Project Mushroom - training & development, shed construction	1.20
		EDP- Swawlamban & Swa Shakti	3.90
Total Sustainable Livelihood & Women Empowerment			18.25
		Creating carbon Sinks	17.50
		Agriculture Development -Promotion of SRI method in paddy cultivation, Organic vegetable cultivation , farmers training	0.50
Total of NRM			18.00
6	Sports	Rennovation /construction /painting of sports ground	0.35
		Sports promotion among youth	0.15
Total Sports			0.50
9	Rural Infrastructure	Construction of CC Road	60.00
		Boundry wall and other misc work at Gothan Jangeer, Amgaon and other viilages	0.70
		Muroom road	6.00
		Boundry wall Govt. Primary school/Aganwadi centre	0.00
		Construction / rennovation of Community building	0.00
		Construction of Bathing ghats	0.00
		Construction/ repairing of drain	0.00
		Market Shed -Dhaurabhanta	0.00
		Total Rural Infrastructure	
GRAND TOTAL			126.33





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer		Report No.	UES/TR/22-23/02955	
<b>To,</b> <b>M/S JINDAL POWER LIMITED,</b> <b>GARE PALMA IV/1 COAL MINE,</b> <b>Village: Dongamahua</b> <b>Tehsil: TAMNAR, DISTRICT: RAIGARH,</b> <b>(C.G.) 496107</b>		Lab Ref No.	UES/22-23/AAQM/08114-08117	
		Date of Sampling	24/08/2022	
		Date of Receipt	25/08/2022	
		Date of Report	31/08/2022	
		Date of Analysis	Start: 25/08/2022	End: 31/08/2022
<b>SAMPLE DETAILS</b>				
Monitoring For	Ambient Air Quality Monitoring			
Sampling Location	1. Tapranga Village			
	2. Dhaurabhata			
	3. Janjgir Village			
	4. Dongamauha Main Gate			
Duration Of Sampling	As per CPCB norms			
Sample Collected By	Laboratory Chemist			
Sampling Procedure	As Per Method Reference			
Sample Quantity/Packing	Filter Paper (PM <sub>10</sub> ): 1X1 No., Filter Paper (PM <sub>2.5</sub> ): 1X1 No. SO <sub>2</sub> : 30mlX1 No. PVC Bottle, NO <sub>2</sub> : 30mlX1 NO. PVC Bottle, Rubber Bladder: 1X1 No.			

TEST REPORT							
PARAMETER	UNIT	METHOD REFERENCE	NAAQM STANDARD	RESULT			
				Tapranga Village	Dhaura-bhata	Janjgir Village	Donga-mauha Main Gate
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100	31.6	38.4	36.2	38.6
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	µg/m <sup>3</sup>	CPCB Guidelines Vol.-I.	60	19.8	22.4	20.6	22.8
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80	10.4	8.8	9.8	8.4
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80	14.6	16.8	18.6	12.6
Carbon Monoxide (CO) *	mg/m <sup>3</sup>	IS 5182 (Part 10): 1999, RA 2003	4.0	0.62	0.34	0.58	0.43
Lead (Pb)	µg/m <sup>3</sup>	CPCB Guidelines Vol-I and AAS Method	1.0	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	ng/m <sup>3</sup>	CPCB Guidelines Vol-I and AAS Method	20	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	ng/m <sup>3</sup>	CPCB Guidelines Vol-I and AAS Method	6.0	N.D.	N.D.	N.D.	N.D.
Ozone (O <sub>3</sub> ) *	µg/m <sup>3</sup>	CPCB Guidelines Vol-I	180	20.6	24.4	20.2	18.4
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	CPCB Guidelines Vol-I	400	30.2	24.8	26.4	20.8
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 11): 2006	5.0	N.D.	N.D.	N.D.	N.D.
Benzo (a) Pyrene	ng/m <sup>3</sup>	IS 5182 (Part 12): 2014	1.0	N.D.	N.D.	N.D.	N.D.

**REMARKS: \* These Results are on the basis of 1 hour sampling, N.D.: Not Detected**

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 31/08/22 <b>REVIEWED BY</b>	 <b>For ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  31/08/22 <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer		Report No.	UES/TR/22-23/02954	
<b>To,</b> <b>M/S JINDAL POWER LIMITED,</b> <b>GARE PALMA IV/1 COAL MINE,</b> <b>Village: Dongamahua</b> <b>Tehsil: TAMNAR, DISTRICT: RAIGARH,</b> <b>(C.G.) 496107</b>		Lab Ref No.	UES/22-23/AAQM/08110-08113	
		Date Of Sampling	24/08/2022	
		Date Of Receipt	25/08/2022	
		Date Of Report	31/08/2022	
		Date Of Analysis	Start: 25/08/2022	End:31/08/2022
<b>SAMPLE DETAILS</b>				
Monitoring For	Ambient Air Quality Monitoring			
Sampling Location	1. Near Weigh Bridge			
	2. Near Pit - 1 Sump			
	3. Kalal Logistic Camp			
	4. Near Pit – III View Point			
Duration Of Sampling	As per CPCB norms			
Sample Collected By	Laboratory Chemist			
Sampling Procedure	As Per Method Reference			
Sample Quantity/Packing	Filter Paper (PM <sub>10</sub> ): 1X1 No., Filter Paper (PM <sub>2.5</sub> ): 1X1 No. SO <sub>2</sub> : 30mlX1 No. PVC Bottle, NO <sub>2</sub> : 30mlX1 NO. PVC Bottle, Rubber Bladder: 1X1 No.			

TEST REPORT							
PARAMETER	UNIT	METHOD REFERENCE	NAAQM STANDARD	RESULT			
				Near Weigh Bridge	Near Pit 1	Kalal Logistic Camp	Near Pit – III View Point
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100	44.6	39.6	36.4	41.8
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	µg/m <sup>3</sup>	CPCB Guidelines Vol.-I.	60	22.2	19.8	18.2	20.6
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80	9.8	8.6	09.4	11.2
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80	12.4	12.8	18.2	16.6
Carbon Monoxide (CO) *	mg/m <sup>3</sup>	IS 5182 (Part 10):1999, RA 2003	4.0	0.43	0.56	0.34	0.28
Lead (Pb)	µg/m <sup>3</sup>	CPCB Guidelines Vol-I and AAS Method	1.0	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	ng/m <sup>3</sup>	CPCB Guidelines Vol-I and AAS Method	20	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	ng/m <sup>3</sup>	CPCB Guidelines Vol-I and AAS Method	6.0	N.D.	N.D.	N.D.	N.D.
Ozone (O <sub>3</sub> ) *	µg/m <sup>3</sup>	CPCB Guidelines Vol-I	180	12.6	10.2	9.8	6.2
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	CPCB Guidelines Vol-I	400	26.4	22.8	16.8	14.2
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	IS 5182 (Part 11):2006	5.0	N.D.	N.D.	N.D.	N.D.
Benzo (a) Pyrene	ng/m <sup>3</sup>	IS 5182 (Part 12):2014	1.0	N.D.	N.D.	N.D.	N.D.

**REMARKS: \* These Results are on the basis of 1 hour sampling, N.D.: Not Detected**

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 31/08/22 <b>REVIEWED BY</b>	 <b>For ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  31/08/22 <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



DATA FOR AMBIENT AIR QUALITY MONITORING															
Month: April - 2022 to September- 2022															
Location	Month	PM - 2.5													
		1	2	3	4	5	6	7	8	9	Min.	Max.	Avg.	Limit	
Location – 1 (Near Dongamahua)	April – 22	32	29	24	22	26	36	29	35		22	36	29	60 µg/m3	
	May – 22	30	28	32	29	33	28	25	27	31	25	33	29		
	June – 22	34	36	29	31	24	18	27	32	29	18	36	29		
	July – 22	19	17	21	23	18	22	16	20	22	16	23	20		
	August – 22	27	19	15	16	18	25	24	28	32	15	32	23		
	September – 22	19	21	23	17	20	15	17	21	20	15	23	19		
	PM - 10														100 µg/m3
	April – 22	78	71	75	80	83	88	79	82		71	88	80		
	May – 22	65	76	84	78	82	79	71	74	80	65	84	77		
	June – 22	76	73	82	71	63	59	67	72	74	59	82	71		
	July – 22	46	45	54	56	42	57	39	48	61	39	61	50		
	August – 22	49	46	41	44	46	58	53	50	61	41	61	50		
	September – 22	49	54	44	43	52	41	45	49	52	41	54	48		
	Nox														80 µg/m3
	April – 22	25	28	24	22	27	24	26	29		22	29	26		
	May – 22	23	26	21	24	29	25	27	31	28	21	31	26		
	June – 22	26	24	31	29	27	21	23	28	22	21	31	26		
	July – 22	18	21	19	17	21	20	18	19	23	17	23	20		
	August – 22	23	19	13	18	14	15	19	15	24	13	24	18		
	September – 22	18	22	21	20	18	16	19	23	22	16	23	20		
	SO2														80 µg/m3
	April – 22	17	14	16	15	13	12	15	17		12	17	15		
	May – 22	14	13	15	12	16	15	13	14	17	12	17	14		
	June – 22	14	12	16	11	15	13	12	18	15	11	18	14		
	July – 22	12	14	13	11	10	12	10	11	15	10	15	12		
	August – 22	12	14	11	11	8	9	13	11	16	8	16	12		
	September – 22	10	13	15	14	11	9	12	11	14	9	15	12		
	PM - 2.5														
Location – 2 (Near Old Hostel - Nursery)	April – 22	28	22	26	21	23	20	31	29		20	31	25	60 µg/m3	
	May – 22	26	29	31	27	30	25	23	29	28	23	31	28		
	June – 22	31	34	26	28	19	21	23	21	26	19	34	25		
	July – 22	21	18	20	19	22	24	18	17	19	17	24	20		
	August – 22	29	23	25	23	26	27	28	34	38	23	38	28		
	September – 22	21	19	20	18	22	17	16	20	17	16	22	19		
	PM - 10														100 µg/m3
	April – 22	71	67	70	68	77	69	72	75		67	77	71		
	May – 22	71	78	76	72	79	75	69	74	77	69	79	75		
	June – 22	74	71	77	69	59	53	62	68	71	53	77	67		
	July – 22	43	41	49	53	46	59	36	52	58	36	59	49		
	August – 22	60	52	55	49	58	51	54	58	60	49	60	55		
	September – 22	39	51	47	41	47	43	38	49	44	38	51	44		
	Nox														80 µg/m3
	April – 22	27	25	26	23	24	26	21	27		21	27	25		
	May – 22	25	22	23	21	26	23	19	20	24	19	26	23		
	June – 22	22	20	24	19	21	25	18	23	25	18	25	22		
	July – 22	21	16	18	19	18	21	19	17	20	16	21	19		
	August – 22	21	18	21	17	16	21	17	18	22	16	22	19		

	September – 22	17	21	23	18	19	18	21	19	18	17	23	19		
	SO <sub>2</sub>														
	April – 22	15	14	11	14	15	13	11	14		11	15	13	80 µg/m3	
	May – 22	16	12	13	15	14	11	12	14	15	11	16	14		
	June – 22	12	14	13	10	11	13	12	11	12	10	14	12		
	July – 22	16	10	14	15	13	12	13	12	11	10	16	13		
	August – 22	15	13	14	11	12	15	12	11	16	11	16	13		
	September – 22	13	15	12	9	13	10	14	12	13	9	15	12		
	PM - 2.5														
Location – 3 (Near Janjgir)	April – 22	19	20	22	20	21	18	22	23		18	23	21	60 µg/m3	
	May – 22	24	26	23	25	28	21	20	24	23	20	28	24		
	June – 22	22	21	27	26	17	16	18	21	19	16	27	21		
	July – 22	15	14	17	20	19	21	17	16	18	14	21	17		
	August – 22	26	18	21	23	22	21	24	25	26	18	26	23		
	September – 22	17	18	20	15	18	14	15	17	19	14	20	17		
		PM - 10													
	April – 22	54	58	63	61	59	52	60	62		52	63	59	100 µg/m3	
	May – 22	65	62	60	69	72	67	61	63	65	60	72	65		
	June – 22	63	60	65	62	51	48	53	52	58	48	65	57		
	July – 22	34	38	42	39	36	40	32	46	44	32	46	39		
	August – 22	48	42	45	51	49	46	51	54	48	42	54	48		
	September – 22	42	47	37	39	44	34	36	46	43	34	47	41		
		Nox													
		April – 22	20	22	18	19	21	23	18	22		18	23	20	80 µg/m3
		May – 22	18	23	21	19	22	20	19	21	23	18	23	21	
		June – 22	17	19	22	18	17	21	23	16	18	16	23	19	
		July – 22	14	15	16	18	16	19	16	15	18	14	19	16	
		August – 22	14	14	15	14	13	16	17	17	19	13	19	15	
		September – 22	16	19	18	17	15	16	19	21	17	15	21	18	
		SO <sub>2</sub>													
		April – 22	14	16	12	13	12	15	10	12		10	16	13	80 µg/m3
		May – 22	12	15	12	11	14	10	11	13	12	10	15	12	
		June – 22	11	13	14	10	13	11	14	12	10	10	14	12	
		July – 22	11	10	12	10	9	11	9	10	13	9	13	11	
		August – 22	10	8	11	9	11	9	13	12	14	8	14	11	
		September – 22	9	11	10	9	10	8	11	9	8	8	11	9	
	Location	PM - 2.5													
	Location – 4 (Near Dhaurabhata)	April – 22	34	27	23	28	32	31	25	29		23	34	29	60 µg/m3
May – 22		28	33	29	26	30	27	22	26	31	22	33	28		
June – 22		33	28	35	32	27	19	22	26	28	19	35	28		
July – 22		18	17	23	16	18	22	19	21	24	16	24	20		
August – 22		28	17	16	20	22	23	21	25	27	16	28	22		
September – 22		22	21	24	19	21	18	20	23	21	18	24	21		
		PM - 10													
April – 22		81	76	72	78	85	79	74	77		72	85	78	100 µg/m3	
May – 22		82	84	77	75	81	78	72	76	79	72	84	78		
June – 22		78	72	79	74	64	52	58	75	64	52	79	68		
July – 22		50	49	57	48	51	62	43	59	66	43	66	54		
August – 22		52	41	42	54	49	61	59	58	60	41	61	53		
September – 22		46	48	58	46	53	47	52	60	51	46	60	51		
		Nox													
		April – 22	23	21	20	24	22	19	23	21		19	24	22	80 µg/m3
		May – 22	26	24	22	25	23	21	25	24	25	21	26	24	
		June – 22	24	22	28	27	25	19	21	26	22	19	28	24	



Location – 5 (Near Tapranga)	July – 22	22	19	18	21	18	22	17	16	23	16	23	20
	August – 22	16	13	12	21	16	18	14	13	14	12	21	15
	September – 22	19	18	22	20	17	20	22	20	22	17	22	20
	SO <sub>2</sub>												
	April – 22	16	12	11	15	11	13	11	14		11	16	13
	May – 22	15	13	10	14	15	11	12	14	16	10	16	13
	June – 22	14	11	13	11	14	12	10	15	13	10	15	13
	July – 22	14	12	11	12	9	12	13	11	15	9	15	12
	August – 22	10	8	9	12	11	12	8	10	10	8	12	10
	September – 22	14	12	13	12	11	12	13	11	10	10	14	12
	PM - 2.5												
	April – 22	31	24	21	32	30	26	33	27		21	33	28
	May – 22	27	30	28	32	29	31	26	28	29	26	32	29
	June – 22	30	25	32	27	23	17	21	25	23	17	32	25
	July – 22	17	21	19	18	16	21	16	19	18	16	21	18
	August – 22	24	21	18	22	17	21	19	20	23	17	24	21
	September – 22	20	19	22	16	23	16	19	21	18	16	23	19
	PM - 10												
	April – 22	74	72	69	79	78	75	81	73		69	81	75
	May – 22	78	81	76	75	71	82	74	78	75	71	82	77
	June – 22	72	74	78	70	61	51	54	71	69	51	78	67
	July – 22	48	46	52	54	43	58	41	53	57	41	58	50
	August – 22	43	49	42	43	46	48	40	44	52	40	52	45
	September – 22	45	53	44	37	55	36	38	52	53	36	55	46
	Nox												
	April – 22	26	24	21	23	25	22	25	24		21	26	24
	May – 22	24	27	25	22	26	24	25	23	26	22	27	25
	June – 22	25	23	26	24	19	20	21	23	27	19	27	23
	July – 22	19	17	20	16	19	18	21	17	22	16	22	19
	August – 22	16	16	14	16	15	13	19	16	17	13	19	16
	September – 22	17	20	18	21	19	18	16	19	21	16	21	19
	SO <sub>2</sub>												
	April – 22	14	12	13	10	12	14	13	12		10	14	13
	May – 22	16	11	16	12	14	13	14	12	15	11	16	14
	June – 22	15	11	15	10	13	12	11	14	16	10	16	13
	July – 22	13	11	9	10	12	11	14	13	12	9	14	12
	August – 22	12	12	11	12	10	9	13	12	13	9	13	12
	September – 22	12	10	11	13	12	11	9	12	15	9	15	12