

ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

OFFICE OF THE PROJECT OFFICER
LINGARAJ OPENCAST PROJECT
P.O.: DEULBERA COLLIERY, TALCHER
DIST: ANGUL (ODISHA), PIN: 759102
PHONE: 06760 - 241270, FAX: 06760 -241269



MCL

Ref. No.: MCL/LOCP/ENV/25-26/ 21

Date: 11.11.2025

To

The Deputy Director General of Forests (C),
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, A/3, Chandrasekharpur,
Bhubaneswar, Odisha, PIN- 751023
Email: roez.bsr-mef@nic.in

Sub.: Half yearly compliance report (01.04.2025 to 30.09.2025) on implementation of Environmental Clearance conditions imposed by MoEF&CC, Government of India, in respect of Lingaraj Opencast Project of Mahanadi Coalfields Limited

Dear Sir,

Please find enclosed herewith the Half yearly compliance report for the period from 01.04.2025 to 30.09.2025 on implementation of Environmental Clearance conditions imposed by Ministry of Environment, Forest & Climate Change, Government of India, in respect of Lingaraj Opencast Project of Mahanadi Coalfields Limited.

This is for your kind information please.

Encl.: As above.

With regards,

Yours faithfully,

Project Officer
Lingaraj OCP, MCL

Copy to:

1. The Director, EIA Monitoring Cell, Ministry of Environment, Forest & Climate Change, Paryavaran Bhawan, CGO Complex, New Delhi, PIN-110003
2. The Member Secretary, State Pollution Control Board, Odisha, Paribesh Bhawan, Unit-VIII, Nilkantha Nagar, Bhubaneswar, Odisha, PIN-751023.
3. The Regional Director, Central Pollution Control Board Zonal Office, Kolkata, South end Conclave Block-502, 5th and 6th floor, 1582, Razidanga, Main Road, Kolkata, West Bengal, PIN-700107
4. The Regional Officer, Angul, Odisha State Pollution Control Board, S-3/3, Industrial Estate, Hakimpada, Angul, Odisha, PIN-759143
5. The General Manager, Lingaraj Area
6. The General Manager (Environment & Forest), MCL Hq., Burla
7. The Staff Officer (Environment), Lingaraj Area
8. The Project Environment Officer, Lingaraj OCP

**HALF YEARLY (01.04.2025 TO 30.09.2025) EC COMPLIANCE REPORT OF
LINGARAJ OPENCAST PROJECT, M/S MAHANADI COALFIELDS LIMITED**

Project Details:	
Name of the project	Lingaraj Opencast Project
Name of subsidiary company	Mahanadi Coalfields Limited
Location of project	At/PO- Deulbera, Talcher Distt.- Angul, Odisha, PIN-759102 Latitude - 20° 57' 39" N to 20° 58' 18" N Longitude - 85° 09' 33" E to 85° 12' 12" E
Period of Half Yearly EC Compliance	01.04.2025 to 30.09.2025
Ref. No. & Date Environmental Clearance letter issued by of MOEF&CC, Government of India	Ref. No. J-11015/174/2010-IA.II(M) dated 27.11.2015
Project approval	Approved by Department of Coal, Ministry of Energy Government of India vide No. 43011/20/86- CPA dated - 21.02.1991.
Present status of the project:	
Type of Mine	Opencast
Mining operation	Continuing
Total coal raised till 30.09.2025	332.461 Million Te.
Total overburden removed till 30.09.2025	262.507 Million m3
Actual date of commencement	12.06.1991
Project Capacity	20 MTY
Life of the project	21 years from 01.04.2010 (as per EMP)

**COMPLIANCE STATUS OF CONDITIONS OF ENVIRONMENTAL CLEARANCE
GRANTED BY MOEF&CC, GOVERNMENT OF INDIA VIDE LETTER NO. J-
11015/174/2010-IA.II(M) DATED 27.11.2015 IN RESPECT OF LINGARAJ OPENCAST
PROJECT, MAHANADI COALFIELDS LIMITED**

(A) Compliance Status of Specific Conditions

S. No.	Condition	Compliance Status						
i	The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.	The production of coal was within the permissible limit as specified in EC. The last five years production is mentioned below. <u>Year</u> <u>Production</u> 2020-21-13.33 Mil. Te. 2021-22-14.46 Mil. Te. 2022-23 -16.51 Mil. Te. 2023-24 - 17.54 Mil. Te. 2024-25 - 18.19 Mil. Te. 2025-26 - 08.70 Mil. Te. (Up to 30.09.2025)						
ii	The validity of the EC is for the life of the Mine or as specified in the EIA Notification, 2006, whichever earlier.	Agreed.						
iii	Periodically monitoring of WHS constructed / maintained and study their effectiveness, and all the works should be completed by monsoon of year 2016.	The water harvesting structures are periodically monitored and maintained every year.						
iv	Silo should be commissioned by the year 2016.	Silo system of Lingaraj OCP was commissioned on 31 st March 2020.						
v	Dispatch of 18.87 MT of Coal will be started from January, 2017.	Details of previous three year dispatch quantity is given below. <table border="1" data-bbox="774 1787 1449 2049"> <thead> <tr> <th>Year</th> <th>Dispatch Qty. (Mil. Te.)</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>2021-22</td> <td>20.58</td> <td>Includes dispatch of 16.08 Mil. Te. of Lingaraj OCP coal and 4.50 Mil. Te. Of Bhubaneswari</td> </tr> </tbody> </table>	Year	Dispatch Qty. (Mil. Te.)	Remarks	2021-22	20.58	Includes dispatch of 16.08 Mil. Te. of Lingaraj OCP coal and 4.50 Mil. Te. Of Bhubaneswari
Year	Dispatch Qty. (Mil. Te.)	Remarks						
2021-22	20.58	Includes dispatch of 16.08 Mil. Te. of Lingaraj OCP coal and 4.50 Mil. Te. Of Bhubaneswari						

				OCP coal
		2022-23	21.34	Includes dispatch of 17.50 Mil. Te. of Lingaraj OCP coal and 3.84 Mil. Te. Of Bhubaneswari OCP coal
		2023-24	20.86	Includes dispatch of 17.48 Mil. Te. of Lingaraj OCP coal and 3.38 Mil. Te. Of Bhubaneswari OCP coal
		2024-25	20.60	Includes dispatch of 17.75 Mil. Te. Of Lingaraj OCP coal, 2.52 Mil. Te. of Bhubaneswari OCP coal and 0.33 Mil. Te. Of Ananta OCP coal.
		2025-26 (up to 30.09.2025)	11.34	Includes dispatch of 9.49 Mil. Te. of Lingaraj OCP coal, 0.92 Mil. Te. Of Bhubaneswari OCP coal and 0.93 Mil. Te. Of Ananta OCP coal.
vi	Initial OB will be filled in. Out of 538.851 ha excavated area of 292.18 ha will be filled in and brought to the ground level, and balance 246.71 ha shall remain as partially filled void 185 m deep.	Overburden is concurrently being backfilled. Total area of backfilling is 155.00 Ha. as on 30.09.2025 out of 444.00 Ha. excavated area.		
vii	There will be no external OBD in post mine closure. OB from Alkhalpal and Sakshigopal OCP under formulation having a stripping ratio-more that 2-3 m ³ /T initial OBD will be filled in this mine void and brought to the Ground Level. This refilling is expected by 8 th year when the mine is in operation.	Overburden is concurrently being backfilled. Alkhalpal and Sakshigopal OCP has not been started yet.		
viii	The wild life conservation plan should be reworked out with time bound and site specific action plan	The wild life conservation plan has been approved by PCCF (Wildlife) / Chief Wildlife Warden, Odisha vide Ref. No. 594/1WL-SSP-		

	and got approved from the PCCF wild life and be submitted to MoEF&CC within 3 months.	235/2016 dated 19.01.2017. Copy of approval has been submitted to Integrated Regional Office, MOEF&CC, Government of India.
ix	Efforts be made to explore the availability of mechanically covered trucks.	All the trucks which are going outside of mine are being covered by tarpaulin cover.
x	Total excavated area of 538.851 ha, shall be backfilled. With the available OB up to ground level to the tune of 292.141 ha and balance 246.710 ha shall remain as partially filled void which will be developed as water body with maximum depth 185 m.	Overburden is concurrently being backfilled. Total area of backfilling is 155.00 Ha. as on 30.09.2025 out of 444.00 Ha. excavated area. The condition shall be complied.
xi	There shall not be any external OB dump post mine closure. Out of a total 292.141 ha backfilled area 186.311 ha shall be afforested and balance 105.83 ha shall be developed for agriculture purpose.	Agreed to comply as required post mine closure. Plantation is being carried out on the backfilled area. 107102 Nos. of plants have been planted over 37.73 Ha. backfilled area till 30.09.2025.
xii	Coal transportation in pit by dumper, Surface to Siding by dumper and siding at loading by pay loader.	Coal transportation is being carried out in pit by tipper, Surface to Siding by tipper and loading at siding by pay loader.
xiii	The production shall be within the same Mining Lease area.	Production is being carried out within the mine lease area.
xiv	The OB shall be complete re-handled at the end of the mining.	It will be complied.
xv	Final mine void depth will not be more than 40 m. The void area will be converted into water body. The rest of the area will be back filled up to the ground level and covered with about a meter thick top soil and put to use.	It will be complied. Backfilling is continuously going on. Total backfilling area as 155.00 Ha. as on 30.09.2025. Top soil is being spread over the backfilled area for the purpose of biological reclamation.
xvi	Garland drains be provided.	8 KM long earthen garland drain has been provided around External OB dumps.

		4.6 KM long garland drain (3.8 KM long earthen garland drain and 0.8 KM long concrete garland drain) have been provided around mine pit.
xvii	Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.	There is no river / nallah flowing adjacent to the mine.
xviii	The land after mining shall be brought back for agriculture purpose.	The land after mining shall be brought back for agricultural purpose after all mining related activities are over.
xix	Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.	Mine water is being treated and recycled. Lingaraj OCP has implemented Zero Discharge System and so, mine discharge is not being made to outside of the mine premises.
xx	The CSR cost should be Rs.5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.	CSR expenditure is being made as per Schedule-VII of Companies Act, 2014. The last three years CSR expenditure is given below. <u>Year</u> <u>CSR Expenditure</u> 2024-25 - Rs. 218.09 lakhs 2023-24 - Rs. 291.19 lakhs 2022-23 - Rs. 477.10 lakhs
xxi	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	Everybody in the core area is provided with mask for protection against fugitive dust pollution. The issue of dust mask to employees is a continuous process. 230 nos. of dust masks have been issued to employees during 1 st April 2025 to 30 th September 2025.
xxii	Dust Mask to be provided to everyone working in the mining area.	Everybody in the core area is provided with mask for protection against fugitive dust pollution.

		<p>The issue of dust mask to employees is a continuous process.</p> <p>230 nos. of dust masks have been issued to employees during 1st April 2025 to 30th September 2025.</p>
xxiii	The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.	Dust masks are provided to all the workers working in the core area. The supervisory staffs are tasked with the responsibility of ensuring wearing of dust masks by the workers while working in the core area.
xxiv	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.	<p>People working in the core area are periodically tested for the lung diseases for which the expenditure is borne by MCL.</p> <p>Periodic Medical Examination of 203 nos. of persons was carried out during 1st April 2025 to 30th September 2025.</p>
xxv	The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.	<p>Except for the moving front of the mine, plantation has been carried out at all feasible sides of mine for development of green belt.</p> <p>Till 30.09.2025, a total of 529079 nos. of saplings have been planted over an area of 191.16 Ha. at Lingaraj OCP.</p>
xxvi	The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilized with plantation so as to withstand the peak water flow and prevent mine inundation.	There is no river adjacent to mine and hence, there is no chance of mine inundation.
xxvii	There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.	<p>There is no river adjacent to mine and hence, there is no possibility of overflow of OB into river.</p> <p>Overburden has never been disposed in agricultural fields. Currently, the overburden generated is being backfilled in the mine void.</p>

xxviii	<p>OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forests & Climate Change and its concerned Regional office on yearly basis.</p>	<p>OB is stacked at the earmarked sites. No external dumping has been done after the year 2015-16. Terracing/ benching/ stepping/ re-sloping as required has been done to keep the overall slope angle of the dump within 28°. Monitoring and management of the vegetation is being done for four or more years by which the vegetation becomes self-sustaining. Compliance status is submitted to the Ministry of Environment, Forest & Climate Change and its concerned Regional office on half yearly basis.</p>
xxix	<p>Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development, etc. The drains shall be regularly desalted and maintained properly. 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.</p>	<p>17.8 KM long catch drain (12.3 KM long earthen catch drain and 5.5 KM long concrete catch drain) have been provided along the approach / haul roads.</p> <p>8 KM long earthen garland drain has been provided around External OB dumps.</p> <p>4.6 KM long garland drain (3.8 KM long earthen garland drain and 0.8 KM long concrete garland drain) have been provided around mine pit.</p> <p>The water so collected is utilized for watering the mine area, roads, green belt development, etc.</p> <p>Sumps of around 36 lakh m³ capacity combined are available for proper settling of silt material.</p> <p>Mine Discharge Treatment Plant comprising of two settling tanks of size 40 m. x 80 m. x 4 m. each and a clear water reservoir of size 40 m. x 40 m. x 6 m. have been constructed near dumper parking for the settling of mine water.</p> <p>Two settling tanks of size 40 m. x 80 m. x 4 m. each and a clear water reservoir of size 40 m. x 40 m. x 6 m. have been constructed near Deulbera Siding for the management of Surface Runoff generated around Deulbera</p>

		<p>Siding.</p> <p>Two settling tanks (of size ST₁: 46 m. x 16 m. x 4 m. ; ST₂: 38.40 m. x 17.50 m. x 4 m.) and one clear water reservoir (of size 13.60 m. x 9.30 m. x 3.20 m.) have been constructed near Project Office for settling of overflow runoff water and its reuse.</p> <p>Four settling tanks (of size ST₁: 35 m. x 33 m. x 2 m. ; ST₂: 33 m. x 34 m. x 2 m. ; ST₃ 36 m. x 35 m. x 2 m. & ST₄: 34 m. x 36 m. x 2 m.) & one clear water reservoir (size 48 m. x 48 m. x 1.5 m.) also are available near Lingaraj siding for proper management of surface run off generated near Lingaraj Siding and its reuse.</p>
xxx	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.	<p>4.19 km long toe wall / retaining wall of 1.2 mtr. width and 1 mtr. height has been provided along External OB Dumps. Off late (during the period 1st April 2025 to 30th September 2025) a retaining wall of 310m length 4m height and 0.4m width has been constructed around the External OB dump no. 11.</p> <p>145 mtr. long retaining wall has been provided in the backfilled area.</p>
xxxi	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc	<p>During 1st April 2025 to 30th September 2025, around 99.21% of coal was produced by Surface Miners at Lingaraj OCP. Only minimal quantity of Coal produced by conventional methods is being routed through CHPs which has rendered the use of CHPs at minimum level. Furthermore, the only working CHPs are located inside the pit. The following pollution control measures are at place at CHP.</p> <ul style="list-style-type: none"> • The CHP feeder breaker, belt conveyor, coal bunker are covered by G.I. sheet to prevent propagation of dust. Mist fogger system has been installed at CHPs. • Fixed sprinklers are provided around the CHPs. • Mobile water tankers are also used for controlling dust around the CHP.

		With the above mentioned pollution control arrangements the dust is arrested at CHP.
xxxii	Drills shall be wet operated.	Drills are wet operated.
xxxiii	The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads.	Regular maintenance of temporary roads is being carried out by using graders. The permanent coal transportation road has been made concrete. 28002 nos. of saplings have been planted in avenue plantation as on 30.09.2025.
xxxiv	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Controlled blasting is being practiced with the use of electronic delay detonators for control of ground vibration and to arrest fly rocks and boulders. Blasting is carried out only during the day time. Vibrometer is being used to monitor the vibration readings and all readings are found to be within stipulated standards.
xxxv	A Progressive afforestation plan shall be implemented covering an area of 256.03 ha at the end of mining, Green belt and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.	Plantation has been carried out at all available places such as along the periphery of the mine, inactive dumps, backfilled area, vacant area and colony. Till 30.09.2025, a total of 529079 nos. of saplings have been planted over an area of 191.16 Ha. at Lingaraj OCP out of which 28002 nos. of saplings have been planted in avenue plantation. Three tier plantation exists around the quarry area.
xxxvi	An estimated total 222.23 Mm ³ (for the proposed expansion project) of OB will be generated during the entire life of the mine. Out of which 8.18 Mm ³ of OB will be dumped in nine external OB Dumps an earmarked area covering 256.03 ha of land. There will be one	OB is stacked at the earmarked sites. No external dumping has been done after the year 2015-16. Terracing / benching / stepping / re-sloping has been done to maintain the overall slope of OB dumps within the specified limit. As on 30.09.2025, the total External OB Dump area is 108.88 Ha. The maximum height of OB dump is less than 80 mtr. Plantation is being

	<p>internal OB dump covering an area of 292.141 ha. The maximum height of external OB dumps will not exceed 80 m. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self-sustaining and compliance status shall be submitted to MOEFCC and its Regional Office on yearly basis.</p>	<p>carried out over the external and internal OB dumps. A total of 107.05 Ha. of External OB dump area (including slope area of external OB dump) and 37.73 Ha. of internal OB dump (backfilled area) have been technically and biologically reclaimed. Monitoring and management of the vegetation is being done for four or more years by which the vegetation becomes self-sustaining. Compliance status is being submitted to MoEF&CC and its Regional Office.</p>
xxxvii	<p>The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.</p>	<p>Restoration and reclamation plan has been prepared and incorporated in the EMP.</p> <p>Mine closure plan has also been prepared to devise the measures for sustainable phasing out of mine and productive & sustainable use of land.</p> <p>Concurrent backfilling of mine void is carried out and subsequently, technical and biological reclamation of the backfilled area is being done.</p>
xxxviii	<p>Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.</p>	<p>Concurrent backfilling of the mine void is being carried out.</p> <p>Reclamation of the backfilled area and other degraded area such as External OB dumps is being carried out continuously. A total of 529079 nos. of plants has been planted over 191.16 Ha. area at Lingaraj OCP as on 30.09.2025. In addition to above, 11800 nos. of plants (7000 plants during FY 206-17 & 4800 during FY 25-26) have been planted on Government land under urban plantation scheme.</p>
xxxix	<p>The mining should be phased out in sustainable manner.</p>	<p>Mine closure plan has also been prepared to devise the measures for sustainable phasing out of mine and productive & sustainable use of land.</p> <p>Technical and biological reclamation of backfilled area and other degraded areas such</p>

		as External OB dump is being carried out.
xi	No groundwater shall be used for mining operations.	Ground water is not being abstracted through abstraction structure for mining purpose. Only dewatering of mine sump water is being carried out for mining purpose.
xli	The total quarry area of 538.85 ha. A void of 246.709 ha at a depth of 40 m which is proposed to be converted into a water body having gently sloped and the upper benches shall be terraced and stabilized 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.	444.00 Ha. area out of planned 538.85 Ha. area has been excavated as on 30.09.2025. Plantation is being carried out on backfilled area. A total of 107102 Nos. of plants have been planted over 37.73 Ha. backfilled area till 30.09.2025.
xlii	Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forest & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring.	Monitoring of ground water level is being carried out from existing wells by CMPDIL. Monitoring data are being submitted to the Ministry of Environment, Forest & Climate Change and to the Central Pollution Control Board.
xliii	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells	From the water level monitoring reports it is observed that there is no decline in water table. Drinking Water is supplied to nearby villages of Lingaraj OCP through water tankers. In addition to above, piped water supply arrangement is made for supply of drinking water to 17

	go dry due to dewatering of mine.	villages.
xliv	Sewage treatment plant shall be installed the existing colony. ETP shall also be provided for workshop and CHP wastewater.	<p>Sewage treatment plant is installed at Lingaraj Township.</p> <p>Effluent Treatment Plant of 100 KLD capacity is provided at workshop of Lingaraj OCP for treatment of waste water containing oil and grease. The Effluent Treatment Plant comprises of 2 nos. of Primary Settling Tanks, an Oil and Grease Trap equipped with oil skimmer, aeration tank, a clear water reservoir and a pressure filter. The treated clear water generated from Effluent Treatment Plant is completely reused in vehicle washing. No wastewater from the Effluent Treatment Plant is discharged to outside. No wastewater is generated at CHP.</p>
xlv	Besides carrying out regular Periodic health check-up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any through an specialized agency /institution within the District/State and the results reported to this Ministry and to DGMS.	<p>Occupational health surveillance program of the workers are being carried out regularly.</p> <p>Periodic Medical Examination of 203 nos. of persons was carried out during 1st April 2025 to 30th September 2025.</p> <p>Facilities such as dispensaries at townships and Central Hospital, Talcher are also available for the purpose of health check up of employees.</p> <p>Regional Hospital, Dera is manned with Doctor and paramedical staffs who are trained in carrying out health check up for occupational diseases.</p> <p>Provision of referral of employees to outside hospitals for further treatment as required is also available.</p> <p>In addition to above, health check up of 976 nos. of contractual employees, engaged in active mining operations, was carried out during the year 2018-19 by ILO certified doctors for occupational diseases including</p>

		hearing impairment.														
xlvi	Land Oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.	Land oustees are being compensated as per R&R policy of Govt. of Odisha and R&R guidelines of CIL & MCL.														
xlvii	For monitoring land use pattern and for post mining land use a time series of land use maps based on satellite imagery (On a scale of 1: 5000) of the core zone and buffer. Zone, from the start of the project until end of mine life shall be prepared once in 3 years for any one particular season which is consistent in the time series), and the report submitted to MOEFCC and its concerned Regional office.	<p>Digital processing of the entire lease area using remote sensing technique is being done and the report is submitted to the MoEF&CC and its regional office on regular basis.</p> <p>The important parameters of land use patterns are given below.</p> <table border="1"> <thead> <tr> <th>Land use</th> <th>Area (km²) during the year 2024</th> </tr> </thead> <tbody> <tr> <td>Total vegetation</td> <td>3.34</td> </tr> <tr> <td>Agriculture land</td> <td>0.94</td> </tr> <tr> <td>Waste land</td> <td>2.02</td> </tr> <tr> <td>Mining area</td> <td>6.72</td> </tr> <tr> <td>Settlements</td> <td>1.02</td> </tr> <tr> <td>Water body</td> <td>0.06</td> </tr> </tbody> </table>	Land use	Area (km ²) during the year 2024	Total vegetation	3.34	Agriculture land	0.94	Waste land	2.02	Mining area	6.72	Settlements	1.02	Water body	0.06
Land use	Area (km ²) during the year 2024															
Total vegetation	3.34															
Agriculture land	0.94															
Waste land	2.02															
Mining area	6.72															
Settlements	1.02															
Water body	0.06															
xlvi	A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & climate Change within 6 months of grant of Environmental Clearance.	<p>As per Mine Closure Plan of Lingaraj OCP the total mine closure cost is Rs. 12319.77 lakhs.</p> <p>Copy of the Mine Closure Plan has been submitted to MoEF&CC.</p>														
xlvi	<p>The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.</p> <p>I - Corporate Environment Responsibility:</p> <p>a) The Company shall have a well</p>	<p>CSR works are being carried out in consultation with Panchayats of the local villages.</p> <p>a) The company has a well laid down</p>														

	<p>laid down Environment Policy approved by the Board of Directors.</p> <p>b) The Environment Policy shall prescribe for standard operating process/ procedures to bring in to focus any infringements/ deviation/ violation of the environmental or forest norms/ conditions.</p> <p>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.</p> <p>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.</p>	<p>Environment Policy.</p> <p>b) The Environment Policy prescribes for standard operating process / procedures to bring in to focus any infringements / deviation / violation of the environmental or forest norms / conditions.</p> <p>c) Environmental Monitoring Cell / Environment Department exists at Project Level, Area Level and at Headquarter Level. The hierarchical system or administrative order is given below. Project Officer → General Manager → Director (Tech./P&P) → CMD</p> <p>d) Inter Area Inspection is carried out on quarterly basis to assess the status of compliance of conditions of Environmental Clearance and Forest Clearance and also to bring in to focus any non-compliance / infringements / deviation / violation of the environmental or forest norms / conditions. The status of compliance along with any such non-compliance / infringement / deviation / violation is reported to Environment Department, MCL Hq. and to the Board of Directors of the company.</p>
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(B) Compliance Status of General Conditions

S. No.	Condition	Compliance Status
i	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest & Climate Change.	No change in mining technology and scope of working will be made without prior approval of the Ministry of Environment, Forest & Climate Change.
ii	No change in the calendar plan of	The production of coal was within the

	production for quantum of mineral coal shall be made.	permissible limit as specified in EC.
iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM ₁₀ , PM _{2.5} , SO ₂ and NO _x monitoring. 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, etc carried out at least once in six months.	Five ambient air quality monitoring stations have been established whose locations were decided in consultation with State Pollution Control Board, Odisha. Monitoring of details of heavy metals is also carried out. Data is being submitted to MoEF&CC and SPCB, Odisha.
iv	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO _x) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office 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 EPA rules, 1986 shall be furnished as part of compliance report.	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO _x) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data are submitted to MoEF&CC including Integrated Regional Office, Bhubaneswar, to the State Pollution Control Board, Odisha and to the Zonal Office of Central Pollution Control Board once in six months. Analysis report of the air quality is also submitted as part of the compliance report.
v	Adequate measures shall be taken for control- of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Noise levels are controlled to the minimum with improved blasting technique & improved machineries. Drilling and blasting have been minimized as maximum coal is produced by surface miners (around 99.21% during 1 st April 2025 to 30 th September 2025) leading to reduction in noise level. However, persons those who are working near high noise level zone like the HEMM, CHP & blasting etc. are provided with ear plugs. A total of 108 nos. of ear plugs

		were given to employees 1 st April 2025 to 30 th September 2025.
vi	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 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Effluent Treatment Plant (100 KLD capacity) comprising of Primary Settling Tanks, Oil and Grease Trap, Aeration Tank, Clear Water Reservoir and Pressure Filter has been installed to treat the workshop effluent. Another Effluent Treatment Plant of 50 KLD capacity comprising of one primary settling tank, one oil & grease trap and a clear water reservoir was available for the treatment of effluent generated due to vehicle washing. The treated effluent is completely being reused in washing of HEMMs and no discharge is being made to outside. The monitoring report of water quality of treated wastewater is being submitted to MoEF&CC and SPCB, Odisha.
vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	The PUC certificates of the vehicles are being checked regularly. Vehicles used for transporting the mineral are covered with tarpaulins and overloading is avoided.
viii	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EPA Rules, 1986.	Central Mine Planning and Design Institute Limited (CMPDIL) has been assigned with the task of monitoring and analysis of environmental quality parameters. Environmental laboratory with adequate number and type of pollution monitoring and analysis equipments has been established by CMPDIL. It is accredited by NABL and is recognized under EPA Rules, 1986.
ix	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Persons working near to the dust generation source are provided with Dust Masks. 230 nos. of dust masks have been issued to during 1 st April 2025 to 30 th September 2025. All the employees are undergone through regular training and are provided with information on safety and health aspects.

x	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	Occupational health surveillance program of the workers are being made regularly. Periodic medical examinations of 203 persons were examined during 1 st April 2025 to 30 th September 2025. In addition to above, health check up of 976 nos. of contractual employees, engaged in active mining operations, was carried out during the year 2018-19 by ILO certified doctors for occupational diseases including hearing impairment.
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.	Environmental Monitoring Cells have been set up at Project Level, Area Level and at Headquarter Level. The Project Level Environmental Management Cell is headed by Project Officer. The Project Environment Officer of Lingaraj OCP functions as Secretary of Project level Environmental Monitoring Cell. The Colliery Manager, Project Engineer (Excavation), Project Engineer (Electrical & Mechanical), Safety Officer, Deputy Manager (Finance), Medical Officer, Project Engineer (Civil), Depot Officer of HSD-Dispensing Unit and Manager (Survey) are the other members of the Environmental Monitoring Cell of Lingaraj OCP. The Area level Environmental Monitoring Cell is coordinated by Staff Officer (Environment) of Lingaraj Area. The Headquarter level Environmental Monitoring Cell is coordinated by General Manager (Environment), MCL. The General Manager (Environment), MCL reports to Director (Technical/P&P), MCL and the Director (Technical/P&P), MCL reports to Chairman-cum-Managing Director of MCL.
Xii	The funds earmarked for	Fund earmarked for environmental protection



	<p>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 concerned Regional Office.</p>	<p>measures is not diverted for any other purpose. The following expenditures have been made during the year FY 2024-25.</p> <table border="1" data-bbox="799 322 1449 1749"> <thead> <tr> <th>Particulars</th> <th>Expenditure</th> </tr> </thead> <tbody> <tr> <td>CTO fees</td> <td>Rs. 80 lakhs</td> </tr> <tr> <td>CGWA NOC fees</td> <td>Rs. 107.70 lakhs</td> </tr> <tr> <td>Purchase of mobile water sprinklers</td> <td>Rs. 484.78 lakhs</td> </tr> <tr> <td>Dust suppression by mobile water tankers, mobile fog canon, fixed fog canon and wheel washing system (operation and maintenance)</td> <td>Rs. 1237.69 lakhs</td> </tr> <tr> <td>Other works related to air quality management</td> <td>Rs. 16.46 lakhs</td> </tr> <tr> <td>Works related to water quality management</td> <td>Rs. 34.82 lakhs</td> </tr> <tr> <td>Tree plantation including sapling distribution</td> <td>Rs. 75.25 lakhs</td> </tr> <tr> <td>Environmental monitoring works</td> <td>Rs. 177.67 lakhs</td> </tr> <tr> <td>Environmental awareness programmes</td> <td>Rs. 2.49 lakhs</td> </tr> <tr> <td>Total</td> <td>Rs. 2216.86 lakhs</td> </tr> </tbody> </table> <p>Year-wise expenditure is reported to Integrated Regional Office of MOEF&CC.</p>	Particulars	Expenditure	CTO fees	Rs. 80 lakhs	CGWA NOC fees	Rs. 107.70 lakhs	Purchase of mobile water sprinklers	Rs. 484.78 lakhs	Dust suppression by mobile water tankers, mobile fog canon, fixed fog canon and wheel washing system (operation and maintenance)	Rs. 1237.69 lakhs	Other works related to air quality management	Rs. 16.46 lakhs	Works related to water quality management	Rs. 34.82 lakhs	Tree plantation including sapling distribution	Rs. 75.25 lakhs	Environmental monitoring works	Rs. 177.67 lakhs	Environmental awareness programmes	Rs. 2.49 lakhs	Total	Rs. 2216.86 lakhs
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xiii	<p>The Project authorities shall advertise at least in two local newspapers widely circulated around</p>	<p>Advertisement was put up in New Indian Express and Dharitri (in Odia language) dated 09.12.2015 informing that Lingaraj</p>																						

	<p>the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the Ministry of Environment, Forest & Climate Change at http://envfor.nic.in.</p>	<p>OCP has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board, Odisha and may also be seen at the website of the Ministry of Environment, Forest & Climate Change at http://envfor.nic.in.</p>
xiv	<p>A copy of the environmental clearance letter shall be marked to concern Panchayat/ ZilaParishad, Municipal Corporation or Urban local body and, local NGO, if any, from whom any suggestion/ representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.</p>	<p>Copy of Environmental Clearance letter was marked to the Sarpanch of concerned Panchayats (Dera G.P., Ghantapada G.P., Hensmul G.P., Kandhal G.P. and Kankili G.P.) vide letter No. MCL/PO(LOCP)/ENVT/2015-16/4738 dated 21.12.2015, to the President, ZilaParishad, Angul vide letter No. MCL/PO(LOCP)/ENVT/2015-16/4734 dated 21.12.2015 and to the Executive Officer, Talcher Municipality vide letter No. MCL/PO(LOCP)/ENVT/2015-16/4737 dated 21.12.2015.</p>
xv	<p>A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office / Tahsildar's Office for 30 days.</p>	<p>A letter requesting to display a copy of Environmental Clearance letter was written to State Pollution Control Board, Odisha vide letter No. MCL/PO (LOCP)/ENVT/2015-16/4736 dated 21.12.2015.</p> <p>A letter was also written to the Collector cum District Magistrate vide letter No. MCL/PO(LOCP)/ENVT/2015-16/4735 dated 21.12. 2015 requesting to display a copy of Environmental Clearance letter in Collector's Office, Tehsildar's Office and Regional Office, District Industry Sector.</p>
xvi	<p>The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their</p>	<p>The environmental clearance letter has been uploaded on website of MCL. The compliance status of the stipulated environmental clearance conditions mentioned in the EC letter is uploaded MCL website and updated once every six months.</p>

	<p>website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM₁₀, PM_{2.5}, SO₂ and NO_x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.</p>	<p>The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM₁₀, PM_{2.5}, SO₂ and NO_x (ambient) etc. are also displayed near mine entrance (Mine Time Office premises).</p>
xvii	<p>The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.</p>	<p>Six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) are submitted to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.</p>
xviii	<p>The Regional Office of this Ministry located in the Region 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.</p>	<p>Full cooperation will be extended to the Regional Office of MOEF&CC for monitoring the compliance of the stipulated conditions by furnishing the requisite data / information / monitoring reports.</p>
xix	<p>The Environmental statement for each financial year ending 31 March in Form-V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Office of the MoEF&CC by e-mail.</p>	<p>Environmental statement for the year 2024-25 ending on 31st March 2025 in Form-V is submitted to the State Pollution Control Board, Odisha vide letter no. ○○.○○.○○/○○○○○○○○/○○○○○○○○ ○○○ ○○/2025/638 ○○○○○○ 27.09.2025. The Environment Statement has also been uploaded on the company's website.</p>

(C) Compliance Status of Other Conditions		
S. No.	Condition	Compliance Status
5	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during presentation to EAC.	All commitments and recommendations made in the EIA/EMP report as presented to EAC are being implemented.
6	The commitment made by the proponent to the issues raised during Public Hearing shall be implemented by the Proponent.	The commitment made by the Lingaraj OCP to the issues raised during Public Hearing is being implemented.
7	The proponent is required to obtain all necessary clearances / approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Consent to Establish, Consent to Operate and Hazardous waste authorization have been accorded to Lingaraj OCP. Any condition when stipulated by Ministry or any other competent authority shall be complied.
8	The proponent shall setup an Environmental Audit Cell with responsibility and accountability to ensure implementation of all EC conditions	Environmental Management Cell has been set up at Lingaraj OCP which monitors the implementation of EC conditions. The respective departments are also accountable for implementation of EC conditions as applicable to them.
9	Concealing factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	No factual data have not been concealed and no false / fabricate data has been submitted.
10	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along	Lingaraj OCP is to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of ground water and surface water, and occupational and other diseases due to the mining operations.

	with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of ground water and surface water, and occupational and other diseases due to the mining operations.	
11	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act.	No appeal against the Environmental Clearance accorded to Lingaraj OCP was made.
12	The EC supersedes the earlier EC issued vide letter No. J-11015/223/2005-IA.II (M) dated 02.02.2006 for 13 MTPA capacity.	Agreed.


 14-10-25
Project Officer
Lingaraj OCP, MCL


ANNEXURE - I

DATASHEET OF LINGARAJ OCP (PART - I)

(PROGRESSIVE AS ON 30.09.2025)

(A) Land details:	
Total land involved	1493.200 Ha. (as per EMP)
Non- Forest land (Govt. + Tenancy)	1306.889 Ha. (as per EMP)
Forest land	186.311 Ha. (as per EMP)
Total Mine Lease Area	1410.01 Ha. (as per EMP)
(B) Coal production & OB removal details:	
Project Capacity	20 MTY
Life of the project	21 years from 01.04.2010 (as per EMP)
Total mineable reserve	321 MTas on 01.04.2010 (as per EMP)
Total coal extracted till 30.09.2025 since inception	332.461 Million Te.
Coal production during 01.04.2025 to 30.09.2025	8,708,287.28Te.
Coal dispatch during 01.04.2025 to 30.09.2025	11,347,994.105Te. (includes dispatch of 9,497,000.195Te. of Lingaraj OCP coal, 918,119.27Te. of Bhubaneswari OCP coal and 932,874.64Te. of Ananta OCP coal)
Opening coal stock (as on 01.04.2025)	1,258,187.497Te.
Closing coal stock (as on 30.09.2025)	469,474.582Te.
Total OB to be removed	222.23 M.m ³ as on 01.04.2010 (as per EMP)
Total OB removed till 30.09.2025 since inception	262.507Million m ³
OB removal during 01.04.2025 to 30.09.2025	8,124,505.23 m ³
(C) External OB Dump details:	
Total no of External OB dumps (Active+ Dead)	5nos.
No. of External OB dump (Active)	Nil

No. of external OB dumps (Dead)	5nos.
Total area of External OB dump	108.88 Ha.
Area of External OB dumps biologically reclaimed	107.05 Ha.
Total volume of External OB dumps	47.98 M.m ³ (approx.)
(D) Excavation / Decoaled / Backfilling details:	
Total broken area / excavated area	444.00 Ha.
Total used forest area (excavation and other purpose)	95.56 Ha.
Broken forest area by excavation	67.38 Ha.
Backfilling area (active)	55.00 Ha.
Area already backfilled	100.00 Ha.
Decoaled area to be back filled (vacant at coal face)	23.00 Ha.
Total backfilling area	155.00 Ha.
Total decoaled area	206.00 Ha.
Present quarry depth (max.) from surface	150 mtr. from surface (-) 35 mtr. R.L.
(E) Control of Air Pollution:	
Drilling with dust extractors	Being done with NVE system
Wet drilling	Being done
Control blasting	Controlled blasting is being carried out with electronic delay detonators.
Deployment of surface Miner (It eliminates drilling and blasting in coal extraction. No blasting, noise & vibration, minimum air pollution)	6nos. with water spraying facility
Fixed water sprinkler	Nos. of sprinklers- 109 Nos.
Dust suppression at CHP and Silo	By perforated pipes, fixed sprinklers, mist spray arrangement and dry fog dust suppression system
Instant shower system	1 no.
Mobile water tanker	Departmental: 28 KL water tanker –11nos. Contractual: 20 KL water tankers -1no., 18 KL – 3 nos., 12 KL – 1 no.

Mechanical Road Sweeper	2 nos.
Fixed fog canon	8 nos.
Wheel washing system with complete recirculation facility	1 no.
(F) Control of water pollution:	
Sump pit/pre settling pond	<p>Sumps of around 66 lakh m³ capacity combined are available for proper settling of silt material.</p> <p>Mine discharge treatment plant comprising of Two settling tanks of size 40 m. x 80 m. x 4 m. each and a clear water reservoir of size 40 m. x 40 m. x 6 m. have been constructed near Dumper parking for the settling of mine water.</p> <p>Two settling tanks of size 40 m. x 80 m. x 4 m. each and a clear water reservoir of size 40 m. x 40 m. x 6 m. have been constructed near Deulbera Siding for the management of Surface Runoff generated near Deulbera Siding.</p> <p>Two settling tanks (of size ST₁: 46 m. x 16 m. x 4 m. ; ST₂: 38.40 m. x 17.50 m. x 4 m.) and one clear water reservoir (of size 13.60 m. x 9.30 m. x 3.20 m.) have been constructed near Project Office for settling of overflow water and its reuse.</p> <p>Four settling tanks (of size ST₁: 35 m. x 33 m. x 2 m. ; ST₂: 33 m. x 34 m. x 2 m. ; ST₃ 36 m. x 35 m. x 2 m. & ST₄: 34 m. x 36 m. x 2 m.) & one clear water reservoir (size 48 m. x 48 m. x 1.5 m.) also are available near Lingaraj siding for proper management of surface run off and settling.</p>
Effluent Treatment Plant	<p>Effluent Treatment Plant of 100 KLD capacity is provided at Lingaraj OCP for treatment of waste water containing oil and grease. The Effluent Treatment Plant comprises of 2 nos. of Primary Settling Tanks, an Oil and Grease Trap equipped with oil skimmer, aeration</p>

	<p>tank, a clear water reservoir and a pressure filter. Another Effluent Treatment Plant of 50 KLD capacity comprising of one primary settling tank, one oil& grease trap and a clear water reservoir was available for the treatment of effluent generated due to vehicle washing. The treated clear water generated from Effluent Treatment Plants is completely reused in vehicle washing. No wastewater from the Effluent Treatment Plants is discharged to outside. No wastewater is generated at CHP.</p>
Garland drain	<p>8 KM long earthen garland drain has been provided around External OB dumps.</p> <p>4.6 KM long garland drain (3.8 KM long earthen garland drain and 0.8 KM long concrete garland drain) have been provided around mine pit.</p>
Catch drain / storm drain	<p>17.8 KM long catch drain (12.3 KM long earthen catch drain and 5.5 KM long concrete catch drain) have been provided along the approach / haul roads.</p>
Septic tank/ soak pit / sewage treatment plant	<p>Sewage treatment plant of 500 KLD capacity is installed at Lingaraj Township.</p>
Zero Discharge System	<p>Implemented.</p>
(G) Control of noise pollution:	
Ear muff/ Ear plugs provided	<p>Provided to all personnel exposed to excess noise.</p>
Green belt	<p>Provided between mine infrastructure and the colony to curb noise / dust pollution.</p>
Sound proof cabin(HEMM)	<p>Provided in HEMMs.</p>

DATASHEET OF LINGARAJ OCP (PART - II)

**INFORMATION ON REHABILITATION
(PROGRESSIVE AS ON 30.09.2025)**

1	No. of villages affected:	23
2	Families affected:	3125 (Displaced + land loser only)
3	Compensation package offered per family:	As per the norms of Government of Odisha and R&R guidelines of CIL/ MCL.
4	Budget estimate for rehabilitation:	
a)	Total outlay	2513.26 Lakhs (revised)
b)	Amount paid/used	2247.43 Lakhs.
5	Employment details:	
a)	Total employment to be provided	1273 (Approx.)
b)	Employment given so far	1093
6	Rehabilitation and Resettlement details:	
a)	No. of families rehabilitated.	1093
b)	Name of the site	Site of own choice / Cash compensation in lieu of plots.
c)	Families resettled	1119
d)	Total	1119 resettled & 1093 Rehabilitation with employment.
e)	Families yet to be rehabilitated:	28 to be resettled & 12 to be rehabilitated.
7	Any other information:	R & R package is being offered according to progress of land acquisition.

ANNEXURE - II

PARTICULARS OF GREEN BELT/ PLANTATION UNDER F(C) ACT 1980 AND E(P) ACT 1986 IN RESPECT OF LINGARAJ OCP, M/S MAHANADI COALFIELDS LIMITED

1. a) Name of the Project:

Lingaraj Opencast Project

b) Environment / Forest Clearance No.:

- i) Environmental Clearance vide letter No. J-11015/174/2010-IA.II(M) dated 27.11.2015
- ii) Forest Clearance vide letter No. 8-99/87-FC 2/7-03-1989

2. Location, Block / Sub-division / Dist./State:

P.O.- Deulbera Colliery, Block- Talcher, Sub-division- Talcher, Dist.- Angul, State- Odisha, PIN-759102

3. Address for communication:

Office of the Project Officer
Lingaraj Opencast Project
Mahanadi Coalfields Limited
PO- Deulbera Colliery, Talcher
Distt.-Angul, Odisha, PIN-759102

4. Existing vegetation in the area/region:

a) Species:

Trees, Shrubs and Herbs are the most common types.

b) Major prevalent species of each type:

Tree	Shrub	Herb
Jackfruit, Mango, Sal, Bamboo, Papal, Mahul, Akasia, Neem, Big Neem, Karanj, Jamun	Barkoli, Arakh, Amari, Wile jujube, Rabjada, Coromandel ebony	Duba, Lajakuli, Bisalyakarani, Banasorisa, Bichhamalia, Bajramuli

5. Land coverage by the project:

a) Total area under the project:

Total area as per EMP - 1493.20 Ha.

Total Mine Lease area as per EMP - 1410.01 Ha.

b) Area covered for basic infrastructure (roads/buildings/factory etc.):

Area as per EMP - 145.60 Ha. (including residential colony, rehabilitation site and other infrastructure)

6. Details about natural vegetation:

a) Name and number of tree/species felled (as per records available):

Sl. No.	Name of tree	Nos. of trees felled	Sl. No.	Name of tree	Nos. of trees felled
1	Sal	26527	14	Mango	267
2	Char	2426	15	Acasia	1775
3	Sidha	199	16	Cashew	37
4	Mahula	1102	17	Chakunda	25
5	Asan	1717	18	Eucalyptus	146
6	Kendu	814	19	Nimba	14
7	Bahada	208	20	Gamhari	1512
8	Kumbhi	338	21	Balia	96
9	Kuchia	1	22	Jamun	57
10	Sunari	13	23	Palasa	13
11	Kuruma	65	24	Ghantal	2
12	Mai	1	25	Patamasu	1
13	Patuli	1	TOTAL		37357

b) Name and number of plant species still available in the area:

Not enumerated.

c) By protecting the area will indigenous stock come up:

Yes.

d) Extent of green belt developed:

Plantation over 16.18 Ha. along road side and 30.2 Ha. over vacant area.
Total planted area –191.16 Ha. (529079 nos. of plants planted till date).

7. Plantations required to be carried out as per:

2025) Conditions of Environmental Clearances in Ha./ Nos.:

Plantation is to be carried out in 687.831 Ha. (till post-mining period)

b) Conditions for Forest Act I clearance in Ha./Nos.:

Plantation has already been carried out for the diverted forest area of 186.311 Ha.

c) Voluntarily in Ha./Nos.:

Not applicable.

8. Details of plantation:

a) Total area available for plantation in each category:

i) Green belt	ii) Dumps	iii) Backfilled area	iv) Road sides	v) Others	
110.58 Ha. (Safety zone for expansion including green belt & undisturbed area)	256.03 Ha. (External OB dump)	292.141 Ha. (Backfilled area including top soil dumps)	10.36 Ha. (Road sides, CHP, Railway sidings, workshop and office buildings)	2.08 Ha. (Rationalization of project boundary)	16.64 Ha. (Residential colony and resettlement site)

b) Plantation details (category wise and methodology used):

Year of plantation	Nos. of plants	Species planted	Spacing	Height attained	Total area covered	Area still available
2025-26	9250	Mixed plantation (Mango Sisoo Siris Karanja Teak Gamhari Arjun Neem Babul Chakunda Kutikuyan Kadamba, Lemon Jamun Bigneem Guava Banyan Petafarm Gulmohar Cashew etc.)	1 m c/c for Miyawaki plantation and 2.0 m c/c for avenue plantation	1.2 mtr. max.	1.50 Ha	496.671 Ha.
2024-25	11200		1 m c/c for Miyawaki plantation and 2.5 m c/c for block plantation	3 mtr. max.	3.00 Ha.	498.171 Ha.
2023-24	0		---	---	---	501.171 Ha.
2022-23	4095		3 m. max.	2.56 Ha.	501.171 Ha.	
2021-22	8225		6 m. max.	5.09 Ha.	503.731 Ha.	
2020-21	49903		2.0 m c/c and 2.5 m. c/c for OB dump, Backfilled area and block plantation	4 m. max.	20.86 Ha.	508.821 Ha.
2019-20	5470		3 m. max.	3.10 Ha.	529.681 Ha.	
2018-19	100		2.5 m. c/c and 4 m. c/c for avenue plantation	3 m. max.	0.06 Ha.	532.781 Ha.
2017-18	19127		4 m. max.	7.66Ha.	532.841 Ha.	
2016-17	70100		5 m. max.	28.06 Ha.	540.501 Ha.	

2015-16	22000			6 m. max.	8.8Ha.	568.561 Ha.
2014-15	3000			6 m. max.	1.2Ha.	577.361 Ha.
1991-92 to 2013-14	326609			7 m. max.	109.27 Ha.	578.561 Ha.

In addition to above,

- I. 7000 Nos. of plants were planted on 4.375 Ha. of Govt. land at Handidhua during 2016-17 under Urban Plantation Scheme (spacing - 2.5 m c/c, density of plantation - 1600 Nos. of plants per Ha., maximum height attained - 2.5 m. species planted - mixed plantation as mentioned in the table above).
- II. 4800 Nos. of plants were planted on 3.00 Ha. of Govt. land at village Kankili (Khata No. 780, plot no.4630) during 2025-26 under Urban Plantation Scheme (spacing - 2.5 m c/c, density of plantation - 1600 Nos. of plants per Ha., maximum height attained – 1.2 m. species planted - mixed plantation as mentioned in the table above).

c) Survival of plantation:

Survival of plantation*	1 st year (2025-26)	2 nd year (2024-25)	3 rd year (2023-24)	4 th year (2022-23)	5 th year (2021-22)
Total plantation (Nos.)	9250 nos. of plants were planted during 2025-26	11200 nos. of plants were planted during 2024-25	No plantation was carried out during FY 2023-24	4095 nos. of plants were planted during 2022-23	8225 nos. of plants were planted during 2021-22
Survival* (%)	100%	Around 91%	---	Around 82%	Around 81%

(*as per available enumeration report)

9. Agency carrying out plantation and maintenance:

Plantation was carried out by Forest Department, Government of Odisha during the year 2025-26, 2024-25, 2022-23 and 2021-22. Plantation was carried out by

Chattisgarh Rajya Vanvikas Nigam Limited from the year 2014-15 to 2020-21. Few plantation works have also been carried out by departmentally by employees and by private agencies. The work was being carried out by Odisha Forest Development Corporation, CFRI and Private Agencies prior to 2014-15.

10. Financial details (year wise) plantation wise and item wise:

Sl. No.	Year of Plantation	Funds allocated (Rs.)
1	2025-26	Rs. 6545938.60 was allocated for plantation works of 9250 nos. of saplings, planted at Lingaraj OCP, during FY 2025-26 and its maintenance.
2	2024-25	Rs. 9108917.95 was allocated for plantation works of 11200 nos. of saplings, planted at Lingaraj OCP, during FY 2024-25 and its maintenance.
3	2023-24	No plantation was carried out during FY 2023-24.
4	2022-23	Rs. 2986022.04 was allocated for plantation works of 4095 nos. of saplings planted at Lingaraj OCP during FY 2022-23 and its maintenance.
5	2021-22	Rs. 4979072.90 was allocated for plantation works of 8225 nos. of saplings planted at Lingaraj OCP during FY 2021-22 and its maintenance.
6	2020-21	Rs. 24292883.08 was allocated for plantation works of 49903 Nos. of saplings planted at Lingaraj OCP during 2020-21 and its maintenance.

11. Inspection of plantation by field experts and their comments and follow up actions:

The plantation is inspected by various officials from 'MCL Hq.', 'State Pollution Control Board, Odisha' and 'Department of Forest & Environment of Government of Odisha'. Necessary actions are taken as per the suggestions of the inspecting officials.

ANNEXURE - III



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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	GM Office, Lingraj Area	Acceptable	Permissible
Date of Sampling	9-Apr-2025		
Colour(Hazen)	1	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	7.68	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	50.42	200	600
Chloride(mg/L)	9.72	250	1000
Sulphate(mg/L)	12.21	200	400
Nitrate(mg/L)	<0.5	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	55.78	200	600
Calcium(mg/L)	14.37	75	200
Fluoride(mg/L)	<0.3	1	1.5
Total Dissolve Solid(mg/L)	108	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	0.15	1.0	No relaxation
Zinc(mg/L)	0.06	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	GM Office, Lingraj Area		
Date of Sampling	9-Apr-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	0.01	No relaxation
Phenolics(mg/L)	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	0.2	1.0
MPN (Index/100 ml)	Not Detected	-	-
Sodium(mg/L)	11.82	-	-
Potassium(mg/L)	2.17	-	-

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP		Indian Drinking Standards (IS-10500):2012	
	GM Office, Lingraj Area	Balunga Khamar Village Well		
Monitoring Station				
Date of Sampling	14-May-2025	14-May-2025	Acceptable	Permissible
Colour(Hazen)	1	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	5
pH	6.55	7.12	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	21.01	109.25	200	600
Chloride(mg/L)	40.84	31.12	250	1000
Sulphate(mg/L)	10.66	74.16	200	400
Nitrate(mg/L)	18.9	<0.5	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	71.71	179.28	200	600
Calcium(mg/L)	20.76	49.51	75	200
Fluoride(mg/L)	0.30	0.70	1	1.5
Total Dissolve Solid(mg/L)	146	316	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1.0	No relaxation
Zinc(mg/L)	0.04	0.09	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Deulbera Village Well	Talabera Village Well	Kankili Village Well	Acceptable
Date of Sampling	14-May-2025	14-May-2025	14-May-2025		
Colour(Hazen)	3	2	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	1	3	1	5
pH	7.92	7.96	8.09	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	239.51	54.63	277.33	200	600
Chloride(mg/L)	40.84	9.72	38.9	250	1000
Sulphate(mg/L)	9.50	11.01	12.98	200	400
Nitrate(mg/L)	<0.5	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	171.31	59.76	223.10	200	600
Calcium(mg/L)	33.54	14.37	41.52	75	200
Fluoride(mg/L)	0.81	0.55	0.62	1	1.5
Total Dissolve Solid(mg/L)	384	110	418	500	2000
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	<0.1	1.0	No relaxation
Zinc(mg/L)	0.14	<0.04	<0.04	5	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	2.4

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Project / OCP	Lingraj OCP		Indian Drinking Standards (IS-10500):2012	
Monitoring Station	GM Office, Lingraj Area	Balunga Khamar Village Well	Acceptable	Permissible
Date of Sampling	14-May-2025	14-May-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	10.73	12.86		
Potassium(mg/L)	3.23	9.86		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1.0
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

Project / OCP	Lingraj OCP			Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Deulbera Village Well	Talabera Village Well	Kankili Village Well	Acceptable	Permissible
Date of Sampling	14-May-2025	14-May-2025	14-May-2025		
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	23.97	5.35	25.02		
Potassium(mg/L)	27.71	1.70	13.20		
Phenolics(mg/L)	<0.001	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	<0.2	0.2	1.0
MPN (Index/100 ml)	Not Detected	Not Detected	Not Detected	-	-

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Project / OCP	Lingraj OCP	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	GM Office, Lingraj Area	Acceptable	Permissible
Date of Sampling	12-Jun-2025		
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	7.74	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	54.63	200	600
Chloride(mg/L)	7.78	250	1000
Sulphate(mg/L)	10.54	200	400
Nitrate(mg/L)	<0.5	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	59.76	200	600
Calcium(mg/L)	15.97	75	200
Fluoride(mg/L)	0.39	1	1.5
Total Dissolve Solid(mg/L)	106	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	<0.1	1.0	No relaxation
Zinc(mg/L)	<0.04	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

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Project / OCP	Lingraj OCP	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	GM Office, Lingraj Area	Acceptable	Permissible
Date of Sampling	12-Jun-2025		
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	12.56	-	-
Potassium(mg/L)	2.93	-	-
Phenolics(mg/L)	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	0.2	1.0
MPN (Index/100 ml)	Not Detected	-	-

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP	Indian Drinking Standards (IS-10500):2012	
		Acceptable	Permissible
Monitoring Station	GM Office, Lingraj Area		
Date of Sampling	16-Jul-2025		
Colour(Hazen)	1	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	7.79	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	33.62	200	600
Chloride(mg/L)	11.7	250	1000
Sulphate(mg/L)	26.8	200	400
Nitrate(mg/L)	<0.5	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	58.83	200	600
Calcium(mg/L)	15.72	75	200
Fluoride(mg/L)	0.45	1	1.5
Total Dissolve Solid(mg/L)	104	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	0.10	1.0	No relaxation
Zinc(mg/L)	0.12	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

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Project / OCP	Lingraj OCP	Indian Drinking Standards (IS-10500):2012	
		Acceptable	Permissible
Monitoring Station	GM Office, Lingraj Area		
Date of Sampling	16-Jul-2025		
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	6.02		
Potassium(mg/L)	1.85		
Phenolics(mg/L)	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	0.2	1.0
MPN (Index/100 ml)	Not Detected	-	-

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP		Indian Drinking Standards (IS-10500):2012	
	GM Office, Lingraj Area	Balunga Khamar Village Well	Acceptable	Permissible
Monitoring Station	14-Aug-2025	14-Aug-2025	5	15
Date of Sampling	1	2	5	15
Colour(Hazen)	1	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	4	1	5
pH	7.00	7.03	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	25.21	184.88	200	600
Chloride(mg/L)	9.71	21.37	250	1000
Sulphate(mg/L)	26.34	44.2	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	43.14	164.72	200	600
Calcium(mg/L)	11.00	45.58	75	200
Fluoride(mg/L)	0.52	0.74	1	1.5
Total Dissolve Solid(mg/L)	88	286	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1.0	No relaxation
Zinc(mg/L)	0.13	0.15	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP		Indian Drinking Standards (IS-10500):2012	
	GM Office, Lingraj Area	Balunga Khamar Village Well		
Monitoring Station			Acceptable	Permissible
Date of Sampling	14-Aug-2025	14-Aug-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	6.33	14.58		
Potassium(mg/L)	4.32	3.62		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1.0
MPN (Index/100 ml)	Not Detected	Not Detected	-	-


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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Deulbera Village Well	Talabera Village Well	Kankili Village Well	
Date of Sampling	14-Aug-2025	14-Aug-2025	14-Aug-2025	Acceptable	Permissible
Colour(Hazen)	4	3	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	4	1	1	5
pH	6.97	6.67	6.47	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	298.34	163.87	21.01	200	600
Chloride(mg/L)	36.91	38.86	42.74	250	1000
Sulphate(mg/L)	62.14	92.96	19.87	200	400
Nitrate(mg/L)	<0.5	<0.5	19.30	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	254.93	243.16	86.28	200	600
Calcium(mg/L)	62.88	64.45	20.43	75	200
Fluoride(mg/L)	0.78	0.88	0.68	1	1.5
Total Dissolve Solid(mg/L)	438	376	154	500	2000
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.16	0.08	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	<0.1	1.0	No relaxation
Zinc(mg/L)	0.18	0.29	<0.04	5	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	2.4

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP			Indian Drinking Standards (IS-10500):2012	
	Deulbera Village Well	Talabera Village Well	Kankili Village Well	Acceptable	Permissible
Monitoring Station					
Date of Sampling	14-Aug-2025	14-Aug-2025	14-Aug-2025		
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	18.76	18.20	6.91	-	-
Potassium(mg/L)	5.65	3.28	2.56	-	-
Phenolics(mg/L)	<0.001	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	<0.2	0.2	1.0
MPN (Index/100 ml)	Not Detected	Not Detected	Not Detected	-	-

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Piezometer Water Quality Data: Lingaraj Area

Project / OCP	Lingaraj OCP	Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Acceptable	Permissible
Date of Sampling	MTP 04 (Inside central Nursery beside golf hut) (Reported)	5	15
Colour(Hazen)	03-May-25	5	15
Odour	1	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	Agreeable	1	5
pH	1	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	7.23	200	600
Chloride(mg/L)	74.21	250	1000
Sulphate(mg/L)	5.87	200	400
Nitrate(mg/L)	12.73	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	<0.50	200	600
Calcium(mg/L)	55.70	75	200
Fluoride(mg/L)	12.78	1	1.5
Total Dissolve Solid(mg/L)	0.66	500	2000
Copper(mg/L)	108	0.05	1.5
Manganese(mg/L)	<0.03	0.1	0.3
Iron(mg/L)	<0.04	1.0	No relaxation
Zinc(mg/L)	<0.1	5	15
Lead(mg/L)	<0.04	0.01	No relaxation
Cadmium(mg/L)	<0.005	0.003	No relaxation
Total Chromium (mg/L)	<0.001	0.05	No relaxation
Arsenic(mg/L)	<0.01	0.01	No relaxation
Selenium (mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4
Sodium mg/L	6.59	-	-
Potassium mg/L	1.36	-	-
Phenolics (mg/L)	<0.001	0.001	0.002
Residual Free Chlorine (mg/L)	<0.2	0.2	1
MPN (Index/100ml)	Not Detected	-	-

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	GM Office, Lingraj Area	Acceptable	Permissible
Date of Sampling	13-Sep-2025	Acceptable	Permissible
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	7.10	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	37.81	200	600
Chloride(mg/L)	9.71	250	1000
Sulphate(mg/L)	20.76	200	400
Nitrate(mg/L)	<0.5	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	50.98	200	600
Calcium(mg/L)	12.57	75	200
Fluoride(mg/L)	0.44	1	1.5
Total Dissolve Solid(mg/L)	96	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	<0.1	1.0	No relaxation
Zinc(mg/L)	0.16	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

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Drinking Water Quality Data Lingraj Area

Project / OCP	Lingraj OCP	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	GM Office, Lingraj Area	Acceptable	Permissible
Date of Sampling	13-Sep-2025		
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	5.92	-	-
Potassium(mg/L)	2.94	-	-
Phenolics(mg/L)	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	0.2	1.0
MPN (Index/100 ml)	Not Detected	-	-

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Surface Water Quality Data Lingraj Area

Project/OCP	Lingraj	IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Village Pond near Deulbera Siding	
Date of sampling	30-Aug-25	
pH	7.46	6.5-8.5
Color (Hazen unit)	4	300
Dissolved Oxygen(mg/L)	6.7	4
BOD (3 days 27°C)(mg/L)	2.2	3
Chlorides(mg/L)	33.27	600
Sulphate(mg/L)	167.76	400
Nitrate(mg/L)	0.62	50
Fluoride(mg/L)	0.62	1.5
Total Hardness(mg/L)	568.96	-
Total dissolved solids (mg/L)	762	1500
TSS(mg/L)	42	-
Copper(mg/L)	<0.03	1.5
Iron(mg/L)	0.410	50
Zinc(mg/L)	<0.04	15
Lead(mg/L)	<0.005	0.1
Cadmium(mg/L)	<0.001	0.01
Arsenic(mg/L)	<0.005	0.2
Selenium(mg/L)	<0.005	0.05
Hexavalent Chromium(as Cr ⁶⁺)(mg/L)	<0.05	0.05
Phenolics(mg/L)	<0.001	0.005
Oil & Grease (mg/L)	<4.0	0.1
MPN (Index/100 ml)	94	-

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S. K. Das

ANNEXURE - IV



Test Report

AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Compliance Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
11-Apr-25	Near Coal Corridor	203	88	46	15.24	33.61		
11-Apr-25	Near Silo Conveyor Belt	207	80	42	11.56	23.52		
22-Apr-25	Near Coal Corridor	208	92	47	10.51	31.37		
22-Apr-25	Near Silo Conveyor Belt	214	85	41	14.30	21.82		

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MoEF Standards Notification dated 25th September, 2009	500	250		120	120
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AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Reference Station)

Project :

Lingaraj OCP

 (conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
01-Apr-25	Balunga Khamar Village	163	60	31	14.97	39.62		
01-Apr-25	Kandhal Village	179	76	37	11.36	27.01		
01-Apr-25	Lingaraj Township	175	75	36	13.57	32.19		
02-Apr-25	Balunga Khamar Village	172	69	34	13.97	27.63		
02-Apr-25	Kandhal Village	167	69	35	17.28	26.14		
02-Apr-25	Lingaraj Township	155	62	29	11.21	31.37		
07-Apr-25	Kandhal Village	158	63	33	14.22	37.64		
07-Apr-25	Balunga Khamar Village	175	68	37	14.95	31.37		
07-Apr-25	Lingaraj Township	187	58	38	16.89	30.58		
08-Apr-25	Lingaraj Township	173	78	34	12.63	35.49		
08-Apr-25	Kandhal Village	154	58	28	13.12	24.64		
08-Apr-25	Balunga Khamar Village	151	56	28	10.76	28.06		
16-Apr-25	Balunga Khamar Village	173	64	35	14.32	28.75		
16-Apr-25	Kandhal Village	166	66	37	18.71	37.14		
16-Apr-25	Lingaraj Township	163	63	30	16.37	26.41		
17-Apr-25	Balunga Khamar Village	179	71	36	20.25	28.75		
17-Apr-25	Lingaraj Township	192	80	41	15.69	35.98		
17-Apr-25	Kandhal Village	197	83	40	15.31	32.24		
23-Apr-25	Balunga Khamar Village	169	63	33	15.80	34.85		
23-Apr-25	Kandhal Village	170	71	35	10.16	32.11		
23-Apr-25	Lingaraj Township	169	69	35	12.89	31.37		
24-Apr-25	Kandhal Village	128	53	22	13.54	27.63		
24-Apr-25	Lingaraj Township	156	65	33	16.79	33.11		

*NAAQS, 2009

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Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

<i>Date of Sampling</i>	<i>Monitoring Station</i>	<i>SPM</i>	<i>PM10</i>	<i>PM2.5</i>	<i>SO2</i>	<i>NOx</i>	<i>Dust Generating Source(DGS)</i>	<i>Distance from DGS</i>
24-Apr-25	Balunga Khamar Village	166	60	31	10.22	24.31		
29-Apr-25	Balunga Khamar Village	145	50	26	14.81	29.62		
29-Apr-25	Kandhal Village	156	60	29	15.44	24.76		
29-Apr-25	Lingaraj Township	175	74	36	12.00	25.88		
30-Apr-25	Lingaraj Township	153	55	29	9.33	32.93		
30-Apr-25	Balunga Khamar Village	156	57	29	17.28	24.40		
30-Apr-25	Kandhal Village	161	65	33	15.56	24.31		

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**Authorised Signatory
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Kandhal Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(µg/m ³)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(µg/m ³)
01-Apr-2025	<20.0	21.72	<0.1	<1.0	<1.0	1.4	BQL(Q L=0.7)	BQL
02-Apr-2025	<20.0	12.72	<0.1	<1.0	<1.0	1.5	BQL(Q L=0.7)	BQL
07-Apr-2025	<20.0	25.13	<0.1	<1.0	<1.0	1.4	BQL(Q L=0.7)	BQL
08-Apr-2025	<20.0	15.2	<0.1	<1.0	<1.0	1.6	BQL(Q L=0.7)	BQL
16-Apr-2025	<20.0	16.13	<0.1	<1.0	<1.0	1.8	BQL(Q L=0.7)	BQL
17-Apr-2025	<20.0	14.58	<0.1	<1.0	<1.0	1.7	BQL(Q L=0.7)	BQL
23-Apr-2025	<20.0	14.58	<0.1	<1.0	<1.0	1.6	BQL(Q L=0.7)	BQL
24-Apr-2025	<20.0	13.65	<0.1	<1.0	<1.0	1.8	BQL(Q L=0.7)	BQL
29-Apr-2025	<20.0	14.58	<0.1	<1.0	<1.0	1.5	BQL(Q L=0.7)	BQL
30-Apr-2025	<20.0	19.23	<0.1	<1.0	<1.0	1.6	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Lingaraj Township							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Apr-2025	<20.0	26.68	<0.1	<1.0	<1.0	1.8	BQL(Q L=0.7)	BQL
02-Apr-2025	<20.0	20.78	<0.1	<1.0	<1.0	1.6	BQL(Q L=0.7)	BQL
07-Apr-2025	<20.0	26.07	<0.1	<1.0	<1.0	1.7	BQL(Q L=0.7)	BQL
08-Apr-2025	<20.0	24.52	<0.1	<1.0	<1.0	1.5	BQL(Q L=0.7)	BQL
16-Apr-2025	<20.0	23.9	<0.1	<1.0	<1.0	1.4	BQL(Q L=0.7)	BQL
17-Apr-2025	<20.0	18.62	<0.1	<1.0	<1.0	1.6	BQL(Q L=0.7)	BQL
23-Apr-2025	<20.0	22.65	<0.1	<1.0	<1.0	1.8	BQL(Q L=0.7)	BQL
24-Apr-2025	<20.0	23.27	<0.1	<1.0	<1.0	1.4	BQL(Q L=0.7)	BQL
29-Apr-2025	<20.0	20.17	<0.1	<1.0	<1.0	1.5	BQL(Q L=0.7)	BQL
30-Apr-2025	<20.0	13.03	<0.1	<1.0	<1.0	1.3	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(Shou rs)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Balunga Khamar Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(µg/m ³)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(µg/m ³)
01-Apr-2025	<20.0	22.65	<0.1	<1.0	<1.0	1.2	BQL(Q L=0.7)	BQL
02-Apr-2025	<20.0	16.45	<0.1	<1.0	<1.0	1.3	BQL(Q L=0.7)	BQL
07-Apr-2025	<20.0	27.32	<0.1	<1.0	<1.0	1.1	BQL(Q L=0.7)	BQL
08-Apr-2025	<20.0	13.35	<0.1	<1.0	<1.0	1.4	BQL(Q L=0.7)	BQL
16-Apr-2025	<20.0	17.38	<0.1	<1.0	<1.0	1.2	BQL(Q L=0.7)	BQL
17-Apr-2025	<20.0	23.58	<0.1	<1.0	<1.0	1.1	BQL(Q L=0.7)	BQL
23-Apr-2025	<20.0	18.	<0.1	<1.0	<1.0	0.9	BQL(Q L=0.7)	BQL
24-Apr-2025	<20.0	21.42	<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
29-Apr-2025	<20.0	14.27	<0.1	<1.0	<1.0	1.1	BQL(Q L=0.7)	BQL
30-Apr-2025	<20.0	22.97	<0.1	<1.0	<1.0	1.4	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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Project	Lingaraj OCP
Monitoring Station	Near Silo Conveyor Belt
Date of sampling	Carbon Monoxide (CO)
	mg/m³
11-Apr-2025	1.6
22-Apr-2025	1.5
Standard	02(8 Hours)

Project	Lingaraj OCP
Monitoring Station	Near Coal Corridor
Date of sampling	Carbon Monoxide (CO)
	mg/m³
11-Apr-2025	1.7
22-Apr-2025	1.8
Standard	02(8 Hours)

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Test Report

AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Compliance Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
11-Apr-25	GM Office Lingraj	203	88	46	15.24	33.61		
11-Apr-25	Near Silo Conveyor Belt	207	80	42	11.56	23.52		
22-Apr-25	GM Office Lingraj	208	92	47	10.51	31.37		
22-Apr-25	Near Silo Conveyor Belt	214	85	41	14.30	21.82		
07-May-25	GM Office Lingraj	210	83	39	13.59	22.64		
07-May-25	Near Silo Conveyor Belt	206	87	39	9.65	29.01		
21-May-25	GM Office Lingraj	190	84	40	14.22	24.11		
21-May-25	Near Silo Conveyor Belt	178	78	36	12.79	35.66		

K. J. Patil
Authorised Signatory
CMPDI, FI-VII, LAB
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MoEF Standards Notification dated 23rd September, 2009

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AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Reference Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
02-May-25	Balunga Khamar Village	160	62	29	12.51	37.14		
02-May-25	Kandhal Village	133	47	22	13.89	29.89		
02-May-25	Lingaraj Township	143	56	27	17.64	27.49		
03-May-25	Balunga Khamar Village	173	68	32	15.81	28.93		
03-May-25	Kandhal Village	167	65	32	12.37	41.22		
03-May-25	Lingaraj Township	135	53	25	18.02	19.31		
09-May-25	Kandhal Village	135	52	23	11.32	35.55		
09-May-25	Balunga Khamar Village	151	60	28	13.14	29.72		
09-May-25	Lingaraj Township	153	60	28	16.68	31.37		
10-May-25	Lingaraj Township	183	72	34	12.01	20.06		
10-May-25	Kandhal Village	140	55	26	12.10	24.20		
10-May-25	Balunga Khamar Village	135	53	25	15.85	27.24		
16-May-25	Balunga Khamar Village	177	59	33	17.52	34.67		
16-May-25	Kandhal Village	155	58	32	12.45	22.09		
16-May-25	Lingaraj Township	163	63	30	15.77	26.74		
17-May-25	Balunga Khamar Village	140	47	26	10.84	29.72		
17-May-25	Lingaraj Township	126	42	23	14.62	32.84		
17-May-25	Kandhal Village	141	55	27	13.44	39.28		
23-May-25	Balunga Khamar Village	150	50	28	18.35	23.11		
23-May-25	Kandhal Village	167	66	31	11.600	33.88		
23-May-25	Lingaraj Township	175	71	36	10.54	34.92		
24-May-25	Kandhal Village	109	41	22	12.73	38.58		

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Project :

Lingaraj OCP

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Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
24-May-25	Lingaraj Township	127	41	22	15.02	26.18		
24-May-25	Balunga Khamar Village	129	43	24	12.39	24.52		
30-May-25	Balunga Khamar Village	146	49	27	18.02	26.00		
30-May-25	Kardhal Village	178	68	35	10.75	24.47		
30-May-25	Lingaraj Township	167	63	32	18.02	32.69		
31-May-25	Lingaraj Township	140	48	26	16.89	33.43		
31-May-25	Balunga Khamar Village	123	41	23	14.62	34.41		
31-May-25	Kardhal Village	131	52	24	12.99	33.16		

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Kandhal Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
02-May-2025	<20.0	24.37	<0.1	<1.0	<1.0	1.2	BQL(Q L=0.7)	BQL
03-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	1.0	BQL(Q L=0.7)	BQL
09-May-2025	<20.0	13.88	<0.1	<1.0	<1.0	1.2	BQL(Q L=0.7)	BQL
10-May-2025	<20.0	21.22	<0.1	<1.0	<1.0	1.0	BQL(Q L=0.7)	BQL
16-May-2025	<20.0	11.27	<0.1	<1.0	<1.0	1.1	BQL(Q L=0.7)	BQL
17-May-2025	<20.0	18.87	<0.1	<1.0	<1.0	0.9	BQL(Q L=0.7)	BQL
23-May-2025	<20.0	16.50	<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
24-May-2025	<20.0	13.63	<0.1	<1.0	<1.0	0.7	BQL(Q L=0.7)	BQL
30-May-2025	<20.0	17.03	<0.1	<1.0	<1.0	1.0	BQL(Q L=0.7)	BQL
31-May-2025	<20.0	19.92	<0.1	<1.0	<1.0	1.2	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Lingaraj Township							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
02-May-2025	<20.0	13.63	<0.1	<1.0	<1.0	1.0	BQL(Q L=0.7)	BQL
03-May-2025	<20.0	19.13	<0.1	<1.0	<1.0	1.2	BQL(Q L=0.7)	BQL
09-May-2025	<20.0	26.47	<0.1	<1.0	<1.0	1.3	BQL(Q L=0.7)	BQL
10-May-2025	<20.0	19.65	<0.1	<1.0	<1.0	1.0	BQL(Q L=0.7)	BQL
16-May-2025	<20.0	16.77	<0.1	<1.0	<1.0	1.4	BQL(Q L=0.7)	BQL
17-May-2025	<20.0	15.72	<0.1	<1.0	<1.0	1.2	BQL(Q L=0.7)	BQL
23-May-2025	<20.0	25.42	<0.1	<1.0	<1.0	1.0	BQL(Q L=0.7)	BQL
24-May-2025	<20.0	13.63	<0.1	<1.0	<1.0	1.3	BQL(Q L=0.7)	BQL
30-May-2025	<20.0	22.53	<0.1	<1.0	<1.0	1.5	BQL(Q L=0.7)	BQL
31-May-2025	<20.0	13.10	<0.1	<1.0	<1.0	1.0	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Balunga Khamar Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	(µg/m ³)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(µg/m ³)
02-May-2025	<20.0	19.38	<0.1	<1.0	<1.0	0.9	BQL(Q L=0.7)	BQL
03-May-2025	<20.0		<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
09-May-2025	<20.0	18.60	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
10-May-2025	<20.0	25.42	<0.1	<1.0	<1.0	0.7	BQL(Q L=0.7)	BQL
16-May-2025	<20.0	21.75	<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
17-May-2025	<20.0	25.93	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
23-May-2025	<20.0	20.97	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
24-May-2025	<20.0	12.83	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
30-May-2025	<20.0	22.53	<0.1	<1.0	<1.0	0.7	BQL(Q L=0.7)	BQL
31-May-2025	<20.0	13.37	<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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Project	Lingaraj OCP
Monitoring Station	Near Silo Conveyor Belt
Date of sampling	Carbon Monoxide (CO)
	mg/m³
07-May-2025	1.6
21-May-2025	1.5
Standard	02(8 Hours)

Project	Lingaraj OCP
Monitoring Station	Near Coal Corridor
Date of sampling	Carbon Monoxide (CO)
	mg/m³
07-May-2025	1.8
21-May-2025	1.6
Standard	02(8 Hours)

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भारत सरकार
भारत

Test Report

AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Compliance Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
06-Jun-25	GM Office Lingraj	185	81	38	14.51	24.31		
06-Jun-25	Near Silo Conveyor Belt	179	73	35	11.85	27.49		
21-Jun-25	GM Office Lingraj	177	78	36	18.42	23.63		
21-Jun-25	Near Silo Conveyor Belt	195	88	39	15.07	24.86		

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MoEF Standards Notification dated 25th
September, 2000

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Central Monitoring and Pollution Data Institute

Test Report

AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Reference Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
04-Jun-25	Kandhal Village	150	54	29	15.20	26.16		
04-Jun-25	Lingaraj Township	114	45	22	10.66	20.98		
04-Jun-25	Balunga Khamar Village	128	48	26	16.15	32.78		
05-Jun-25	Balunga Khamar Village	117	41	22	15.75	30.38		
05-Jun-25	Kandhal Village	129	47	23	12.66	26.38		
05-Jun-25	Lingaraj Township	127	49	25	15.40	26.04		
11-Jun-25	Lingaraj Township	147	56	29	13.42	29.66		
11-Jun-25	Balunga Khamar Village	121	53	27	13.27	22.03		
11-Jun-25	Kandhal Village	138	53	27	12.44	29.54		
12-Jun-25	Balunga Khamar Village	114	47	25	13.27	25.82		
12-Jun-25	Kandhal Village	157	65	30	15.20	26.16		
12-Jun-25	Lingaraj Township	154	57	30	12.64	22.42		
18-Jun-25	Kandhal Village	162	66	30	14.09	22.79		
18-Jun-25	Lingaraj Township	159	54	28	16.58	30.38		
18-Jun-25	Balunga Khamar Village	120	42	24	13.36	34.60		
19-Jun-25	Balunga Khamar Village	125	39	20	12.44	14.50		
19-Jun-25	Kandhal Village	117	41	21	16.16	31.14		
19-Jun-25	Lingaraj Township	131	42	23	14.09	16.71		
25-Jun-25	Balunga Khamar Village	111	36	19	12.24	18.81		
25-Jun-25	Kandhal Village	158	65	31	12.24	20.25		
25-Jun-25	Lingaraj Township	144	48	25	13.82	16.88		
26-Jun-25	Lingaraj Township	149	47	26	14.28	36.29		
26-Jun-25	Balunga Khamar Village	115	45	21	11.30	22.10		

*NAAQS, 2009

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Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

<i>Date of Sampling</i>	<i>Monitoring Station</i>	<i>SPM</i>	<i>PM10</i>	<i>PM2.5</i>	<i>SO2</i>	<i>NOx</i>	<i>Dust Generating Source(DGS)</i>	<i>Distance from DGS</i>
26-Jun-25	Kandhal Village	129	51	24	15.45	23.48		

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Kandhal Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
04-Jun-2025	<20.0	14.13	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
05-Jun-2025	<20.0	24.30	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
11-Jun-2025	<20.0	12.40	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
12-Jun-2025	<20.0	19.83	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
18-Jun-2025	<20.0	13.38	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
19-Jun-2025	<20.0	17.85	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
25-Jun-2025	<20.0	18.60	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
26-Jun-2025	<20.0	12.40	<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Lingaraj Township							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
04-Jun-2025	<20.0	16.62	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
05-Jun-2025	<20.0	26.78	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
11-Jun-2025	<20.0	14.63	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
12-Jun-2025	<20.0	16.37	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
18-Jun-2025	<20.0	21.07	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
19-Jun-2025	<20.0	23.55	<0.1	<1.0	<1.0	0.7	BQL(Q L=0.7)	BQL
25-Jun-2025	<20.0	22.57	<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
26-Jun-2025	<20.0	14.13	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Balunga Khamar Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
04-Jun-2025	<20.0	24.30	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
05-Jun-2025	<20.0	22.82	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
11-Jun-2025	<20.0	14.38	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
12-Jun-2025	<20.0	21.82	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
18-Jun-2025	<20.0	24.80	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
19-Jun-2025	<20.0	17.85	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
25-Jun-2025	<20.0	16.87	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
26-Jun-2025	<20.0	18.85	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA

Area: Lingaraj

Project	Lingaraj OCP
Monitoring Station	Near Silo Conveyor Belt
Date of sampling	Carbon Monoxide (CO)
	mg/m³
06-Jun-2025	1.3
21-Jun-2025	1.1
Standard	02(8 Hours)

Project	Lingaraj OCP
Monitoring Station	GM Office Lingaraj
Date of sampling	Carbon Monoxide (CO)
	mg/m³
06-Jun-2025	1.0
21-Jun-2025	0.9
Standard	02(8 Hours)

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AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Compliance Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
09-Jul-25	GM Office Lingraj	205	87	42	14.95	31.98		
09-Jul-25	Near Silo Conveyor Belt	178	90	39	16.29	18.99		
24-Jul-25	GM Office Lingraj	210	93	39	17.59	20.79		
24-Jul-25	Near Silo Conveyor Belt	231	108	46	13.46	21.94		

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AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Reference Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Jul-25	Kandhal Village	134	45	26	15.78	35.45		
03-Jul-25	Lingaraj Township	147	56	29	14.95	31.98		
03-Jul-25	Balunga Khamar Village	122	44	25	15.32	32.07		
04-Jul-25	Balunga Khamar Village	119	37	22	11.70	20.51		
04-Jul-25	Kandhal Village	111	37	18	19.03	21.94		
04-Jul-25	Lingaraj Township	135	45	24	11.28	17.47		
11-Jul-25	Lingaraj Township	110	33	15	12.95	23.55		
11-Jul-25	Balunga Khamar Village	131	48	26	19.35	25.58		
11-Jul-25	Kandhal Village	108	40	22	18.56	25.32		
12-Jul-25	Balunga Khamar Village	127	45	24	17.59	30.38		
12-Jul-25	Kandhal Village	133	49	26	14.95	25.58		
12-Jul-25	Lingaraj Township	147	51	27	10.44	26.58		
18-Jul-25	Kandhal Village	147	50	22	17.15	20.79		
18-Jul-25	Lingaraj Township	149	52	23	13.76	19.66		
18-Jul-25	Balunga Khamar Village	141	47	25	12.75	18.39		
19-Jul-25	Balunga Khamar Village	118	43	19	16.71	24.78		
19-Jul-25	Kandhal Village	111	40	17	13.46	27.85		
19-Jul-25	Lingaraj Township	113	43	19	11.01	22.79		
30-Jul-25	Balunga Khamar Village	130	45	21	13.78	30.38		
30-Jul-25	Kandhal Village	148	56	24	14.85	23.63		
30-Jul-25	Lingaraj Township	155	62	27	16.27	19.99		
31-Jul-25	Lingaraj Township	141	49	20	11.70	29.62		
31-Jul-25	Balunga Khamar Village	165	53	27	14.85	22.79		
31-Jul-25	Kandhal Village	144	46	19	16.71	31.18		

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Kandhal Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
03-Jul-2025	<20.0	24.50	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
04-Jul-2025	<20.0	23.00	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
11-Jul-2025	<20.0	18.75	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
12-Jul-2025	<20.0	26.50	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
18-Jul-2025	<20.0	26.75	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
19-Jul-2025	<20.0	11.50	<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
30-Jul-2025	<20.0	16.75	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
31-Jul-2025	<20.0	17.75	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Lingaraj Township							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
03-Jul-2025	<20.0	20.00	<0.1	<1.0	<1.0	0.7	BQL(Q L=0.7)	BQL
04-Jul-2025	<20.0	25.25	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
11-Jul-2025	<20.0	28.50	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
12-Jul-2025	<20.0	21.25	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
18-Jul-2025	<20.0	12.25	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
19-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
30-Jul-2025	<20.0	15.00	<0.1	<1.0	<1.0	0.8	BQL(Q L=0.7)	BQL
31-Jul-2025	<20.0	21.25	<0.1	<1.0	<1.0	0.7	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project		Lingaraj OCP						
Monitoring Station		BalungaKhamar Village						
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
03-Jul-2025	<20.0	28.25	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
04-Jul-2025	<20.0	12.50	<0.1	<1.0	<1.0	0.6	BQL(Q L=0.7)	BQL
11-Jul-2025	<20.0	16.25	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
12-Jul-2025	<20.0	23.25	<0.1	<1.0	<1.0	0.7	BQL(Q L=0.7)	BQL
18-Jul-2025	<20.0	12.25	<0.1	<1.0	<1.0	0.5	BQL(Q L=0.7)	BQL
19-Jul-2025	<20.0	20.75	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
30-Jul-2025	<20.0	11.75	<0.1	<1.0	<1.0	0.3	BQL(Q L=0.7)	BQL
31-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	0.4	BQL(Q L=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA

Area: Lingaraj

Project	Lingaraj OCP
Monitoring Station	Near Silo Conveyor Belt
Date of sampling	Carbon Monoxide (CO)
09-Jul-2025	0.4
24-Jul-2025	0.5
Standard	02(8 Hours)

Project	Lingaraj OCP
Monitoring Station	GM Office Lingaraj
Date of sampling	Carbon Monoxide (CO)
09-Jul-2025	0.4
24-Jul-2025	0.6
Standard	02(8 Hours)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP				
Monitoring Station	Near Conveyor Belt				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m ³)	(ng/m ³)	(ng/m ³)	(μg/m ³)	(μg/m ³)
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	

Project	Lingaraj OCP				
Monitoring Station	GM Office Lingaraj				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m ³)	(ng/m ³)	(ng/m ³)	(μg/m ³)	(μg/m ³)
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	

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AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Compliance Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
07-Aug-25	GM Office Lingraj	191	84	36	10.13	28.93		
07-Aug-25	Near Silo Conveyor Belt	202	90	41	10.59	22.68		
23-Aug-25	GM Office Lingraj	195	87	38	10.59	21.90		
23-Aug-25	Near Silo Conveyor Belt	188	90	41	11.05	17.99		

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 September, 2000

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AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Reference Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
04-Aug-25	Kandhal Village	118	40	21	20.26	27.37		
04-Aug-25	Lingaraj Township	148	50	26	15.51	24.99		
04-Aug-25	Balunga Khamar Village	142	65	27	17.50	33.43		
05-Aug-25	Balunga Khamar Village	131	53	24	9.58	16.98		
05-Aug-25	Kandhal Village	111	37	17	15.66	24.24		
05-Aug-25	Lingaraj Township	126	45	21	16.12	35.19		
11-Aug-25	Lingaraj Township	141	55	27	14.74	18.23		
11-Aug-25	Balunga Khamar Village	124	49	21	13.81	25.02		
11-Aug-25	Kandhal Village	131	44	23	15.66	17.99		
12-Aug-25	Balunga Khamar Village	130	50	23	12.89	21.11		
12-Aug-25	Kandhal Village	115	42	20	16.58	23.46		
12-Aug-25	Lingaraj Township	163	63	29	15.51	21.61		
20-Aug-25	Kandhal Village	127	45	20	14.27	32.06		
20-Aug-25	Lingaraj Township	159	66	30	12.25	28.23		
20-Aug-25	Balunga Khamar Village	124	48	21	15.20	34.41		
21-Aug-25	Balunga Khamar Village	119	39	17	16.58	33.63		
21-Aug-25	Kandhal Village	122	38	16	13.12	23.94		
21-Aug-25	Lingaraj Township	151	59	27	14.44	27.49		
27-Aug-25	Balunga Khamar Village	125	44	19	19.34	26.59		
27-Aug-25	Kandhal Village	114	47	19	12.15	18.98		
27-Aug-25	Lingaraj Township	125	49	20	14.44	25.26		
28-Aug-25	Lingaraj Township	171	76	32	14.27	17.20		
28-Aug-25	Balunga Khamar Village	138	52	27	10.13	26.59		

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Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

<i>Date of Sampling</i>	<i>Monitoring Station</i>	<i>SPM</i>	<i>PM10</i>	<i>PM2.5</i>	<i>SO2</i>	<i>NOx</i>	<i>Dust Generating Source(DGS)</i>	<i>Distance from DGS</i>
28-Aug-25	Kandhal Village	155	63	28	10.69	24.76		

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Kandhal Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
04-Aug-2025	<20.0	12.43	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
05-Aug-2025	<20.0	18.93	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
11-Aug-2025	<20.0	14.42	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
12-Aug-2025	<20.0	12.72	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
20-Aug-2025	<20.0	20.92	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
21-Aug-2025	<20.0	22.90	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
27-Aug-2025	<20.0	24.32	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
28-Aug-2025	<20.0	20.63	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Lingaraj Township							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
04-Aug-2025	<20.0	20.35	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
05-Aug-2025	<20.0	12.15	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
11-Aug-2025	<20.0	12.43	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
12-Aug-2025	<20.0	14.70	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
20-Aug-2025	<20.0	19.78	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
21-Aug-2025	<20.0	16.12	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
27-Aug-2025	<20.0	16.40	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
28-Aug-2025	<20.0	16.68	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)


Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Balungakhamar Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
04-Aug-2025	<20.0	20.35	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
05-Aug-2025	<20.0	13.28	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
11-Aug-2025	<20.0	16.97	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
12-Aug-2025	<20.0	13.85	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
20-Aug-2025	<20.0	14.13	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
21-Aug-2025	<20.0	19.50	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
27-Aug-2025	<20.0	13.28	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
28-Aug-2025	<20.0	23.18	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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 सीएमपीडीआई मिनी रत्ना cmpdi Mini Ratna	AMBIENT AIR QUALITY DATA Area: Lingaraj
	Project LingarajOCP Monitoring Station Near Silo Conveyor Belt Date of sampling Carbon Monoxide (CO) 07-Aug-2025 mg/m3 23-Aug-2025 0.7 Standard 0.9 Standard 02(8 Hours)

Project LingarajOCP Monitoring Station GM OfficeLingaraj Date of sampling Carbon Monoxide (CO) 07-Aug-2025 mg/m3 23-Aug-2025 0.5 Standard 0.7 Standard 02(8 Hours)


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AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Compliance Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
06-Sep-25	GM Office Lingraj	205	95	42	13.39	18.91		
06-Sep-25	Near Silo Conveyor Belt	215	102	43	15.69	25.66		
24-Sep-25	GM Office Lingraj	202	101	44	11.10	23.64		
24-Sep-25	Near Silo Conveyor Belt	195	94	40	17.68	25.26		

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Test Report

AMBIENT AIR QUALITY DATA

Area :

Lingaraj

(Reference Station)

Project :

Lingaraj OCP

(conc. in $\mu\text{g}/\text{cu.m.}$)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Sep-25	Kandhal Village	162	67	30	11.36	26.00		
03-Sep-25	Lingaraj Township	172	65	32	15.69	18.23		
03-Sep-25	Lingaraj Township	121	40	18	16.84	28.89		
03-Sep-25	Balunga Khamar Village	116	46	19	9.95	29.72		
04-Sep-25	Balunga Khamar Village	130	60	24	11.52	39.10		
04-Sep-25	Kandhal Village	170	78	33	15.43	20.64		
10-Sep-25	Lingaraj Township	152	49	24	18.16	32.06		
10-Sep-25	Balunga Khamar Village	144	72	28	16.41	30.46		
10-Sep-25	Kandhal Village	140	66	27	9.18	13.51		
11-Sep-25	Balunga Khamar Village	124	52	22	14.16	14.18		
11-Sep-25	Kandhal Village	118	37	17	9.68	12.63		
11-Sep-25	Lingaraj Township	108	37	17	12.24	27.01		
17-Sep-25	Kandhal Village	132	51	23	10.42	25.47		
17-Sep-25	Lingaraj Township	128	47	20	16.84	37.14		
17-Sep-25	Balunga Khamar Village	127	47	22	15.90	28.06		
18-Sep-25	Balunga Khamar Village	142	60	27	12.21	28.97		
18-Sep-25	Kandhal Village	112	37	17	15.43	40.45		
18-Sep-25	Lingaraj Township	150	68	28	14.18	36.75		
22-Sep-25	Balunga Khamar Village	153	76	33	11.36	27.49		
22-Sep-25	Kandhal Village	140	58	25	13.01	27.01		
22-Sep-25	Lingaraj Township	116	39	17	12.24	24.99		
23-Sep-25	Lingaraj Township	156	61	28	14.27	29.72		
23-Sep-25	Balunga Khamar Village	122	42	19	17.30	29.72		
23-Sep-25	Kandhal Village	125	45	20	18.52	24.52		

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area:Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Kandhal Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
03-Sep-2025	<20.0	21.62	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	12.87	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	15.87	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	24.63	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	23.53	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	22.17	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	13.68	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	25.45	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj

Project	Lingaraj OCP							
Monitoring Station	Lingaraj Township							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
03-Sep-2025	<20.0	15.87	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	17.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	22.17	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	13.68	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	17.53	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	12.15	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	23.47	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	20.07	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lingaraj


Project	Lingaraj OCP							
Monitoring Station	Balungakhamar Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
03-Sep-2025	<20.0	21.62	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	26.82	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	14.78	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	21.35	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	17.52	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	17.25	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	19.43	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	22.17	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)


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 सीएमपीडीआई मिनी रत्न cmpdi Mini Ratna	AMBIENT AIR QUALITY DATA Area: Lingaraj
	Project LingarajOCP Monitoring Station Near Silo Conveyor Belt Date of sampling Carbon Monoxide (CO) mg/m ³ 06-Sep-2025 1.2 24-Sep-2025 1.3 Standard 02(8 Hours)

Project LingarajOCP Monitoring Station GM OfficeLingaraj Date of sampling Carbon Monoxide (CO) mg/m ³ 06-Sep-2025 1.2 24-Sep-2025 1.4 Standard 02(8 Hours)


Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR



ANNEXURE - V

EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	Remarks
10-Apr-25	Clear Water Reservoir of ETP Near Dumper Parking	8.02	<4.0	31	28	-	
10-Apr-25	Filter Outlet of Workshop ETP	8.09	<4.0	33	20	-	
10-Apr-25	Inlet of ETP Near Dumper Parking	5.47	4.4	69	72	-	
10-Apr-25	Inlet of Workshop ETP	5.48	4.8	78	104	-	
25-Apr-25	Clear Water Reservoir of ETP Near Dumper Parking	7.78	<4.0	44	56	-	
25-Apr-25	Filter Outlet of Workshop ETP	7.75	<4.0	34	32	-	
25-Apr-25	Inlet of ETP Near Dumper Parking	5.32	5.0	77	88	-	
25-Apr-25	Inlet of Workshop ETP	5.58	4.6	69	96	-	

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents

5.5-9.0

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Authorised Signatory
CMPDI, RI VII, LAB
BHUBANESWAR

EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	MPN/100mL
10-Apr-25	STP Inlet at Lingaraj Township	7.75	-	47	-	<2	84
10-Apr-25	STP Outlet at Lingaraj Township	8.38	-	31	-	<2	47
25-Apr-25	STP Inlet at Lingaraj Township	7.10	-	40	-	<2	70
25-Apr-25	STP Outlet at Lingaraj Township	7.62	-	28	-	<2	41

G.S.R. 1265(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)	6.5-9.0	-	<100	-	30	<1000
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 Authorized Signatory
 CMPDI, RI-VII, LAB
 BHUBANESWAR

EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	Remarks
14-May-25	Filter Outlet of Workshop ETP	6.11	<4.0	35	28	-	
14-May-25	Inlet of ETP Near Dumper Parking	7.39	<4.0	27	28	-	
14-May-25	Inlet of Workshop ETP	6.37	4.8	65	88	-	
14-May-25	Mine Sump Water	7.94	-	-	-	-	
15-May-25	Clear Water Reservoir of ETP Near Dumper Parking	7.82	<4.0	23	24	-	
30-May-25	Clear Water Reservoir of ETP Near Dumper Parking	7.56	<4.0	25	16	-	
30-May-25	Filter Outlet of Workshop ETP	6.15	4.4	60	80	-	
30-May-25	Inlet of ETP Near Dumper Parking	7.19	<4.0	29	20	-	
30-May-25	Inlet of Workshop ETP	6.38	5.2	69	96	-	

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents

5.5-9.0

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EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	MPN/100mL
14-May-25	STP Inlet at Lingaraj Township	6.87	-	35	-	<2	84
14-May-25	STP Outlet at Lingaraj Township	6.71	-	27	-	<2	70
30-May-25	STP Inlet at Lingaraj Township	6.83	-	40	-	<2	81
30-May-25	STP Outlet at Lingaraj Township	6.62	-	29	-	<2	56

G.S.R. 1265(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)

6.5-9.0

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सीएमपीडीआई
मिनी रत्न
cmpdi
Mini Ratna

Effluent Quality (all Parameter): Lingaraj Area

Project (OCP / UG)	Lingaraj		MoEF-Sch-VI Standards
	Inlet of Workshop ETP	Filter outlet of Workshop ETP	
NAME OF THE STATION	14-May-2025	14-May-25	
Date of Sampling	14-May-2025	14-May-25	
Odour	Unobjectionable	Unobjectionable	-
Colour(Hazen)	7	8.0	-
Temperature(°C)	25.8	25.5	Shall not exceed 5 °C above the receiving temperature
pH	6.93	6.22	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	83.66	47.81	-
Total Dissolved Solids, mg/L	130	68	-
Nitrate Nitrogen(mg/L)(As N)	<0.5	0.93	10
Ammonical Nitrogen , mg/l (As N)	0.46	0.54	50
Total Kjeldhal Nitrogen, mg/l (As N)	3.32	2.21	100
Sulphide (mg/L)	<0.1	<0.1	2
BOD [3 days at 27°C] (mg/L)	<2.0	<2.0	30
Fluoride(mg/L)	1.16	0.78	2
Copper(mg/L)	<0.03	<0.03	3
Manganese(mg/L)	<0.04	0.07	2
Iron(mg/L)	<0.1	<0.1	3
Zinc(mg/L)	<0.04	<0.04	5
Lead, mg/l	<0.005	<0.005	0.1
Cadmium, mg/l	<0.001	<0.001	2
Total Chromium(mg/L)	<0.01	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	<0.05	0.1
Nickel(mg/L)	<0.02	<0.02	3
Arsenic, mg/l	<0.005	<0.005	0.2
Selenium (mg/L)	<0.005	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	<4.0	5
Phenolics (mg/L)	<0.001	<0.001	1

[Signature]
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

[Signature]



सीएमपीडीआई
मिनी रत्न
cmpdi
Mini Ratna

Effluent Quality (all Parameter): Lingaraj Area

Project (OCP / UG)	Lingaraj			MoEF-Sch-VI Standards
	Inlet of ETP near Dumper Parking	Clear Water Reservoir of ETP near Dumper Parking	Mine Sump Water	
NAME OF THE STATION				
Date of Sampling	14-May-25	14-May-25	14-May-25	
Odour	Unobjectionable	Unobjectionable	Unobjectionable	-
Colour(Hazen)	3.0	4	13	-
Temperature(^o C)	25.2	25.4	25.7	Shall not exceed 5 ^o C above the receiving temperature
pH	7.78	7.82	8.17	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	63.74	75.7	1032	-
Total Dissolved Solids, mg/L	108	128	1202	-
Nitrate Nitrogen(mg/L)(As N)	<0.5	<0.5	3.67	10
Ammonical Nitrogen , mg/l (As N)	0.50	0.56	0.46	50
Total Kjeldhal Nitrogen, mg/l (As N)	3.32	2.21	2.21	100
Sulphide (mg/L)	<0.1	<0.1	<0.1	2
BOD [3 days at 27 ^o C] (mg/L)	<2.0	<2.0	<2.0	30
Fluoride(mg/L)	0.63	0.73	1.29	2
Copper(mg/L)	<0.03	<0.03	<0.03	3
Manganese(mg/L)	<0.04	<0.04	<0.04	2
Iron(mg/L)	<0.1	<0.1	<0.1	3
Zinc(mg/L)	<0.04	<0.04	<0.04	5
Lead, mg/l	<0.005	<0.005	<0.005	0.1
Cadmium, mg/l	<0.001	<0.001	<0.001	2
Total Chromium(mg/L)	<0.01	<0.01	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	<0.05	<0.05	0.1
Nickel(mg/L)	<0.02	<0.02	<0.02	3
Arsenic, mg/l	<0.005	<0.005	<0.005	0.2
Selenium (mg/L)	<0.0005	<0.005	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	<4.0	<4.0	5
Phenolics (mg/L)	<0.001	<0.001	<0.001	1

Jatmal
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

Jatmal

TABLE--



सीएमपीडीआई
 सार्वजनिक
 cmpdi
 सार्वजनिक

EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	MPN/100mL
13-Jun-25	STP Inlet at Lingaraj Township	7.25	-	45	-	<2	120
13-Jun-25	STP Outlet at Lingaraj Township	7.42	-	30	-	<2	58
27-Jun-25	STP Inlet at Lingaraj Township	6.70	-	41	-	<2	110
27-Jun-25	STP Outlet at Lingaraj Township	6.91	-	27	-	<2	47

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 Authorised Signatory
 CMPDI, RI-VII, LAB
 BHUBANESWAR

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G.S.R. 1265(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)

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सीएमपीडीआई
Central Pollution Control Board
cmpdi
भारत सरकार

EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	Remarks
13-Jun-25	Clear Water Reservoir of ETP Near Dumper Parking	6.90	<4.0	29	16	-	
13-Jun-25	Filter Outlet of Workshop ETP	6.84	<4.0	37	32	-	
13-Jun-25	Inlet of ETP Near Dumper Parking	6.44	<4.0	45	52	-	
13-Jun-25	Inlet of Workshop ETP	6.56	4.4	53	68	-	
13-Jun-25	Mine Sump Water	7.81	<4.0	38	52	-	
27-Jun-25	Clear Water Reservoir of ETP Near Dumper Parking	7.38	<4.0	31	36	-	
27-Jun-25	Filter Outlet of Workshop ETP	6.40	<4.0	31	32	-	
27-Jun-25	Inlet of ETP Near Dumper Parking	6.02	<4.0	43	64	-	
27-Jun-25	Inlet of Workshop ETP	6.16	4.6	47	76	-	

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents

5.5-9.0

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Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

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TABLE--



EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	Remarks
16-Jul-25	Clear Water Reservoir of ETP Near Dumper Parking	8.33	<4.0	35	36	-	
16-Jul-25	Filter Outlet of Workshop ETP	6.54	<4.0	45	48	-	
16-Jul-25	Inlet of ETP Near Dumper Parking	6.51	<4.0	49	56	-	
16-Jul-25	Inlet of Workshop ETP	6.40	5.2	65	96	-	
16-Jul-25	Mine Sump Water	7.55	<4.0	29	24	-	
31-Jul-25	Clear Water Reservoir of ETP Near Dumper Parking	6.82	<4.0	35	32	-	
31-Jul-25	Filter Outlet of Workshop ETP	6.90	<4.0	43	40	-	
31-Jul-25	Inlet of ETP Near Dumper Parking	6.85	<4.0	44	48	-	
31-Jul-25	Inlet of Workshop ETP	6.68	4.4	61	84	-	

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents

5.5-9.0

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Authorized Signatory
Cmpdi, N-VII, LAB
BHUBANESHWAR

Jasmati

TABLE--



EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	MPN/100mL
16-Jul-25	STP Inlet at Lingaraj Township	8.30	-	37	-	3.0	210
16-Jul-25	STP Outlet at Lingaraj Township	7.52	-	25	-	<2	130
31-Jul-25	STP Inlet at Lingaraj Township	7.38	-	39	-	2.4	220
31-Jul-25	STP Outlet at Lingaraj Township	7.95	-	26	-	<2	130

G.S.R. 1265(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)

6.5-9.0

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Authorised Signatory
CMPDI, N.VII, LAB
BHUBANESWAR

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TABLE--



सीएनपीडीआई
किसी का
cmpdi
LAW RATING

EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	Remarks
14-Aug-25	Clear Water Reservoir of ETP Near Dumper Parking	6.77	<4.0	43	28	-	
14-Aug-25	Clear Water Reservoir of MDTP near Stock No. 17	6.54	4.4	61	80		
14-Aug-25	Filter Outlet of Workshop ETP	6.29	<4.0	41	32	-	
14-Aug-25	Inlet of ETP Near Dumper Parking	6.22	<4.0	59	60	-	
14-Aug-25	Inlet of MDTP near Stock No. 17	6.61	5.2	73	116		
14-Aug-25	Inlet of Workshop ETP	6.10	4.6	53	64	-	
14-Aug-25	Mine Sump Water	7.82	<4.0	39	48	-	
30-Aug-25	Clear Water Reservoir of ETP Near Dumper Parking	7.19	<4.0	42	44	-	
30-Aug-25	Filter Outlet of Workshop ETP	6.83	<4.0	37	40	-	
30-Aug-25	Inlet of ETP Near Dumper Parking	7.17	4.2	51	64	-	
30-Aug-25	Inlet of Workshop ETP	6.80	<4.0	46	56	-	

Signature
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CMPDI, RI-VII, LAB
BHUBANESWAR

Signature

MoEF Standard Notification dated 25th September, 2000
and MoEF Schedule VI, General standard for discharge
of Environmental Pollutants Part A: Effluents

5.5-9.0	10	100	250	30
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TABLE--



EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	MPN/100mL
14-Aug-25	STP Inlet at Lingaraj Township	6.48	-	47	-	3.1	130
14-Aug-25	STP Outlet at Lingaraj Township	7.13	-	33	-	2.2	110
30-Aug-25	STP Inlet at Lingaraj Township	7.35	-	39	-	2.7	94
30-Aug-25	STP Outlet at Lingaraj Township	7.58	-	27	-	2.1	63

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G.S.R. 1265(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)	6.5-9.0	-	<100	-	30	<1000
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सीएमपीडीआई
विशेष प्रयोग
cmpdi
संयुक्त प्रयोगशाला

EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	Remarks
13-Sep-25	Clear Water Reservoir of ETP Near Dumper Parking	7.54	<4.0	31	28	-	
13-Sep-25	Filter Outlet of Workshop ETP	7.59	<4.0	31	32	-	
13-Sep-25	Inlet of ETP Near Dumper Parking	7.33	4.2	40.	44	-	
13-Sep-25	Inlet of Workshop ETP	7.26	4.8	43	52	-	
13-Sep-25	Mine Sump Water	7.27	<4.0	26	24	-	
27-Sep-25	Clear Water Reservoir of ETP Near Dumper Parking	7.86	<4.0	35	32	-	
27-Sep-25	Filter Outlet of Workshop ETP	7.72	<4.0	33	36	-	
27-Sep-25	Inlet of ETP Near Dumper Parking	7.54	4.8	52	60	-	
27-Sep-25	Inlet of Workshop ETP	7.45	5.2	49	68	-	

Jaswal
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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Jaswal

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सीएमपीडीआई
सिद्धि एवं
सुख
cmpdi
सिद्धि एवं सुख

EFFLUENT QUALITY DATA

Area :

Lingaraj

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lingaraj OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	MPN/100mL
13-Sep-25	STP Inlet at Lingaraj Township	7.24	-	37	-	2.6	220
13-Sep-25	STP Outlet at Lingaraj Township	4.79	-	26	-	<2.0	120
27-Sep-25	STP Inlet at Lingaraj Township	7.33	-	37	-	2.9	280
27-Sep-25	STP Outlet at Lingaraj Township	7.58	-	28	-	<2.0	140

Janak
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

Sharma

G.S.R. 1265(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)	6.5-9.0	-	<100	-	30	<1000
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सीएमपीडीआई
मिनी रत्न
cmpdi
Mini Ratna

Effluent Quality (all Parameter): Lingaraj Area

Project (OCP / UG)	Lingaraj			MoEF-Sch-VI Standards
	NAME OF THE STATION	Inlet of MDTP near Stock No. 17	Clear Water Reservoir of MDTP near Stock No. 17	
Date of Sampling	30-Aug-25	30-Aug-25	30-Aug-25	-
Odour	Unobjectionable	Unobjectionable	Unobjectionable	-
Colour(Hazen)	1.0	2	4	-
Temperature(oC)	28.9	29.4	28.6	Shall not exceed 5 °C above the receiving temperature
pH	6.65	7.93	8.18	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	51.65	119.20	846.36	-
Total Dissolved Solids, mg/L	108	269	1065	-
Nitrate Nitrogen(mg/L)(As N)	<0.11	0.76	0.24	10
Ammonical Nitrogen , mg/l (As N)	0.55	0.75	0.71	50
Total Kjeldhal Nitrogen, mg/l (As N)	4.52	4.52	3.01	100
Sulphide (mg/L)	<0.1	<0.1	<0.1	2
BOD [3 days at 27°C] (mg/L)	2.1	3.3	3.6	30
Fluoride(mg/L)	0.50	0.71	<0.30	2
Copper(mg/L)	<0.03	<0.03	<0.03	3
Manganese(mg/L)	<0.04	<0.04	<0.04	2
Iron(mg/L)	<0.1	<0.1	<0.1	3
Zinc(mg/L)	<0.04	<0.04	0.04	5
Lead, mg/l	<0.005	<0.005	<0.005	0.1
Cadmium, mg/l	<0.001	<0.001	<0.001	2.0
Total Chromium(mg/L)	<0.01	<0.01	<0.01	2.0
Hexavalent Chromium(mg/L)	<0.05	<0.05	<0.05	0.1
Nickel(mg/L)	<0.02	<0.02	<0.02	3
Arsenic, mg/l	<0.005	<0.005	<0.005	0.2
Selenium (mg/L)	<0.0005	<0.005	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	<4.0	<4.0	5
Phenolics (mg/L)	<0.001	<0.001	<0.001	1

Januar
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

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ANNEXURE - VI



सीएमपीडी आई
Cmpdi
ANALYTICAL

TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Lingaraj

PROJECT :

Lingaraj OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
04-Apr-25	Lingaraj Township	49.8	37.8
04-Apr-25	Balunga Khamar Village	50.9	39.8
04-Apr-25	Kandhal Village	48.7	37.9
04-Apr-25	Near Silo Conveyor Belt	68.6	59.1
18-Apr-25	Lingaraj Township	48.7	38.1
18-Apr-25	Balunga Khamar Village	50.1	39.5
18-Apr-25	Kandhal Village	49.1	38.6
18-Apr-25	Near Silo Conveyor Belt	67.9	58.7

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR



सीएनपीडीआई
CMPDI
भुवनेश्वर

TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Lingaraj

PROJECT :

Lingaraj OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
14-May-25	Lingaraj Township	65.1	56.2
14-May-25	Balunga Khamar Village	45.1	36.9
14-May-25	Kandhal Village	43.7	35.3
14-May-25	Near Silo Conveyor Belt	68.9	57.3
28-May-25	Lingaraj Township	45.3	37.4
28-May-25	Balunga Khamar Village	47.3	39.7
28-May-25	Kandhal Village	46.9	39.7
28-May-25	Near Silo Conveyor Belt	69.1	57.4

MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 75dB(A) (Industrial)	10.00 PM - 6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 55dB(A) (Residential)	10.00 PM - 6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 65dB(A) (Commercial)	10.00 PM - 6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM - 6.00 AM Leq 40dB(A) (Silence Zone)

Hoffmann
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

[Signature]



सीएमपीडीआई
नर्मल नगर
cmpdi
नर्मल नगर

TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Lingaraj

PROJECT :

Lingaraj OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Jun-25	Lingaraj Township	52.1	43.1
10-Jun-25	Balunga Khamar Village	50.9	42.8
10-Jun-25	Kandhal Village	50.9	41.5
10-Jun-25	Near Silo Conveyor Belt	65.2	58.8
24-Jun-25	Lingaraj Township	52.1	41.9
24-Jun-25	Balunga Khamar Village	51.6	40.8
24-Jun-25	Kandhal Village	51.4	42.1
24-Jun-25	Near Silo Conveyor Belt	67.9	61.2

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

Taffanath
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

A. Jais



सीएमपीडीआई
भुवनेश्वर
cmpdi
भारतीय पर्यावरण प्रदूषण नियंत्रण बोर्ड

TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Lingaraj

PROJECT :

Lingaraj OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Jul-25	Lingaraj Township	46.3	37.6
10-Jul-25	Balunga Khamar Village	49.7	40.4
10-Jul-25	Kandhal Village	48.1	41.4
10-Jul-25	Near Silo Conveyor Belt	67.9	58.2
25-Jul-25	Lingaraj Township	47.7	38.1
25-Jul-25	Balunga Khamar Village	51.2	40.8
25-Jul-25	Kandhal Village	49.5	41.8
25-Jul-25	Near Silo Conveyor Belt	64.9	57.8

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

Authorized Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

Sanjay



सीएमपीडीआई
विश्वे शान्ति
cmpdi
मानव स्वास्थ्य

TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Lingaraj

PROJECT :

Lingaraj OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
06-Aug-25	Lingaraj Township	44.5	39.6
06-Aug-25	Balunga Khamar Village	50.3	41.3
06-Aug-25	Kandhal Village	46.3	39.8
06-Aug-25	Near Silo Conveyor Belt	70.1	56.7
22-Aug-25	Lingaraj Township	45.1	40.7
22-Aug-25	Balunga Khamar Village	49.1	41.3
22-Aug-25	Kandhal Village	47.3	38.1
22-Aug-25	Near Silo Conveyor Belt	65.7	55.3

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

Falguni
Authorized Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

Jasmati



सीएमपीडीआई
विश्वे नमो
cmpdi
Mini Rating

TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Lingaraj

PROJECT :

Lingaraj OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
05-Sep-25	Lingaraj Township	45.7	37.2
05-Sep-25	Balunga Khamar Village	47.2	38.9
05-Sep-25	Kandhal Village	44.3	38.3
05-Sep-25	Near Silo Conveyor Belt	62.7	55.2
24-Sep-25	Lingaraj Township	46.1	39.2
24-Sep-25	Balunga Khamar Village	47.9	43.1
24-Sep-25	Kandhal Village	45.9	38.7
24-Sep-25	Near Silo Conveyor Belt	69.1	57.2

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

Jasmat
Authorised Signatory
CMPDI, RI-VII, LAB
BIRUBANE SWAR

[Signature]

ANNEXURE - VII



क्रमांक संख्या: एम.सी.एल./मुख्यालय/ पर्यावरण एवं वन/2025/ 638

सेवा में,
सदस्य सचिव,
राज्य प्रदूषण नियंत्रण बोर्ड, उड़ीसा,
ए-118, नीलकंठ नगर, युनिट-VIII, भुवनेश्वर-751012.

विषय: एम.सी.एल. के सभी कार्यरत परियोजनाओं का वर्ष 2024-25 का पर्यावरण संबंधी विवरण फॉर्म-V की प्रस्तुति।

महोदय,
पर्यावरण संरक्षण अधिनियम, 1986 एवं संशोधन, 1993 के अधिनियम 14 के पालनार्थ, एम.सी.एल. के निम्नलिखित 23 खदानों, 02 रेलवे साइडिंग और 01 वाशरी के वर्ष 2024-25 का पर्यावरण संबंधी विवरण फॉर्म-V में एक साथ जिल्दबद्ध कर एक किताब के रूप में हम पत्र के साथ संलग्न कर आपके सूचनार्थ प्रस्तुत है।

क्र. सं.	इब-वैली कोलफील्ड्स के खदानों के नाम।	क्र. सं.	तालचर कोलफील्ड्स के खदानों के नाम।
1	इंट एलबीएल	16	अनंता खुली खदान।
2	इब-वैली कोल वाशरी।	17	भुवनेश्वरी खुली खदान।
3	लाजकुरा खुली खदान।	18	जगन्नाथ खुली खदान।
4	ममलेश्वरी खुली खदान।	19	लिंगराज खुली खदान।
5	ओरिएंट 1&2 भमिगत खदान।	20	कनिहा खुली खदान।
6	ओरिएंट 3 भमिगत खदान।	21	हिंगुना खुली खदान।
7	ओरिएंट 4 भमिगत खदान।	22	बलराम खुली खदान।
8	हिराखंड बुंदिया भमिगत खदान।	23	भरतपुर खुली खदान।
9	कुल्डा खुली खदान।	24	सुमद्रा ओसीपी
10	गारजनबहाल खुली खदान।	25	नंदिरा भमिगत खदान।
11	सियारमन खुली खदान।	26	नलचेर भमिगत खदान।
12	कणिका RS.		
13	बसुंधरा (वेस्ट) खुली खदान।		
14	लाइकेरा रेलवे साइडिंग		

कृपया पादरी भेजने की कृपा करें।
सधन्यवाद।

अनुलग्नक: 2/प्रति।

भवदीय,
दि. 27/09/25
डी सी कुंडू
महाप्रबंधक (पर्या. एवं वन),
एमसीएल मुख्यालय।

प्रतिलिपि:

- क्षेत्रीय अधिकारी, उ.रा.प्र.नि.बो., झारसुगुडा: एमसीएल के इब कोलफील्ड्स परियोजनाओं की वर्ष 2024-25 का पर्यावरण संबंधी विवरण फॉर्म-V में एक साथ जिल्दबद्ध कर एक किताब के रूप में संलग्न करते हुए प्रस्तुत।
- क्षेत्रीय अधिकारी, उ.रा.प्र.नि.बो., अंगुल: एमसीएल के तालचर कोलफील्ड्स परियोजनाओं की वर्ष 2024-25 का पर्यावरण संबंधी विवरण फॉर्म-V में एक साथ जिल्दबद्ध कर एक किताब के रूप में संलग्न करते हुए प्रस्तुत।

To,

The Member Secretary,
State Pollution Control Board, Odisha,
A-118, Nilakantha Nagar, Unit -VIII,
Bhubaneswar - 751012.

Sub: Submission of Environmental Statement in Form- V of the Operating Projects of MCL for the year 2024-25.

Sir,

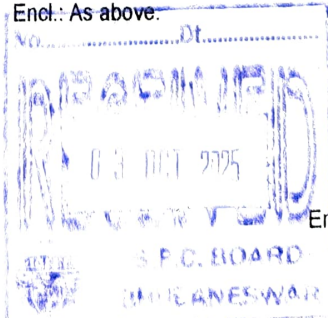
In compliance of Rule-14 of Environmental Protection Rules, 1986 and Amendment, 1993, the Environmental Statement in Form- V for each of following 23 mines, 02 Railway siding & 01 Washery of MCL for the year 2024-25, bound together in the form of a book is enclosed along with this letter for your kind information.

Sl. No.	Name of the Mines in lb- Valley Coalfield	Sl. No	Name of the Mines in Talcher Coalfield.
1	Int LBL	16	Ananta OCP
2	Ib Valley Coal Washery.	17	Bhubaneswari OCP
3	Lajkura OCP.	18	Jagannath OCP
4	Samaleswari OCP.	19	Lingraj OCP
5	Orient Mine No. 1&2	20	Kaniha OCP
6	Orient Mine No. 3	21	Hingula OCP
7	Orient Mine No. 4	22	Balaram OCP
8	Hirakhand Bundia Mine	23	Bharatpur OCP
9	Kulda OCP.	24	Subhadra OCP
10	Garjanbahal OCP.	25	Nandira UG Mine
11	Siarmal OCP	26	Talcher UG Mine
12	Kanika Railway Siding.		
13	Basundhara (West) OCP.		
14	Laikera Railway siding		

Kindly acknowledge the receipt.

Thanking You.

Encl.: As above.



Yours faithfully,

D C Kundu

General Manager,

Env. & Forest, MCL HQ.

Copy to:

- Regional Officer, OSPCB, Jharsuguda: along with Environmental Statement in Form-V for the year 2024-25 Projects of lb Coalfields, MCL bound together in one volume book.
- Regional Officer, OSPCB, Angul: along with Environmental Statement in Form-V for the year 2024-25

FORM-V

ENVIRONMENTAL STATEMENT

Environmental statement for the financial year ending 31st March, 2025

Part – A

- i) Name & Address of the owner/ occupier : Ashish Ranjan
of the industry operation or process : Project Officer, Lingaraj OCP
(Name of the Project Officer/ Sub-Area : Office of the Project Officer
Manager& Office address to be given) P.O.: Deulbera Colliery, Talcher
Distt.:Angul, Odisha-759102
- ii) Industry Category : Primary (Coal Mining Operation)
- iii) Production Capacity (Coal production : 20 MTY(18.20 MT)
during the year 2024-25)
- iv) Year of establishment : 1991
- v) Date of the last Environmental : 28.09.2024
Statement submitted

Part – B

Water & Raw Material Consumption

Note: Average Water Consumption (Cu-m/ day) for the whole year is given. Raw material consumption is given per unit of coal produced.

(I)Water Consumption (Cu-m/ day):

Sl. No.	Industrial/ Mining	Consumption in Cu-m/ day
1. a	Haul Road Dust Suppression	3784
b	Dust Suppression at CHP, Silo & Conveyor belt	2431
c	Dust Suppression at Siding	1874
d	Fire Fighting	325
e	Workshop	70
f	Others	196
2.	Domestic	---
3.	Total in kℓ/ day	8680

Name of the Product	Water Consumption per unit of product (ℓ/ t)	
	2023-24	2024-25
Coal	180.50	174.12

(II) Raw Material Consumption (per tonne of coal):

Name of Raw Material	Consumption of Raw Material (per tonne of Coal produced)	
	2023-24	2024-25
H.S. Diesel (ℓ/ t)	1.03	1.253
Petrol (ℓ/ t)	0.0003	0.0001
Lubricants (ℓ/ t)	0.02	0.027
Electricity (Units/ t)	2.54	2.907
Explosives (kg/ t)	0.23	0.308

Part – C**Pollution Discharged to Environment/ Unit of Output**

(Parameter as specified in the 'Consent' issued)

Pollutants	Quantity of pollutants discharged (mass/ day)	Concentrations of pollutants in discharges (mass/ volume)			Percentage variation from prescribed standards with reasons
		Mine Effluent	OGT Outlet	STP Outlet	
Water (annual average)					
	Nil	Mine Effluent	OGT Outlet	STP Outlet	Within the prescribed standards
TSS (mg/ℓ)		40	38	34	
BOD (mg/ℓ)		---	---	< 2	
COD (mg/ℓ)		35	39	---	
pH		7.17	7.30	7.48	
O & G (mg/ℓ)		< 4	< 4	---	
Air (Ambient air quality of one station-annual average)– Near Lingaraj to Dera Road					
SPM ($\mu\text{g}/\text{m}^3$)	Not possible to quantify	245			Within the prescribed standards
PM ₁₀ ($\mu\text{g}/\text{m}^3$)		129			
PM _{2.5} ($\mu\text{g}/\text{m}^3$)		60			
SO ₂ ($\mu\text{g}/\text{m}^3$)		14			
NO _x ($\mu\text{g}/\text{m}^3$)		21			

Part – D
Hazardous Wastes

As specified under Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016

Hazardous Waste	Total Quantity (kg)	
	During the current financial year 2023-24	During the current financial year 2024-25
(a) From process :		
i. Burnt Oil in Workshops	142326kg	44280kg
ii. Oil soaked filters	900kg	600kg
(b) From pollution control facilities:		
i. Oil / Oil emulsion recovery from Oil & Grease Trap	18 kg (Oil)	7.2 kg (Oil)
ii. Oily sludge	3000 kg	2200 kg
iii. Chemical Waste(if any)	---	---

Part – E
Solid Wastes (other than hazardous)

Particulars	Total Quantity	
	During the current financial year 2023-24	During the current financial year 2024-25
(a) From process (Top soil and Over burden)	13.034 Mm ³	14.701 Mm ³
(b) From pollution control facilities (STP & Sed-Pond Sludge)	Nil	Nil
(c) 1- Quantity recycled or re-utilized (OB back-filled)	13.034 Mm ³	14.701 Mm ³
2- Sold	---	---
3- Disposed	---	---

Part – F

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

(I) Hazardous Wastes:

Name of Hazardous Wastes	Quantity generated in the year 2024-25	Disposal Practices
Burnt Oil, etc. (ℓ) (from W/Shop)	44280kg	By auction to authorized parties.
Oil soaked filters(kg) (from W/Shop)	600kg	Stored in impervious lined pit.
Oil & Grease (kg) (from ETP/ OGT)	7.2 kg (Oil)	By auction to authorized parties.
Oily Sludge (kg) (from ETP/ OGT)	2200 kg	Stored in impervious lined pit.
Oil emulsion	---	---
Chemical Waste if any (kg)	---	---
Battery (nos.)	179nos.	By auction to authorized parties.

(II) Solid Wastes:

Solid Waste	Quantity generated in the year 2024-25	Disposal Practices
Top Soil (Mm ³)	0.018Mm ³	Spread over the backfilled area for plantation.
OB (Mm ³)	14.683Mm ³	Used to fill quarry voids.
STP & Sed-Pond Sludge	---	---

Land Reclamation & OB disposal – progressive till March, 2025:

	Area (Ha.)	OB Volume/ Nos. of Plants
1) External OB dump	108.88	47.98 Mm ³ /302525nos.
2) Excavated land	442.00	254.351 Mm ³
3) Land affected (1+2)	550.88	---
4) Backfilled (out of 2)	155.00	188.626Mm ³ / 103102nos.
5) Land physically reclaimed (out of 3)	*146.11	---
6) Land biologically reclaimed (out of 3)	*146.11	405627nos.

* 146.11 Ha. reclaimed area includes 37.23 Ha. of reclaimed backfilled area and 108.88 Ha. of reclaimed external OB dump area. The 146.11 Ha. area has been taken in to account for the calculation of physical reclamation and also for biological reclamation.

Part – G

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

In order to carry out mining in an eco-friendly manner, a detailed Environmental Management Plan (EMP) was prepared by Regional Institute-VII of CMPDIL. The main pollution control measures suggested in EMP along with the measures implemented so far have been summarized in the Table-1.1 to 1.3.

Table – 1.1
Air Pollution Control Measures

Sl. No.	EMP Provisions	Whether provided or not	Remarks
1	Water sprinkling and grading of all roads to minimize air-borne dust from vehicles.	Provided	
2	Biological reclamation of land.	Provided	
3	Green belt around mine & infrastructures.	Provided	
4	Drills fitted with dust control devices.	Provided	
5	Dust suppression/ dust extraction system to be provided in CHP.	Provided	
6	Improved maintenance of plant & machinery.	Scheduled maintenance is carried out.	
7	Mechanized coal transportation system.	Provided	

Table – 1.2
Water Pollution Control Measures

Sl. No.	EMP Provisions/ Additional precautions	Whether provided or not	Remarks
1	Mine water is to be collected in central sump on dip side of pit. This will act as sedimentation lagoon.	Provided	
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	Provided	
3	Surface run-off from external dump would be collected through a series of contour drains which would be connected to a water retention pond. The clear water from this pond will be re-utilized.	Provided	
4	Domestic waste water will be treated in screens, oxidation pond/ aerated lagoon. Sanitary waste to be disposed off into septic tank & soak-pit.	Provided	Domestic waste water is disposed in STP.
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	Provided	
6	Zero discharge from mine shall be maintained.	Maintained	
7	Piezometers shall be installed for measurement of under-ground water depth and its quality	Provided	MTP 01: Near the premises of Mandapal Hospital. MTP 04: Inside Central Nursery (beside golf hut), Jagannath Area

Table – 1.3
Land Reclamation

Sl. No.	EMP Provisions	Whether provided or not	Remarks
1	Top soil Management: Proper stripping, Storage, and Relocation of top soil.	Provided	
2	Physical Reclamation of OB Dump: Proper reshaping and re-grading of top surface, Providing drainage arrangements and top soil spreading on external and internal dumps.	Provided	
3	Biological Reclamation: Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Provided	

IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION

Cost of Environmental management during 2024-25 was Rs.12.18 per tonne of Coal.

Part – H

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

Head	Amount Rs. (approx)
Tree plantation	120 lakhs
Statutory Expenses	200 lakhs
Air Quality Management	1500 lakhs
Water quality management	15 lakhs
Environmental monitoring cost	165 lakhs
Environment Awareness Programmes	5 lakhs
Total	2005 lakhs

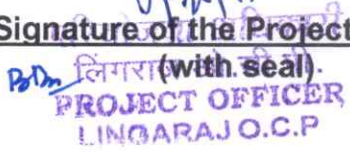
Part – I

Any other particulars for improving the quality of the environment

Various competitions among the children, employees and family members of employees were carried out on the occasion of World Environment Day 2024 to increase awareness about pollution control measures.

Note: A plan is attached herewith showing the relevant features like Present Working/ Quarry, External Dump, Back-filling, Plantation, Sedimentation Pond/ MDTP, Oil & Grease Trap/ ETP, Workshop, CHP etc. and Environmental Monitoring Stations.



Signature of the Project Officer.

P.O.  (with seal).
PROJECT OFFICER
LINGARAJ O.C.P

COST OF ENVIRONMENTAL MANAGEMENT FOR THE YEAR 2024-25

IN RESPECT OF LINGARAJ OCP

Sl. No.	Details of Expenditure	Amount
1	CTO fees	Rs. 80 lakhs
2	CGWA NOC Fees	Rs. 107.70 lakhs
3	Purchase of mobile water sprinklers	Rs. 487.78 lakhs
4	Dust suppression by mobile water tankers, mobile fog canon, mechanical road sweeper and wheel washing system (operation and maintenance)	Rs. 1309.35 lakhs
5	Other works related to air quality management	Rs. 16.46 lakhs
6	Works related to water quality management	Rs. 34.82 lakhs
9	Tree plantation including sapling distribution	Rs. 75.25 lakhs
10	Environmental monitoring works	Rs. 177.67 lakhs
11	Environmental awareness programmes	Rs. 2.49 lakhs
	Total	Rs. 2216.86 lakhs
	Cost of Environmental Management per unit tonne of Coal production (Coal production during the year 2024-25 was 18195202.90 tonnes)	Rs. 12.18 per tonne of coal


Signature of the Project Officer.
(with seal)
परियोजना अधिकारी
लिंगराज ओ.सी.पी.
PROJECT OFFICER
LINGARAJ O.C.P

