ADITYA BIRLA
HINDALCO

Ref: HILS/HKD/25-26/ 435

15th Nov 2025

To

Deputy Director General of Forests (C),
Integrated Regional Office,
Ministry of Environment and Forests & CC,
Government of India,
A/3, Chandrasekharpur,
Bhubaneswar - 751023

Sub: **Submission of six-monthly compliance report of compliance with the Environment Clearance (EC) conditions for the period Apr'25 to Sep'25 with respect to our Aluminium Smelter & CPP at Hirakud in the district of Sambalpur, Odisha**

Ref.: EC No.: (i) J-11011/400/2006-IA II (I), dated 6th February 2008 &
(ii) J-11011/144/2006-IA II (I), dated 19 October 2009

Dear Sir,

With reference to the above, enclosed please find herewith the six-monthly compliance report of compliance with the Environment Clearance (EC) conditions for the period Apr'25 to Sep'25 with respect to our Aluminium Smelter & CPP at Hirakud in the district of Sambalpur, Odisha. Environmental performance of the unit for the period has been enclosed as Annexures for reference.

Thanking you,

Yours truly
For Hindalco Industries Limited

Encl: As above

Sumit Mukherjee
Unit Head- Smelter & CPP

Copy for kind information to:

1. The Member Secretary, SPCB, Bhubaneswar
2. The Regional Director, Zonal Office of CPCB, Kolkata
3. The Regional Officer, SPCB, Sambalpur

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ADITYA BIRLA
HINDALCO

Six-Monthly Compliance of the Environmental Clearance (EC) Conditions granted for 360 KTPA Smelter & 967.5 MW CPP

Name of the project: M/s Hindalco Industries Limited, Smelter & Power
At/PO - Hirakud,
Dist.- Sambalpur,
Odisha, Pin -768 016.

Clearance Letter No: J - 11011/400/2006-IA II (I), dated: 6th February 2008, & Amendment J - 11011/144/2006-IA II (I), dated 19th October 2009.

Period of Compliance: Apr'2025 to Sep'2025

Sl. No.	Specific Conditions		Status as of 30th Sep'2025
(i)	As stated in the Public Hearing, the new expansion site shall be on the opposite side of the village.		The site of expansion up to 216 KTPA Smelter & 467.5 MW CPP is on the opposite side of the village NuaJamda.
(ii)	The expansion shall be based only on Pre-baked Anode Technology, and all Soderberg Technology-based pots shall be converted to Pre-baked Anode Technology, as per the schedule submitted to the Ministry. The Captive Power Plant shall be based on CFBC/PFC Boiler.	:	Prebaked anode technology is being adopted in the existing Smelter Plant. All the Soderberg pots have already been converted to pre-baked technology. All the 13 Boilers of the 467.5 MW Power Plant are of CFBC technology.
(iii)	The gaseous emissions (SO_2, NOx, CO, HC, and Fluoride) and Particulate matter along with RSPM levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view of the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. Online continuous monitoring system for particulate emissions, SO_2 and NO_x shall be provided and shall make necessary arrangements for the submission of online real-time emission data to the CPCB website. Interlocking facility shall be provided between pollution control equipment and the process operation so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	:	The stack emission from Smelter & CPP units confirms the standards prescribed by MoEF&CC, CPCB and SPCB from time to time. Particulate Matter and Fluoride emission from FTP stacks and rooftop fugitive fluoride from pot rooms is being monitored on monthly basis and report is being submitted to SPCB & CPCB. The summary of the monitoring report is enclosed as **Annexure I**. Online real-time fluoride and dust monitoring analyzers installed at all FTP stacks of Smelter. Opacity Monitors for monitoring of particulate matter and gas analyzers (CEMS) for SO_2, NOx, and Hg monitoring installed in all the stacks of CPP. Real-time monitoring data is being transmitted to SPCB/CPCB RTDAS server. As the pollution control devices are attached to multiple process operations (pots in case of Smelter and boilers in case of CPP) and the operations are continuous in nature interlocking facilities are not feasible. Alarm systems have been installed for identification of any kind of failure/ tripping of pollution control systems attached to the operating units.

	Low NOx burners shall be installed to control the NOx emissions.		In CPP, environment-friendly CFBC boilers have been installed in each unit, which are low NOx-generating. The emission is well below the limit prescribed by SPCB.
(iv)	Only 10 new stacks shall be installed for the expansion project - 4 in the smelter plant, 4 in the anode plant, and 2 in the casting unit. The scrubbed alumina from the alumina-based dry scrubbing system shall be reused in the process. Minimum stack height shall be 50 m. The minimum height of other stacks of anode plant and casting plant shall be 35 m, which shall be based on the Sulphur content of the fuel. 3 new stacks in the Power plant shall be provided with ESP.	:	Fume Treatment Plant (FTPs) with dry scrubbing systems have been installed and the enriched alumina from the FTPs is being reused in the process. Currently, Five Stacks of height of more than 50 m have been provided to all FTPs, and six stacks are attached to casting units & caster. Anode baking plant has not been installed in Smelter unit. Stacks of height 130 m have been provided to each unit of CPP and ESPs of efficiency 99.9%, equipped with High Frequency Rectifier Transformers (HFTRs) have been provided to all boilers of the 467.5 MW CPP.
(v)	Total Fluoride emissions and pitch fumes from the smelter and anode-baking unit shall be controlled using alumina alumina-based dry scrubbing system to limit Fluoride emissions within 0.8 kg/ton Aluminium produced and SPM within 50 mg/Nm3. SPM emissions from the Captive Power Plant shall be less than 100 mg/NM3. Forage Fluoride levels of less than 80 ppm for one month, less than 60 ppm for two months, and less than 40 ppm for 12 months shall be complied with. Further, the pot emissions through the fume treatment plant shall not exceed 0.30 kg/ton of Aluminium produced.	:	All the FTPs of the Smelter are based on alumina-based dry scrubbers through which the total fluoride emission is controlled within the prescribed limit of CPCB/ SPCB. Baked anodes from nearby units of Aditya Aluminium are used in the smelting process. The particulate matter, fluoride emissions, and forage fluoride in the grass are being monthly monitored for the impact of the Smelter Plant operation and reported to SPCB and MOEFCC through half-yearly EC compliance reports. All the processes of Smelter & CPP units meet the stipulated norms of MoEF&CC/CPCB/SPCB. Please refer to **Annexure-I** for a summary of the stack monitoring report of Smelter & CPP.
(vi)	Regular monitoring of fluoride content in ambient air, forage fluoride, and groundwater shall be carried out and data shall be submitted to the State Pollution Control Board.	:	Regular monitoring of fluoride in ambient air, surface water, groundwater as well as forage is being carried out in regular intervals, and the data is being submitted to State Pollution Board along with monthly progress reports. The summary of the analysis report of Ambient Air, Forage, ground water and noise is enclosed as **Annexure VII.**
(vii)	Raw material shall be stored in covered yards. Water sprinkling arrangements shall be made in the raw material stockyard to control fugitive emissions. Coal and other raw materials shall be transported in covered trucks, containers, etc., which shall later be shifted to covered rail wagons.	:	The Coal for the Power Plant is transported from various sources through railway BOXN wagons as well as trucks with tarpaulin covering and stored under sheds in the coal yard of the Power plant. Dust suppression arrangement like water sprinkling is done through fixed sprinklers to prevent fugitive emissions. Fugitive dust on the roads is suppressed by water sprinkling through mobile water tankers. 16 nos. of water spraying

			systems/ rain guns have been installed in and around the Coal yard & 53 no.s of water sprinklers installed at Railway siding. Besides, 6 no.s of mist Fog canons have also been deployed for CHP and ash silo area. In addition, truck mounted road sweeping machines have been deployed at Coal & Railway siding area. Alumina for Smelter Plant is transported from Bauxite Refinery at Rayagada, Odisha, and Muri, Jharkhand through BTAP wagons/ bulkers and stored in 9 dedicated Alumina silos (6 x 1700 MT, 1 x 3400 MT, & 2 x 3500 MT). Alumina from the silos is conveyed pneumatically to the pots.
(viii)	In plant control measures for checking fugitive emissions from all the vulnerable sources like spillage/raw materials/coal handlings etc. shall be provided. Further, specific measures like the provision of a dust extraction and suppression system consisting of water sprinkling, suction hoods, fans, cyclones, bag filters, venturi scrubbers, etc. shall be installed at material transfer points and other enclosed raw material handling areas. Centralized de-dusting system i.e. collection of fugitive emissions through a suction hood, shall be provided and subsequent treatment through a bag filter or any other device and finally emitted through a stack of appropriately designed height, as prescribed above.	:	Bag filters have been installed in Fume Treatment Plants (FTPs) connected to the Smelting process. Dust collection and suppression systems have been provided at different dust-generating sources of Smelter. Control of fugitive emissions in CPP is ensured by the central de-dusting system with suction hoods in the crusher houses of CHP. Bag filters have also been provided in the crusher houses of CHP and Ash silos. Dust suppression systems have been provided in the railway siding, coal yard, ash silo area, ash transporting road, and all other vulnerable areas of fugitive dust emission. Adequate ash conditioning is ensured before ash unloading from the ash silo to prevent fugitive dust emission. Frequent water sprinkling is carried out on the ash and coal transportation roads.
(ix)	Fugitive Fluoride emissions from the Pot room shall not exceed 0.4 Kg/Ton of Aluminium produced. Fugitive emissions, especially in the work zone area, product, and raw materials storage area, etc. shall be regularly monitored and records maintained. The emissions shall conform to the limits imposed by the State Pollution Control Boards / Central Pollution Control Board.	:	The fugitive fluoride emission from the pot room is ~ 0.30 Kg/ MT of Aluminium produced. Regular monitoring of fugitive emissions in the work zones is being carried out. The fluoride emission is being monitored through continuous emission monitoring analyzers and data is transmitted to SPCB & CPCB. The summary of the pot room rooftop fugitive monitoring report is attached as **Annexure-III**.
(x)	Windbreakers shall be installed to restrict fugitive dust	:	Boundary wall with windbreaker of sufficient height installed in Coal handling area to restrict the fugitive dust. Adequate sprinklers and mist fog canons have been provided at potential sources of generation to contain fugitive emission.

(xi)	The water requirement for the expansion project shall not exceed 69,600 KLD and shall be sourced from the Hirakud reservoir	:	The raw water for Smelter, Power & FRP is being sourced from the Hirakud reservoir. Total raw water withdrawal from the reservoir was around 21937 KLD (Avg.) during Apr'25 to Sep'25.
(xii)	Wastewater generation shall not exceed 14,250 KLD for the expansion project. Wastewater generated from smelter shall be treated in Rotating Biological Contactor and shall be reused in the plant. Cooling water blow down from the power plant shall be treated up to discharge standards and discharged into Kharjhor nalla.	:	The wastewater generation from all the units was around 2933 KLD (avg.). The wastewater generated from the Smelter is being treated in three nos. of effluent treatment plants (ETPs) of capacity 250 KLD, 350 KLD, and 50 KLD and reused in cooling towers. The earlier installed Rotating Biological Contractor (RBC) has been replaced with an RO-based 350 KLD ETP. The cooling tower blow-down of CPP is treated in the RO Plants of capacity 120 m^3/Hr & 190 m^3/Hr and reused in cooling towers. Wastewater from other processes is being treated to meet the standards before reuse in various in-house activities and cooling towers. The domestic wastewater of three plants is treated in STPs of capacities 500KLD, 400KLD, 300KLD & 100KLD. The treated water of these STPs is reused inside plants and colonies for gardening. Surface run-off during monsoon is treated in a Tube-settler of capacity 50 m^3/Hr, outlet of which is reused in Cooling Towers of CPP after treatment through RO. Monitoring of water quality is being carried out monthly and the same is enclosed for the period Apr'2025 to Sep'2025. Please refer **Annexure IV** for the treated water quality.
(xiii)	7650 TPA of solid waste generated, mainly the spent pot lining from the smelter shall be disposed of in a secured landfill site inside the premises. The SLF shall be as per CPCB guidelines. 2.55 million TPA of coal ash generated from the power plant shall be disposed of as dry ash mounds. However, it shall be ultimately disposed of as backfill material in abandoned coal mines or shall be utilized as per the Fly Ash Notification 5.0.763 (E) dated 14.9.1999 of this Ministry. The proposed Amendment / revision to this Notification shall	:	The carbon part of spent pot lining is disposed to actual user (M/s Regrow Transo Pvt Ltd., Jharsuguda), refractory part to CHWTSDF (M/s Re Sustainability, Jajpur), mixed fines to cement plants for co-processing and silicon carbide to authorized recycler. The Aluminium dross generated is re-processed in the in-house Dross Processing Unit and partly supplied to actual users and other hazardous waste is disposed to actual users/CHWTSDF/Co-processing in Cement manufacturing in line with the hazardous

			The Coal ash generated from the CPP is supplied to brick manufacturers, cement plants, low-lying area filling, road making. The ash utilization for the period Apr'25 to Sep'25 was 100.0%. The ash generation and utilization status are enclosed as **Annexure-V.**
(xiv)	Minimum Cycle of Concentration (COC) for the CPP shall be 5.0	:	The CoC was maintained at ~ 6 in all the operating units of CPP.
(xv)	Minimum of 33 % of the total land area shall be developed as green belt with local species in consultation and as per the CPCB's guidelines.	:	Around 36.4% of the total project area has been covered under greenbelt. The details of the plantation are enclosed as **Annexure -VI.**
(xvi)	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium Sector shall be strictly implemented.	:	All the recommendations of Charter of Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector are implemented, and pointwise compliance is enclosed as **Annexure-XI.**
(xvii)	The project authorities shall earmark Rs.369 crores to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	:	Against expansion proposal of 100 KTPA Smelter to 360 KTPA & 267.5 MW CPP to 967.5 MW, Smelter has expanded up to 216 KTPA & CPP up to 467.5 MW. During the expansion of both plants till Sep 2025, is around Rs 278 Crore spent towards pollution control measures like installation of ESPs, BF, FTPs, ETPs & STPs, Stacks, and other environment related initiatives. Allocated funds for environment protection are not diverted for any other purpose.
B. GENERAL CONDITIONS:			
(i)	The project authorities shall strictly adhere to the stipulations made by the State Pollution Control Board	:	Stipulations of the State Pollution Control Board through its CTO are being strictly adhered.
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	:	No expansion or modifications in the plant have been done without prior approval of MoEF&CC/SPCB.
(iii)	Regular monitoring of ambient air for SPM, RSPM, SO_2, NO_x, CO, HC, and Fluoride shall be carried out as per CPCB guidelines. The locations of ambient air quality monitoring stations shall be reviewed in consultation with the State Pollution Control Board (SPCB) and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated.	:	The ambient air quality is being monitored in various locations of the Smelter and CPP. The summary of ambient air quality monitoring is enclosed as **Annexure - II.** For the continuous monitoring of ambient air quality 5 no's CAAQMS (2 no.s inside Smelter premise & 3 no.s inside CPP premise) have been installed. The online monitoring data is being transmitted to servers of SPCB & CPCB server.

(iv)	Data on ambient air quality, fugitive emissions, and stack emissions should be regularly submitted to the concerned Regional Office of this Ministry and SPCB/CPCB every six months and posted on the Website of the Project Authority	:	Data on ambient air quality, fugitive emissions, stack emissions, and water effluent quality are being regularly submitted to the Eastern Regional Office along with six monthly EC compliance reports before 1st June & 1st Dec. The six-monthly compliance report is available on the company's website. (URL: http://www.hindalco.com/sustainability/regulatory-compliances)
(v)	Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR422 (E) dated 19th May 1993 and 3rd December, 1993 or as amended from time to time	:	Wastewater is collected and treated to meet the standards, and the treated water is reused as Cooling tower make-up. The analysis reports are submitted to SPCB every month.
(vi)	The project authorities shall strictly comply with the rules and guidelines under the Manufacture, Storage, and Import of Hazardous Chemicals Rules, 1989 as amended in October 1994 and January 2000, and Hazardous Waste (Management and Handling) Rules, 1989, as amended from time to time. Authorization from the SPCB shall be obtained for the collection, treatment, storage, and disposal of hazardous wastes. All Transportation of Hazardous Chemicals shall be as per the MVA, 1989	:	Authorization for the Management and Handling of Hazardous Waste for both Smelter & CPP separately have been obtained from the State Pollution Control Board, Odisha. The conditions stipulated in the authorizations are being strictly followed in line with the authorization order.
(vii)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures, etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime)	:	The Noise level in and around the plants is being monitored monthly and found within the prescribed limit. The monthly report is being submitted to SPCB. The ambient noise level data for the period Apr'2025 to Sep'2025 is enclosed as **Annexure-VIII.**
(viii)	Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act.	:	Occupational health surveillance of all the employees is being carried out regularly and records are maintained.
(ix)	Training shall be imparted to all employees on the safety and health aspects of chemical handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis	:	Regular training is being imparted to all the employees on various safety, health and environmental topics. Pre-employment and routine periodical medical examinations for all employees are being undertaken regularly. For the period Apr'2025 to Sep'2025 the health surveillance statistics are as follows:

			Pre-employment health surveillance against new recruitment- 3376 people. Periodic medical health surveillance for permanent employees- 731 people. Periodic medical health surveillance for contractual employees- 2455 people.
(x)	Usage of PPEs by all employees/ workers shall be ensured	:	The use of PPEs by all the employees and contractual workers is being strictly ensured in the unit.
(xi)	The Company shall harvest surface as well as rainwater from the rooftops of the buildings proposed in the expansion project and stormwater drains to recharge the groundwater and use the same water for the various activities of the project to conserve fresh water	:	For harvesting of surface water as well as rainwater from rooftops of the buildings, two harvesting structures have been installed in the residential colonies. The collected water is used for various in-house activities.
(xii)	The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report. All the recommendations made in respect of environmental management and risk mitigation measures relating to the project shall be implemented.	:	We are complying with the environmental protection measures and safeguards proposed in EIA/ EMP. All the recommendations made in respect of environmental management and risk mitigation measures relating to the project have been implemented.
(xiii)	The company will undertake all relevant measures, as indicated during the Public Hearing to improve the Socio-economic conditions of the surrounding area. CSR activities will be undertaken by involving local villages and administration	:	The company is undertaking various community development programs in and around Hirakud involving SHGs. The expenditure towards CSR activities & details of beneficiaries for the period Apr'2025 to Sep'2025 is enclosed as **Annexure IX**.
(xiv)	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval	:	The company is undertaking various community development programs in and around Hirakud involving local SHGs. Various welfare measures are undertaken. During the period October'2024 to March'2025 Rs. 175.59 Lakh has been spent towards community development projects including rural periphery development at Hirakud localities (please refer to **Annexure IX).** The Environmental Expenditure from Apr'2025 to Sep'2025 was around 54.23 Cr (**Annexure - X**).
(xv)	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	:	Separate Environmental Management Cell with required laboratory facility available in Smelter & CPP Complex to carry out environmental monitoring & analysis activities.
(xvi)	The implementation of the project vis-a-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry/ SPCB / CPCB. A six-monthly compliance status report shall be submitted to monitoring agencies	:	The six-monthly compliance status report is submitted before 1st June & 1st December each year and is uploaded to our Company website. Ref URL:

	and shall be posted on the Website of the Company.		http://www.hindalco.com/sustainability/regulatory-compliances
(xvii)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/ Committee and may also be seen at the Website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	:	The public was informed through advertisements in three widely circulated regional newspapers namely: (1) The Dharitri, Dated 12th February 2008 (2) The Agnisikha, Dated 12th February 2008 (3) The Sambad, Dated 14th February 2008, This was also communicated to the Regional Office of MOEF, Bhubaneswar vide our letter of 14th February 2008 along with copies of the newsletters.
(xviii)	The project authorities shall inform the Regional Office as well as the Ministry, of the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	:	The Smelter & CPP expansion has been carried out in a phased manner. The last expansion of Smelter, i.e. addition of 235KA potline (80 pots) commissioned in October 2014.
(xix)	The Ministry may revoke or suspend the clearance if the implementation of any of the above conditions is not satisfactory.	:	Noted and accepted.

Amendment Letter: J - 11011/144/2006-IA II (I), dated 19th October 2009.

Sl. No	Conditions		Compliance status as on 31st March 2025
3.0.1	All the specific and general conditions shall remain unchanged and have to be complied in Toto and pari-passu.	:	All the specific and general conditions are complied.
2	There shall be no change or modification in the ultimate capacity of the Smelter Plant (1,00,000 to 3,60,000 TPA) and Captive Power Plant (267.5 MW to 967.5 MW).	:	The Smelter & CPP capacity is 216 KTPA & 467.5 MW, which is within the approved capacity.
3	All the emissions (ambient air, stack, fugitive, and fluoride emissions) shall be within the permissible limit as prescribed in the Environmental Clearance dated 6th February, 2008.	:	All the emissions are within the prescribed limit. Please refer to the annexures **I, II, & III.**
4	No additional land shall be acquired.	:	No additional land was acquired for the expansion activities.
5	No additional water shall be used.	:	The water consumption was within the limit specified in EC.
6	A copy of the clearance letter shall be sent by the proponent to the concerned Panchayat Zilla Parishad / Municipal Cooperation, Urban local body, and the local NGO, if any,	:	The copy of the environmental clearance letter was submitted to the local Urban local body.

	from whom suggestions/representations if any were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.		
7	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF at Bhubaneswar, the respective Zonal office of CPCB and the OPCB. The criteria pollutant levels namely, SPM, RSPM, SO_2, NO_X (ambient levels as well as Stack emissions) or critical sectorial parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	:	The six-monthly EC compliance is submitted to the Regional Office of the Ministry of Environment & Forests & Climate Change (MoEF&CC), Bhubaneswar regularly. The same is also uploaded on the website of the company. Environmental monitoring parameters are displayed in the main gates of both the Smelter and Power Plant for the public.
8	The project proponent shall also submit six monthly reports on the status of compliance with the stipulated environment clearance conditions, including results of monitored data (both in hard copies as well as by e-mail) to the regional office of MOEF at Bhubaneswar, the respective Zonal office of CPCB and the OPCB. The Regional Office of this Ministry at Bhubaneswar / CPCB/ OPCB shall monitor the stipulated conditions.	:	Six monthly compliances of Environment Clearance (EC) conditions are submitted through the MoEF&CC Portal.
9	The environmental statement for each financial year ending 31st March in Form-V is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MoEF&CC by e-mail.	:	The annual environmental statement in Form-V is submitted to the State Pollution Control Board and MOEFCC every year and is being uploaded to the company's website. (URL: http://www.hindalco.com/sustainability/regulatory-compliances)

(Authorized Signatory)

Annexure - I

ENVIRONMENTAL QUALITY PARAMETERS OF SMELTER

(April'2025 to September' 2025)

1. Stack Emission Monitoring of Fume Treatment Plant (Dry Scrubbers): (through NABL accredited laboratory)

   Limit (as per CTO): Particulate Matter - 100 mg/Nm^3 & Total Fluoride: - 0.3 Kg/MT of Aluminium

Stack	Parameter	Unit	STD	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25	Average
FTP -1 Stack-1	PM	mg/Nm^3	100	11.72	10.89	11.44	9.38	10.6	12.8	**11.14**
	Fluoride (total)	Kg/MT of Al.	0.3	0.16	0.18	0.25	0.22	0.21	0.27	**0.22**
	Hydrocarbon	ppm	-	2.89	2.19	2.97	3.06	3.08	3.46	**2.94**
FTP -1 Stack-2	PM	mg/Nm^3	100	13.24	12.66	12.79	13.29	12.16	10.62	**12.46**
	Fluoride (total)	Kg/ MT of Al.	0.3	0.17	0.19	0.22	0.21	0.19	0.21	**0.20**
	Hydrocarbon	ppm	-	3.11	2.97	3.10	2.60	3.22	2.86	**2.98**
FTP -2 Stack-3	PM	mg/Nm^3	100	8.97	9.49	10.19	12.72	13.2	11.85	**11.07**
	Fluoride (total)	Kg/ MT of Al.	0.3	0.14	0.16	0.16	0.17	0.17	0.16	**0.16**
	Hydrocarbon	ppm	-	3.24	3.97	4.22	3.88	3.06	3.86	**3.71**
FTP -3 Stack-4	PM	mg/Nm^3	100	6.84	7.24	8.64	9.98	10.8	9.81	**8.89**
	Fluoride (total)	Kg/ MT of Al.	0.3	0.15	0.16	0.15	0.13	0.13	0.15	**0.15**
	Hydrocarbon	ppm	-	4.56	5.45	4.87	4.23	3.94	4.24	**4.55**
FTP - 4 Stack-5	PM	mg/Nm^3	100	5.92	6.24	7.66	8.96	9.8	9.46	**8.01**
	Fluoride (total)	Kg/ MT of Al.	0.3	0.12	0.11	0.12	0.11	0.09	0.11	**0.11**
	Hydrocarbon	ppm	-	5.22	5.88	5.24	5.39	4.88	4.86	**5.25**

ENVIRONMENTAL QUALITY PARAMETERS OF CPP
STACK EMISSION
(April'2025 to September'2025)

Unit # I

Process attached to the unit : Boiler # 1 &2

Sl. No.	Month / Year	Unit	PM	SO_2	NO_x	Hg
01.	Apr'25	mg / NM^3	The unit was under shut down (SD)			
02.	May'25	mg / NM^3	The unit was under shut down (SD)			
03.	June'25	mg / NM^3	The unit was under shut down (SD)			
04.	July'25	mg / NM^3	The unit was under shut down (SD)			
05.	Aug'25	mg / NM^3	The unit was under shut down (SD)			
06.	Sept'25	mg / NM^3	The unit was under shut down (SD)			
	Average	mg / NM^3	The unit was under shut down (SD)			
	Standard	mg / NM^3	100	600	600	-

Unit # II

Process attached to the unit : Boiler # 3, 4 & 5

Sl. No.	Month / Year	Unit	PM	SO_2	NO_x	Hg
01.	Apr'25	mg / NM^3	43.78	431.72	360.67	0.0089
02.	May'25	mg / NM^3	42.62	432.0	351.4	0.0092
03.	June'25	mg / NM^3	42.15	430.15	354.07	0.0090
04.	July'25	mg / NM^3	44.7	464.57	329.53	0.0091
05.	Aug'25	mg / NM^3	44.77	462.55	326.08	0.0093
06.	Sept'25	mg / NM^3	44.63	460.02	326.88	0.0091
	Average	mg / NM^3	**43.77**	**441.83**	**341.43**	**0.0091**
	Standard	mg / NM^3	100	600	450	0.03

Unit # III

Process attached to the unit: Boiler # 6, 7 & 8

Sl. No.	Month / Year	Unit	PM	SO_2	NO_x	Hg
01.	Apr'25	mg / NM^3	46.15	448.5	332.7	0.0094
02.	May'25	mg / NM^3	43.4	427.03	331.2	0.0095
03.	June'25	mg / NM^3	43.6	428.5	344.95	0.0091
04.	July'25	mg / NM^3	47.85	426.4	341.5	0.0088
05.	Aug'25	mg / NM^3	47.18	448.38	355.3	0.0091
06.	Sept'25	mg / NM^3	46.18	452.95	350.25	0.0089
	Average	mg / NM^3	**44.97**	**438.62**	**342.65**	**0.0091**
	Standard	mg / NM^3	100	600	450	0.03

Unit # IV

Process attached to the unit : Boiler # 9, 10 &11

Sl. No.	Month / Year	Unit	PM	SO_2	NO_x	Hg
01.	Apr'25	mg / NM^3	44.33	437.016	331.93	0.0079
02.	May'25	mg / NM^3	43.77	447.87	336.47	0.0084
03.	June'25	mg / NM^3	44.82	432.12	340.98	0.0084
04.	July'25	mg / NM^3	43.43	429.57	324.62	0.0082
05.	Aug'25	mg / NM^3	42.85	428.35	333.3	0.0083
06.	Sept'25	mg / NM^3	43.30	436.70	333.65	0.0086
	Average	mg / NM^3	**43.91**	**435.27**	**333.49**	**0.0083**
	Standard	mg / NM^3	100	600	450	0.03

Unit # V

Process attached to the unit : Boiler # 12 &13

Sl. No.	Month / Year	Unit	PM	SO_2	NO_x	Hg
01.	Apr'25	mg / NM^3	42.25	423.48	298.35	0.0091
02.	May'25	mg / NM^3	42.33	416.1	298.9	0.0090
03.	June'25	mg / NM^3	42.68	408.55	308.5	0.0077
04.	July'25	mg / NM^3	46.33	413.88	296.38	0.0082
05.	Aug'25	mg / NM^3	42.28	416.08	304.78	0.0078
06.	Sept'25	mg / NM^3	42.43	424.25	312.85	0.0079
Average		mg / NM^3	**43.05**	**417.05**	**303.29**	**0.0082**
Standard		mg / NM^3	50	600	450	0.03

ANNEXURE - II

AMBIENT AIR MONITORING (SMELTER)

(through NABL accredited laboratory)

PARTICULATE MATTER (PM_{10}): **Standard: 100 µg/Nm³**

Location of Sampling	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Near Ram Mandir	56.2	59.5	52.3	45.7	47.3	54.4
Near SPL Shed	70.6	69.7	50.2	47.5	54.0	56.0
Rectifier Station #4 (235 KA area)	71.7	73.4	55.4	46.4	47.4	54.7
Near Cast House #4 (235 KA area)	76.6	75.4	51.3	49.3	51.7	56.5
Hindalco Club Colony	65.4	64.1	52.1	42.5	46.9	51.9
R&D Building	61.5	60.3	52.5	44.1	56.4	55.4
Pump House near Adm. Building	67.3	58.4	49.8	45.6	51.3	55.9

PARTICULATE MATTER ($PM_{2.5}$): **Standard: 60 µg/Nm³**

Location of Sampling	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Near Ram Mandir	25.1	27.9	24.3	20.2	21.0	24.2
Near SPL Shed	32.5	32.2	25.0	20.2	24.1	26.9
Rectifier Station #4 (235 KA area)	33.4	34.0	26.5	20.8	21.9	24.1
Near Cast House #4 (235 KA area)	34.6	32.7	23.1	23.9	22.1	25.2
Hindalco Club Colony	29.1	29.2	24.5	21.1	21.1	24.4
R&D Building	27.9	27.9	25.0	21.2	25.5	25.0
Pump House near Adm. Building	29.8	26.1	22.8	21.2	23.1	25.9

SULPHUR DIOXIDE (SO_2): **Standard: 80 µg/Nm^3**

Location of Sampling	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Near Ram Mandir	6.64	6.95	6.75	6.70	6.37	6.52
Near SPL Shed	7.18	7.10	7.10	6.80	7.05	7.0
Rectifier Station #4 (235 KA area)	7.52	7.23	7.03	6.74	6.82	7.05
Near Cast House #4 (235 KA area)	7.54	7.35	7.38	6.86	6.85	6.6
Hindalco Club Colony	6.90	6.70	6.55	6.66	6.37	6.45
R&D Building	6.88	7.00	6.60	6.62	6.95	7.35
Pump House near Adm. Building	6.90	6.68	6.80	6.90	6.87	6.90

NITROGEN OXIDE (NO_x): **Standard: 80 µg/Nm^3**

Location of Sampling	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Near Ram Mandir	20.0	21.58	20.50	14.94	16.9	21.45
Near SPL Shed	24.96	25.95	22.13	16.56	19.4	25.3
Rectifier Station #4 (235 KA area)	22.86	28.20	23.83	17.10	18.17	24.05
Near Cast House #4 (235 KA area)	27.12	26.33	26.78	18.88	20.15	27.32
Hindalco Club Colony	22.86	22.28	20.25	16.80	18.05	24.42
R&D Building	22.14	19.78	20.18	16.24	18.9	25.22
Pump House near Adm. Building	23.54	20.23	22.08	17.16	18.62	26.40

CARBON MONOXIDE (CO): **Standard: 2 mg/Nm^3**

Location of Sampling	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Near Ram Mandir	0.54	0.59	0.50	0.48	0.47	0.52
Near SPL Shed	0.60	0.65	0.53	0.53	0.56	0.56
Rectifier Station #4 (235 KA area)	0.72	0.72	0.60	0.50	0.47	0.57
Near Cast House #4 (235 KA area)	0.75	0.72	0.64	0.56	0.59	0.62
Hindalco Club Colony	0.58	0.59	0.52	0.47	0.49	0.50
R&D Building	0.58	0.56	0.50	0.52	0.52	0.59
Pump House near Adm. Building	0.60	0.58	0.56	0.51	0.53	0.62

OZONE (O_3): **Standard: 100µg/Nm^3**

Location of Sampling	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Near Ram Mandir	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Near SPL Shed	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Rectifier Station #4 (235 KA area)	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Near Cast House #4 (235 KA area)	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Hindalco Club Colony	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
R&D Building	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Pump House near Adm. Building	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

Ammonia (NH_3): **Standard: 400 µg/Nm^3**

Location of Sampling	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Near Ram Mandir	11.30	10.75	11.08	10.82	<20.0	<20.0
Near SPL Shed	11.56	11.60	11.80	10.84	<20.0	<20.0
Rectifier Station #4 (235 KA area)	11.66	11.90	11.63	10.98	<20.0	<20.0
Near Cast House #4 (235 KA area)	11.70	12.58	12.08	10.82	<20.0	<20.0
Hindalco Club Colony	11.48	10.75	10.80	10.78	<20.0	<20.0
R&D Building	11.28	10.90	10.78	10.88	<20.0	<20.0
Pump House near Adm. Building	11.40	11.00	11.78	10.84	<20.0	<20.0

Fluoride (HF): Unit: µg/Nm3

Location of Sampling	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
Near Ram Mandir	0.067	0.069	0.070	0.067	0.07	0.063
Near SPL Shed	0.078	0.076	0.079	0.065	0.067	0.084
Rectifier Station #4 (235 KA area)	0.081	0.082	0.083	0.071	0.071	0.079
Near Cast House #4 (235 KA area)	0.087	0.087	0.086	0.072	0.068	0.075
Hindalco Club Colony	0.077	0.071	0.074	0.054	0.055	0.071
R&D Building	0.070	0.064	0.072	0.053	0.058	0.074
Pump House near Adm. Building	0.078	0.063	0.060	0.064	0.064	0.063

Note: - Lead (Pb): - <0.01 µg/Nm^3, Nickel (Ni): - <5.0, Arsenic (As): - <1.0, Benzene(C_6H_6): - <4.2 µg/Nm^3 and Benzo Pyrene (BaP):- <0.5 µg/Nm3 in all seven locations respectively.

AMBIENT AIR MONITORING, (CPP)

(April'2025 - September'2025)

PARTICULATE MATTER (PM_{10}): **Limit: 100.00 µg/m^3**

Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
CHP Control Room Top	71.2	66.4	65.8	62.2	62.8	61.5
120^0 NNE (near Admn. Building)	68.0	62.3	61.4	58.8	59.4	58.4
240^0 SSE (Rajapada village)	68.9	63.9	62.8	59.4	59.8	58.2
Ash Silo	69.4	64.0	63.2	60.5	60.1	59.6

SULPHUR DI-OXIDE (SO_2): **Limit: 80.00 µg / m^3**

Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
CHP Control Room Top	25.9	22.8	22.2	20.6	20.8	21.1
120^0 NNE (near Admn. Building)	24.0	21.5	21.1	19.8	18.8	19.2
240^0 SSE (Rajapada village)	21.6	20.9	20.5	20.1	19.6	19.0
Ash Silo	23.5	21.5	21.1	20.9	20.2	20.1

NITROGEN OXIDE (NO_X): **Limit : 80.00 µg / m^3**

Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
CHP Control Room Top	28.4	25.6	25.2	23.6	23.2	22.5
120^0 NNE (Near Admn. Building)	26.6	23.2	22.9	20.1	20.8	19.8
240^0 SSE (Rajapada village)	24.5	22.8	22.5	21.8	21.2	20.6
Ash Silo	25.1	23.9	23.4	21.5	21.4	20.9

PARTICULATE MATTER ($PM_{2.5}$): **Limit: 60.00 µg / m^3**

Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
CHP Control Room Top	36.2	33.4	33.1	31.4	31.6	31.0
120^0 NNE (Near Admn. Building)	34.9	31.8	31.2	29.6	29.9	29.5
240^0 SSE (Rajapada village)	35.3	32.2	31.9	30.1	30.1	29.8
Ash Silo	35.6	32.6	32.1	30.3	30.2	30.1

Annexure-III

POT ROOM FUGITIVE EMISSION MONITORING

Standard: 0.4 Kg/MT. of Aluminium

Location	Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
85 KA Line (avg.)	0.33	0.31	0.30	0.31	0.30	0.31
235 KA Line (avg.)	0.33	0.30	0.29	0.28	0.31	0.28

Annexure - IV

TREATED INDUSTRIAL EFFLUENT QUALITY
(through NABL accredited laboratory)
(Apr'25 - Sep'25)

Smelter Plant:

Outlet of 250 KLD ETP reused in cooling process									
SL. No.	**Parameter**	**Unit**	**Limit**	**Apr'25**	**May'25**	**Jun'25**	**Jul'25**	**Aug'25**	**Sep'25**
1	pH	-	6.5 - 9.0	6.46	6.62	6.60	7.36	6.86	6.52
2	TSS	mg/L	100	6.5	5.0	BDL	BDL	8.0	4.8
3	TDS	mg/L	2100	75.0	70.0	60.0	75.0	52.0	52.0
4	Fluoride	mg/L	2.0	1.4	0.70	0.38	0.44	1.3	1.15
5	O & G	mg/L	10.0	BDL	BDL	BDL	BDL	BDL	BDL
6	BOD	mg/L	30	BDL	BDL	6.7	8.6	12.0	8.8
7	COD	mg/L	250	BDL	BDL	29.0	25.8	38.0	36.0
8	Cr^{6+}	mg/L	0.1	BDL	BDL	BDL	BDL	BDL	BDL
9	Cyanide	mg/L	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Free NH_3	mg/L	5.0	BDL	BDL	BDL	BDL	BDL	BDL
11	Total N	mg/L	100	BDL	BDL	BDL	BDL	BDL	BDL
12	Total Cr	mg/L	2.0	BDL	BDL	BDL	BDL	BDL	BDL
Outlet of 350 KLD ETP reused in cooling process									
Sl. No.	**Parameter**	**Unit**	**Limit**	**Apr'25**	**May'25**	**Jun'25**	**Jul'25**	**Aug'25**	**Sep'25**
1	pH	-	6.5-9.0	8.22	7.01	6.63	7.58	7.17	6.78
2	TSS	mg/L	100	10.3	BDL	BDL	BDL	BDL	BDL
3	TDS	mg/L	2100	103.0	74.0	68.0	70.0	30.0	78.0
4	Fluoride	mg/L	2.0	0.71	0.66	0.50	0.47	0.80	1.62
5	O & G	mg/L	10.0	BDL	BDL	BDL	BDL	BDL	BDL
6	BOD	mg/L	30	BDL	BDL	6.6	5.8	8.2	7.2
7	COD	mg/L	250	BDL	BDL	31.0	22.4	32.0	29.8
8	Cr6+	mg/L	0.1	BDL	BDL	BDL	BDL	BDL	BDL
9	Cyanide	mg/L	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Free NH_3	mg/L	5.0	BDL	BDL	BDL	BDL	BDL	BDL
11	Total N	mg/L	100	BDL	BDL	BDL	BDL	BDL	BDL
12	Total Cr	mg/L	2.0	BDL	BDL	BDL	BDL	BDL	BDL
Outlet of 50 KLD ETP reused in cooling process									
SL. No.	**Parameter**	**Unit**	**Limit**	**Apr'25**	**May'25**	**Jun'25**	**Jul'25**	**Aug'25**	**Sep'25**
1	pH	-	6.5 - 9.0	7.51	6.55	6.75	6.51	7.07	6.98
2	TSS	mg/L	100	9.0	3.4	BDL	BDL	BDL	BDL
3	TDS	mg/L	2100	55.0	72.0	65.0	68.0	42.0	85.0
4	Fluoride	mg/L	2.0	BDL	0.82	0.42	0.28	0.22	0.98
5	O & G	mg/L	10.0	BDL	BDL	BDL	BDL	BDL	BDL
6	BOD	mg/L	30	BDL	BDL	12.0	10.0	6.8	5.8
7	COD	mg/L	250	BDL	BDL	47.0	38.0	29.6	21.4
8	Cr6+	mg/L	0.1	BDL	BDL	BDL	BDL	BDL	BDL
9	Cyanide	mg/L	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Free NH_3	mg/L	5.0	BDL	BDL	BDL	BDL	BDL	BDL
11	Total N	mg/L	100	BDL	BDL	BDL	BDL	BDL	BDL
12	Total Cr	mg/L	2.0	BDL	BDL	BDL	BDL	BDL	BDL

Captive Power Plant (CPP)

Sl. No	Parameters	Outlet of 120 m^3/Hr RO Plant reused in cooling process					
		Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	Color & Odor	<5.0 & Odorless	Colorless & Odorless	Colorless & Odorless	Colorless & Odorless	Colorless & Odorless	Colorless & Odorless
2	pH at 25^0C	7.21	7.17	7.12	7.18	7.15	7.19
3	Turbidity	6.0	5.8	6.0	6.5	7.4	8.0
4	Total Suspended Solids (as TSS)	42.0	48.0	45.0	48.0	48	46.0
5	Total Dissolved Solids (as TDS)	498	451	441	480.0	496.0	482.0
6	Oil & Grease (as O & G)	BDL	BDL	BDL	BDL	BDL	BDL
7	Total Residual Chlorine	BDL	BDL	BDL	BDL	BDL	BDL
8	Ammonical Nitrogen (as NH_3-N)	3.4	3.8	4.1	4.5	4.8	4.2
9	Total Kjeldahl Nitrogen (as N)	7.8	7.2	6.9	7.2	7.5	7.0
10	Free Ammonia (as NH_3)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
11	Biochemical Oxygen Demand as BOD (3days at 27^0 C)	8.2	7.8	7.2	7.8	6.8	6.2
12	Chemical Oxygen Demand (as COD)	44.0	40.0	35	40	35	30
13	Arsenic (as As)	BDL	BDL	BDL	BDL	BDL	BDL
14	Mercury (as Hg)	BDL	BDL	BDL	BDL	BDL	BDL
15	Lead (as Pb)	BDL	BDL	BDL	BDL	BDL	BDL
16	Cadmium (as Cd)	BDL	BDL	BDL	BDL	BDL	BDL
17	Hexavalent Chromium (as Cr^{+6})	BDL	BDL	BDL	BDL	BDL	BDL
18	Total Chromium (as Cr)	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	BDL	BDL	BDL	BDL	BDL	BDL
20	Zinc (as Zn)	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	BDL	BDL	BDL	BDL	BDL	BDL
22	Nickel (as Ni)	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	BDL	BDL	BDL	BDL	BDL	BDL
24	Fluoride (as F)	0.81	0.75	0.80	0.89	0.80	0.75
25	Dissolved phosphate (as P)	1.32	1.15	1.25	1.30	1.18	1.22
26	Sulphide (as S)	BDL	BDL	BDL	BDL	BDL	BDL
27	Phenolic Compound (as C_6H_5OH)	BDL	BDL	BDL	BDL	BDL	BDL
28	Manganese (as Mn)	BDL	BDL	BDL	BDL	BDL	BDL
29	Iron (as Fe)	0.51	0.54	0.50	0.54	0.60	0.56
30	Vanadium (as V)	BDL	BDL	BDL	BDL	BDL	BDL
31	Nitrate Nitrogen (as NO_3-N)	2.34	2.22	2.36	2.42	2.33	2.26
32	Bio- Assay Test	All fishes survive after 96 hrs in 100% effluent	All fishes survive after 96 hrs in 100% effluent	All fishes survive after 96 hrs in 100% effluent	All fishes survive after 96 hrs in 100% effluent	All fishes survive after 96 hrs in 100% effluent	All fishes survive after 96 hrs in 100% effluent

Detectable Limits:

Oil & Grease - 5.0 mg/L, Total Residual Chlorine - 0.5, A mg/L, Arsenic - 0.0,1 mg/L, Mercury - 0.001 Mg/L, Lead - 0.005 mg/L, Cadmium - 0.005 mg/L, Hexavalent Chromium - 0.01 mg/L, Total Chromium - 0.01 mg/L, Copper - 0.05 mg/L, Zinc - 0.03 mg/L, Selenium - 0.01 mg/L, Nickel - 0.01 mg/L, Cyanide - 0.05 mg/L, Sulphide - 0.05 mg/L, Phenolic Compound - 0.001 mg/L, Manganese - 0.05 mg/L, Vanadium - 0.1 mg/L

TREATED DOMESTIC EFFLUENT QUALITY
(through NABL accredited laboratory)
(Apr'25 - Sep'25)

(i) Plant STP 500 KLD

Sl. No.	Parameter	Unit	Limit	Outlet of STP reused in plant/ gardening					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	pH	-	6.5 - 9.0	6.59	6.60	6.78	6.88	6.96	7.39
2	TSS	mg/L	100	12.0	9.0	9.6	12.2	17.0	9.4
3	BOD	mg/L	30	BDL	3.2	11.0	7.6	6.2	4.8
4	Fecal Coliform (FC)	MPN / 100 ml	1000 (max)	340	290	270.0	350.0	280.0	280.0

(ii) Plant STP 300 KLD

Sl. No.	Parameter	Unit	Limit	Outlet of STP reused in plant/ gardening					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	pH	-	6.5 - 9.0	6.65	7.11	7.03	7.16	7.24	7.38
2	TSS	mg/L	100	15.2	17.2	BDL	BDL	30	5.0
3	BOD	mg/L	30	2.5	4.4	10.0	12.0	7.6	BDL
4	Fecal Coliform (FC)	MPN / 100 ml	1000 (max)	370.0	310.0	290.0	270.0	310.0	420.0

(iii) Plant STP (80 Pot area) 100 KLD

Sl. No.	Parameter	Unit	Limit	Outlet of STP reused in plant/ gardening					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	pH	-	6.5-9.0	6.73	7.26	6.72	7.44	7.11	6.54
2	TSS	mg/L	100.0	16.2	21.0	BDL	BDL	BDL	22.0
3	BOD	mg/L	30	2.7	8.4	7.5	8.2	8.8	4.4
4	Fecal Coliform (FC)	MPN / 100 ml	1000 (max)	420.0	380	410.0	480.0	360.0	320.0

(iv) Colony STP (Main Colony) 400 KLD

Sl. No.	Parameter	Unit	Limit	Outlet of STP reused in gardening					
				Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1	pH	-	6.5-9.0	6.75	6.81	6.74	6.96	6.61	6.66
2	TSS	mg/L	100.0	12.1	16.2	12.6	8.2	18.0	6.4
3	BOD	mg/L	30	BDL	5.3	9.8	13.0	3.4	8.0
4	Fecal Coliform (FC)	MPN / 100 ml	1000 (max)	340	300	330.0	310.0	280.0	330.0

Detectable Limits: TSS - 5.0 mg/L, BOD - 2.0 mg/L

Annexure - V

Status of Utilization of Fly ash & Bottom ash

(April 2025 - September 2025)

Sl. No.	Description	Quantity (MT)
1	Quantity of Fly ash Generated (MT)	532030.56
2	Quantity of Bottom ash Generated (MT)	59114.51
	Total ash Generated (MT)	591145.07
3	Supply to Brick Manufacturing Units (MT)	245767.46
4	Supply to Cement Plants (MT)	92405.01
5	Low-lying filling (MT)	253262.80
6	Utilization in Construction of Roads/ Road & Fly over embankment (MT)	0
7	**Total Ash Utilized (MT)**	591435.27
8	% of Total ash Utilization	100.05

Annexure-VI

PLANTATION DETAILS

YEAR	NO. OF SAPLINGS PLANTED	AREA COVERED (ACRE)	SPECIES PLANTED
Up to 2006 – 07	419865	250.12	
2007 – 08	33,000	12.0	Chakunda, Gambhari, Sisam, Krushna Chuda, Radha Chuda, Jammun & Neam
2008 – 09	25,200	16.0	Chakunda, Gambhari, Sisam, Krushna Chuda, Radha Chuda, Jammun & Neam
2009 – 10	31,000	10.0	Chakunda, Gambhari, Sisam, Krushna Chuda, Radha Chuda, Jammun & Neam
2010 – 11	30,000	10.0	Chakunda, Gambhari, Sisam, Krushna Chuda, Radha Chuda, Jammun & Neam
2011 – 12	25,200	10.0	Chakunda, Gambhari, Sisam, Krushna Chuda, Radha Chuda, Jammun & Neam
2012 – 13	25000	10.0	Neam, Karanja, Sisam, Krushna Chuda, Radha Chuda, Cassia Fistula, Alstonia & Kadamba
2013 – 14	30000	13.0	Neem, Karanja, Sisam, Cassia Fistula, Alstonia, Kadamba, Mango, Jamun etc
2014 – 15	12000	6.0	Neem, Karanja, Sisam, Cassia Fistula, Alstonia, Kadamba, Mango, Jamun etc
2015 – 16	10000	5.0	Bamboo, Sisoo, Karanja, Alstonia, Chhatiana, Mango, Jamun etc
2016 – 17	21175	10.6	Bamboo, Ficus, Alstonia, Champa, Plumeria Alva etc
2017 – 18	13500	6.75	Krushnachuda, Radhachuda, Acassia, Ficus, Jamun, Arjun, Ashok etc
2018 - 19	10500	5.25	Bamboo, Sisam, Cassia Fistula, Alstonia, Kadamba, Mango, Jamun
2019 - 20	8400	4.2	Alstonia, Champa Bamboo, Sisam, Alstonia, Kadamba, Mango, Jamun
2020 - 21	1058	0.5	Arjun, Radhachuda, Krushnachuda, Jamun,Ficus, Debdaru, Baula
2021-22	1550	0.75	Baula , Arjun , Jamun. Debadaru, Krushnachuda, jamun, mango,
2022-23	500	5 Acre	Mango, Drumstick, Papaya, Jackfruit, Brinjal, Chilly, Cauliflower, cabbage, Cucumber, Pumpkin, Spinach, Beans, Bottle Guard.
2023-24	10,000	10 Acre	Arjun, Kadam, Mango, Guava, Jamun, Jackfruit, Neem, Pipal, Custadapple, Kintho, IndianBele, Sishu, Kajubadam, Lagerstromia, Karanj, Gulabisiris, Badam, Mehegani, Saal,Sunari, Tetel, Kathabadam, Ashok

2024-25	250	0.05 Acre	Mango, Arjun, Jamun, Cassia Fistula Karanj, Gulabisiris, Badam, Mahagani, Saal,Sunari, Tetel, Kathabadam, Ashok
2025-26	5500	4 Acre	Piltufurm,Tabubiyarojia,Pathodia,Largerstoemia,Bokul,Nagachampa,Swarnalathachampa, Purtanjiba
Total	**713698**	**384.22***	

* Including replenished and outside factory area plantation as part of CSR initiatives

ADITYA BIRLA
HINDALCO

Annexure - VII

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

VISIONTEK

Ref: VCSPL/25-26/TR-10996 **Date: 05.07.2025**

AMBIENT AIR QUALITY MONITORING REPORT (APR-2025 TO JUN-2025)

1.	Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2.	Sampling Location	:	Monitoring Station No.- AAQMS-1 : Plant Site
3.	Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4.	Sample collected by	:	VCSPL representative

Date	PARAMETERS												
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)	F ($\mu g/m^3$)
03.04.2025	72.5	36.8	19.1	25.4	7.8	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.04.2025	70.9	35.5	17.5	26.3	7.1	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
10.04.2025	67.8	34.9	18.6	23.8	7.7	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.04.2025	69.1	34.8	18.1	24.5	6.5	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
17.04.2025	65.4	33.1	17.5	25.1	6.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.04.2025	61.3	31.2	19.8	22.8	6.8	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
24.04.2025	66.4	33.9	18.0	23.6	7.2	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.04.2025	69.2	35.6	17.9	24.5	7.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.05.2025	70.8	35.9	18.5	25.2	7.1	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.05.2025	71.1	36.3	18.3	24.8	6.3	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.05.2025	65.6	33.1	19.1	25.9	6.8	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.05.2025	64.2	32.8	18.9	24.8	7.2	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.05.2025	63.5	32.9	19.8	23.5	7.5	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.05.2025	69.8	35.6	17.5	24.6	7.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.05.2025	72.5	36.9	19.6	23.8	6.9	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.05.2025	73.8	37.2	19.5	23.1	6.3	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.06.2025	70.9	35.8	18.8	22.2	6.8	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.06.2025	67.9	34.1	16.8	25.6	7.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.06.2025	69.5	35.3	17.5	23.7	7.1	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.06.2025	71.8	36.1	18.9	21.9	7.5	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.06.2025	75.2	37.8	19.8	24.4	7.2	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.06.2025	70.3	35.5	20.2	25.2	6.9	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.06.2025	69.1	34.9	18.9	23.8	7.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.06.2025	70.6	35.8	21.1	25.6	7.5	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
NAAQ Standard	100	60	80	80	100	4	400	05	01	20	1.0	06	--
Average	**69.1**	**35.1**	**18.7**	**24.3**	**7.0**	**<0.1**	**<20.0**	**<4**	**<0.5**	**<2.5**	**<0.02**	**<1**	**<0.01**
Testing method	**Gravimetric**	**Gravimetric**	**Improved West and Geake method**	**Modified Jacob & Hochheiser (Na-Arsenite)**	**Chemical Method**	**NDIR Spectroscopy**	**Indo phenol blue method**	**Absorption & Desorption followed by GC analysis**	**Solvent extraction followed by Gas Chromatography analysis**	**AAS method after sampling**			**Zirconium SPADNS Method**

BDL Values: SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, O_3<5 $\mu g/m^3$, Ni<2.5 ng/m^3, As< 1 ng/m^3, C_6H_6<4 $\mu g/m^3$, BaP<0.5 ng/m^3, Pb<0.02 $\mu g/m^3$, F<0.01$\mu g/m^3$ CO-<0.1 mg/m^3

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Reviewed by:

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved by:

ADITYA BIRLA
HINDALCO

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

VISIONTEK

Ref: VCSPL/25-26/TR -10997 **Date: 05.07.2025**

AMBIENT AIR QUALITY MONITORING REPORT (APR-2025 TO JUN-2025)

1. Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2. Sampling Location	:	Monitoring Station No.- AAQMS-2: Alind Colony
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative

Date	PARAMETERS												
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)	F ($\mu g/m^3$)
03.04.2025	57.8	29.3	14.4	21.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.04.2025	59.1	29.8	15.6	22.4	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
10.04.2025	60.5	30.6	14.0	20.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.04.2025	62.6	31.8	13.8	21.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
17.04.2025	58.8	29.7	14.9	19.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.04.2025	56.4	28.6	15.2	21.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
24.04.2025	61.3	31.2	14.3	18.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.04.2025	60.5	30.8	14.8	19.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.05.2025	62.8	31.4	15.6	22.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.05.2025	57.4	29.1	14.0	21.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.05.2025	58.9	29.8	12.9	20.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.05.2025	59.6	30.1	14.6	20.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.05.2025	62.2	31.8	15.4	19.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.05.2025	61.3	31.2	14.4	19.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.05.2025	55.9	28.2	14.8	20.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.05.2025	56.8	28.8	13.9	19.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.06.2025	59.8	30.1	14.6	21.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.06.2025	60.7	30.6	15.8	20.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.06.2025	62.5	31.5	14.4	22.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.06.2025	61.8	31.1	13.6	21.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.06.2025	64.4	32.5	14.5	19.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.06.2025	62.3	31.9	13.9	20.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.06.2025	59.8	30.5	14.5	20.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.06.2025	60.1	30.8	13.8	21.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
NAAQ Standard	100	60	80	80	100	4	400	05	01	20	1.0	06	--
Average	60.1	30.5	14.5	20.7	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gravimetric	Improved West and Gaeke method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indophenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling			Zirconium SPADNS Method

BDL Values: SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, O_3<5 $\mu g/m^3$, Ni<2.5 ng/m^3, As< 1 ng/m^3, C_6H_6<4 $\mu g/m^3$, BaP<0.5 ng/m^3, Pb<0.02 $\mu g/m^3$, F<0.01$\mu g/m^3$ CO-<0.1 mg/m^3

Reviewed by:

Approved by:

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ADITYA BIRLA
HINDALCO

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

VISIONTEK

Ref: VCSPL/25-26/TR - 10998 **Date: 05.07..2025**

AMBIENT AIR QUALITY MONITORING REPORT (APR-2025 TO JUN-2025)

1. Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2. Sampling Location	:	Monitoring Station No.- AAQMS-3 : Budakanta Village
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative

Date	PARAMETERS												
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)	F ($\mu g/m^3$)
03.04.2025	56.8	28.8	11.2	20.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.04.2025	58.0	29.6	9.8	21.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
10.04.2025	52.6	26.8	10.5	22.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.04.2025	54.0	27.8	10.6	21.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
17.04.2025	53.8	27.2	11.8	21.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.04.2025	54.5	27.9	11.2	20.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
24.04.2025	56.0	28.8	9.9	19.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.04.2025	52.8	26.9	10.2	18.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.05.2025	54.9	27.8	12.5	19.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.05.2025	56.6	28.9	11.8	22.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.05.2025	58.0	29.6	12.6	22.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.05.2025	61.2	31.4	13.0	21.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.05.2025	56.7	28.9	11.5	22.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.05.2025	61.3	31.1	13.6	21.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.05.2025	60.4	30.5	12.9	19.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.05.2025	59.5	30.1	13.4	21.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.06.2025	60.6	30.5	12.0	22.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.06.2025	55.2	28.5	11.6	21.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.06.2025	59.8	29.9	12.4	21.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.06.2025	54.8	27.6	10.6	22.4	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.06.2025	61.6	31.2	10.8	21.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.06.2025	60.2	30.5	9.5	22.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.06.2025	53.9	27.5	11.8	21.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.06.2025	59.5	30.1	12.4	22.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
NAAQ Standard	100	60	80	80	100	<0.1	400	05	01	20	1.0	06	--
Average	57.2	29.1	11.6	21.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gravimetric	Improved West and Geake method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indophenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling			Zirconium SPADNS Method

BDL Values: SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, O_3<5 $\mu g/m^3$, Ni<2.5 ng/m^3, As< 1 ng/m^3, C_6H_6<4 $\mu g/m^3$, BaP<0.5 ng/m^3, Pb<0.02 $\mu g/m^3$, F<0.01$\mu g/m^3$ CO-<0.1 mg/m^3

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed by:

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Approved by:

Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 0674-3511721
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ADITYA BIRLA
HINDALCO

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

VISIONTEK

Ref: VCSPL/25-26/TR -10999 **Date: 05.07..2025**

AMBIENT AIR QUALITY MONITORING REPORT (APR-2025 TO JUN-2025)

1. Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2. Sampling Location	:	Monitoring Station No.- AAQMS-4 : Garmunda Village
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative

Date	PARAMETERS												
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)	F ($\mu g/m^3$)
03.04.2025	61.6	31.2	15.6	21.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.04.2025	63.5	32.2	14.2	22.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
10.04.2025	59.8	30.6	16.4	21.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.04.2025	62.2	31.8	16.2	20.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
17.04.2025	61.8	31.9	15.8	20.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.04.2025	59.1	29.9	15.9	21.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
24.04.2025	60.6	30.5	15.6	19.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.04.2025	61.5	31.1	17.2	20.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.05.2025	59.8	30.6	15.5	18.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.05.2025	54.6	27.8	14.4	19.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.05.2025	58.2	29.6	15.9	20.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.05.2025	56.3	28.8	14.8	21.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.05.2025	60.6	30.5	15.0	22.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.05.2025	61.2	31.1	14.8	21.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.05.2025	60.7	30.8	15.3	20.4	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.05.2025	59.8	30.5	14.4	19.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.06.2025	57.6	29.1	13.8	20.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.06.2025	60.9	30.6	14.2	22.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.06.2025	62.2	31.5	15.6	20.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.06.2025	61.8	31.1	15.1	22.4	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.06.2025	56.8	28.9	15.0	21.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.06.2025	56.7	28.6	16.2	20.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.06.2025	59.5	29.9	16.0	19.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.06.2025	60.5	30.4	14.8	21.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
NAAQ Standard	100	60	80	80	100	4	400	05	01	20	1.0	06	--
Average	59.9	30.4	15.3	20.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gravimetric	Improved West and Gaeke method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling			Zirconium SPADNS Method

BDL Values: SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$,O_3<5 $\mu g/m^3$, Ni<2.5 ng/m^3, As< 1 ng/m^3, C_6H_6<4 $\mu g/m^3$, BaP<0.5 ng/m^3, Pb<0.02 $\mu g/m^3$, F<0.01$\mu g/m^3$ CO-<0.1 mg/m^3

Reviewed by:

Approved by:

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Visiontek Consultancy Services Pvt.Ltd

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VISIONTEK

Ref: VCSPL/25-26/TR -11000 **Date: 05.07..2025**

AMBIENT AIR QUALITY MONITORING REPORT (APR-2025 TO JUN-2025)

1. Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2. Sampling Location	:	Monitoring Station No.- AAQMS-5 : Burla Town
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative

Date	PARAMETERS												
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)	F ($\mu g/m^3$)
03.04.2025	66.5	33.7	16.9	25.5	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.04.2025	64.8	32.9	18.8	26.1	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
10.04.2025	69.1	34.9	18.0	24.9	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.04.2025	70.6	35.6	19.1	27.8	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
17.04.2025	72.5	36.6	18.9	28.1	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.04.2025	68.9	34.9	19.5	30.6	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
24.04.2025	71.3	36.1	19.1	32.2	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.04.2025	69.9	35.5	20.6	32.3	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.05.2025	68.6	34.9	18.6	28.6	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.05.2025	72.5	36.9	17.9	31.2	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.05.2025	71.8	36.1	19.8	35.4	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.05.2025	72.5	36.8	20.1	32.6	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.05.2025	70.9	35.5	20.3	29.8	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.05.2025	74.4	37.3	16.6	30.3	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.05.2025	71.8	36.1	17.8	33.4	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.05.2025	69.9	35.1	17.9	31.8	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.06.2025	65.3	33.8	19.2	28.3	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.06.2025	67.2	34.2	19.8	31.6	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.06.2025	71.6	36.2	18.9	32.5	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.06.2025	70.5	35.8	17.2	30.1	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.06.2025	67.7	34.1	16.4	29.8	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.06.2025	63.8	32.2	17.8	31.1	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.06.2025	71.5	36.6	16.6	29.8	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.06.2025	70.8	35.8	17.5	31.4	< 5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
NAAQ Standard	100	60	80	80	100	4	400	05	01	20	1.0	06	--
Average	**69.8**	**35.3**	**18.5**	**30.2**	**<5.0**	**<0.1**	**<20.0**	**<4**	**<0.5**	**<2.5**	**<0.02**	**<1**	**<0.01**
Testing method	Gravimetric	Gravimetric	Improved West and Gaeke method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling			Zirconium SPADNS Method

B BDL Values: SO_2< 4 $\mu g/m^3$, NO_x< 6 $\mu g/m^3$, O_3<5 $\mu g/m^3$, Ni<2.5 ng/m^3, As< 1 ng/m^3, C_6H_6<4 $\mu g/m^3$, BaP<0.5 ng/m^3, Pb<0.02 $\mu g/m^3$, F<0.01$\mu g/m^3$ CO-<0.1 mg/m^3

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed by:

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Approved by:

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Visiontek Consultancy Services Pvt.Ltd

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VISIONTEK

Ref: VCSPL/25-26/TR - 11001 **Date: 05.07..2025**

AMBIENT AIR QUALITY MONITORING REPORT (APR-2025 TO JUN-2025)

1. Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2. Sampling Location	:	Monitoring Station No.- AAQMS-6 : Dhanipalli village
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative

Date	PARAMETERS												
	PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NOx (µg/m3)	O3 (µg/m3)	CO (mg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	Ni (ng/m3)	Pb (µg/m3)	As (ng/m3)	F (µg/m3)
03.04.2025	63.0	32.1	19.6	26.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.04.2025	59.6	30.6	15.6	28.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
10.04.2025	59.8	29.9	18.3	24.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.04.2025	61.8	31.5	18.9	28.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
17.04.2025	60.6	30.8	17.1	27.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.04.2025	57.5	29.2	18.8	26.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
24.04.2025	54.9	27.8	16.3	27.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.04.2025	59.5	29.9	15.4	28.4	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.05.2025	60.5	30.4	16.9	26.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.05.2025	61.1	31.1	17.8	25.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.05.2025	56.8	28.9	16.9	27.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.05.2025	62.1	31.5	15.6	28.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.05.2025	60.9	30.6	16.6	29.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.05.2025	58.7	29.6	15.4	26.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.05.2025	59.4	29.9	14.8	27.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.05.2025	58.6	29.8	13.9	28.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.06.2025	59.3	30.2	15.6	28.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.06.2025	57.8	28.9	16.2	24.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.06.2025	59.5	30.2	16.8	24.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.06.2025	60.3	30.5	17.8	26.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.06.2025	61.2	31.6	16.4	27.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.06.2025	58.8	29.8	15.5	27.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.06.2025	60.6	30.5	15.8	26.4	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.06.2025	60.2	30.9	14.9	25.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
NAAQ Standard	100	60	80	80	100	4	400	05	01	20	1.0	06	--
Average	59.7	30.3	16.5	27.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gravimetric	Improved West and Gaeke method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling			Zirconium SPADNS Method

BDL Values: SO_2< 4 µg/m³, NO_X< 6 µg/m³, O_3<5 µg/m³, Ni<2.5 ng/m³, As< 1 ng/m³, C_6H_6<4 µg/m³, BaP<0.5 ng/m³, Pb<0.02 µg/m³, F<0.01µg/m³ CO-<0.1 mg/m³

Reviewed by:

Approved by:

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Visiontek Consultancy Services Pvt.Ltd

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VISIONTEK

Ref: VCSPL/25-26/TR -11002 **Date: 05.07..2025**

AMBIENT AIR QUALITY MONITORING REPORT (APR-2025 TO JUN-2025)

1. Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2. Sampling Location	:	Monitoring Station No.- AAQMS-7 : Hindalco Club
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative

Date	PARAMETERS												
	PM10 (µg/m³)	PM2.5 (µg/m³)	SO2 (µg/m³)	NOx (µg/m³)	O3 (µg/m³)	CO (mg/m³)	NH3 (µg/m³)	C6H6 (µg/m³)	BaP (ng/m³)	Ni (ng/m³)	Pb (µg/m³)	As (ng/m³)	F (µg/m³)
03.04.2025	56.8	28.9	11.8	19.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.04.2025	58.2	29.5	9.6	18.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
10.04.2025	60.8	30.6	10.4	19.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.04.2025	62.5	31.8	11.2	18.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
17.04.2025	61.9	31.1	10.3	17.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.04.2025	65.5	33.6	11.6	20.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
24.04.2025	56.6	28.9	9.6	21.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.04.2025	59.8	29.9	12.5	20.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.05.2025	60.7	30.5	11.8	19.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.05.2025	62.2	31.8	12.2	21.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.05.2025	56.9	28.6	11.9	22.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.05.2025	59.4	30.4	10.5	19.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.05.2025	58.6	29.6	9.1	16.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.05.2025	59.1	29.9	9.8	20.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.05.2025	60.3	30.8	12.6	21.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.05.2025	54.5	27.6	11.5	19.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.06.2025	61.2	31.2	12.0	21.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.06.2025	59.9	30.2	10.8	19.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.06.2025	61.0	31.1	13.6	18.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.06.2025	57.8	29.2	12.4	19.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.06.2025	58.9	29.9	13.5	19.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.06.2025	59.8	30.3	12.0	21.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.06.2025	60.6	30.5	12.8	20.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.06.2025	54.5	27.8	13.2	18.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
NAAQ Standard	100	60	80	80	100	4	400	05	01	20	1.0	06	--
Average	59.5	30.2	11.5	19.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gravimetric	Improved West and Geake method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling			Zirconium SPADNS Method

BDL Values: SO_2< 4 µg/m³, NO_X< 6 µg/m³, O_3<5 µg/m³, Ni<2.5 ng/m³, As< 1 ng/m³, C_6H_6<4 µg/m³, BaP<0.5 ng/m³, Pb<0.02 µg/m³, F<0.01µg/m³ CO-<0.1 mg/m³

Reviewed by:

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Ref: VCSPL/25-26/TR - 11003 **Date: 05.07..2025**

AMBIENT AIR QUALITY MONITORING REPORT (APR-2025 TO JUN-2025)

1. Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2. Sampling Location	:	Monitoring Station No.- AAQMS-8 : Jyoti Vihar University
3. Monitoring Instruments	:	RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by	:	VCSPL representative

Date	PARAMETERS												
	PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NOx (µg/m3)	O3 (µg/m3)	CO (mg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	Ni (ng/m3)	Pb (µg/m3)	As (ng/m3)	F (µg/m3)
03.04.2025	62.2	31.8	17.6	25.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.04.2025	60.7	30.9	18.9	26.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
10.04.2025	64.5	32.6	16.3	23.4	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.04.2025	59.6	30.1	17.2	25.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
17.04.2025	61.8	31.1	16.5	22.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.04.2025	66.5	33.5	14.9	23.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
24.04.2025	62.5	31.8	16.8	25.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.04.2025	67.9	33.9	18.0	24.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.05.2025	58.6	29.6	18.8	26.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.05.2025	64.4	32.6	15.7	25.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.05.2025	71.8	36.1	16.2	25.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.05.2025	69.3	34.7	15.5	27.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.05.2025	72.0	36.6	14.8	25.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.05.2025	71.5	35.9	16.3	26.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.05.2025	67.5	34.2	17.8	27.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.05.2025	66.9	33.9	16.5	25.4	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.06.2025	60.4	30.8	15.8	26.5	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.06.2025	71.6	36.2	16.3	25.0	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.06.2025	70.2	35.8	14.9	26.3	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.06.2025	60.8	30.8	15.2	27.2	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.06.2025	63.3	32.5	15.6	26.6	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.06.2025	64.5	32.8	14.9	24.9	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.06.2025	69.8	35.1	16.4	22.8	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.06.2025	66.8	33.8	16.0	24.1	<5.0	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
NAAQ Standard	100	60	80	80	100	4	400	05	01	20	1.0	06	--
Average	65.6	33.2	16.4	25.4	<5	<0.1	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gravimetric	Improved West and Geake method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling			Zirconium SPADNS Method

BDL Values: SO_2< 4 µg/m^3, NO_X< 6 µg/m^3,O_3<5 µg/m^3, Ni<2.5 ng/m^3, As< 1 ng/m^3, C_6H_6<4 µg/m^3, BaP<0.5 ng/m^3, Pb<0.02 µg/m^3, F<0.01µg/m^{3}CO-<0.1 mg/m^3

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed by:

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Ref: VCSPL/25-26/TR- 11005 **Date: 05.07.2025**

GROUND WATER QUALITY ANALYSIS REPORT MAY-2025

1.	Name of Industry	:	**M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha**
2.	Sampling location	:	**GW-1:** Budhakanta Village; **GW-2**: Hindalco Colony; **GW-3:**Burla Town; **GW-4:** Alind Area
3.	Date of sampling	:	**12.05.2025**
4.	Date of analysis	:	**13.05.2025 TO 19.05.2025**
5.	Sample collected by	:	VCSPL Representative

Sl. No.	Parameter	Testing Methods	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Result			
				Acceptable Limit	Permissible Limit	GW-1	GW-2	GW-3	GW-4
1	pH Value at 250C	APHA 4500H+ B	--	6.5-8.5	No Relaxation	7.11	7.25	7.10	7.24
2	Colour	APHA 2120 B, C	Hazen	5	15	CL	CL	CL	CL
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	1	5	2.0	<1.0	<1.0	2.5
6	Total Dissolved Solids	APHA 2540 C	mg/l	500	2000	340	211	225	202
7	Total Hardness (as CaCO3)	APHA 2340 C	mg/l	200	600	166	138	160	142
8	Total Alkalinity	APHA 2320 B	mg/l	200	600	75	60	45	65
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	42.1	29.5	26.8	35.0
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	14.8	15.6	22.6	13.3
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	<0.1	<0.1	<0.1	<0.1
12	Boron (as B)	APHA 4500B, B	mg/l	2.4	No Relaxation	<0.1	<0.1	<0.1	<0.1
13	Chloride (as Cl)	APHA 4500Cl- B	mg/l	250	1000	17.5	30.0	22.5	35.0
14	Sulphate (as SO4)	APHA 4500 SO42- E	mg/l	200	400	14.0	10.8	8.2	9.4
15	Fluoride (as F)	APHA 4500F- C	mg/l	1.0	1.5	0.76	0.38	0.41	0.50
16	Nitrate (as NO3)	APHA 4500 NO3- E	mg/l	45	No Relaxation	4.8	3.5	2.8	3.5
17	Phenolic Compounds (as C6H5OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.001	<0.001	<0.001	<0.001
18	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	No Relaxation	<0.05	<0.05	<0.05	<0.05
19	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	1.0	<0.2	<0.2	<0.2	<0.2
20	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No Relaxation	<0.005	<0.005	<0.005	<0.005
21	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01
22	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.05	<0.05	<0.05	<0.05
23	Lead (as Pb)	APHA 3111 B,C	mg/l	0.01	No Relaxation	<0.005	<0.005	<0.005	<0.005
24	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	0.3	<0.05	<0.05	<0.05	<0.05
25	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No Relaxation	0.70	0.35	0.40	0.43
26	Chromium (as Cr+6)	APHA 3500Cr B	mg/l	--	--	<0.01	<0.01	<0.01	<0.01
27	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01
28	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	15	<0.03	<0.03	<0.03	<0.03
29	Aluminium as(Al)	APHA 3500Al B	mg/l	0.03	0.2	<0.02	<0.02	<0.02	<0.02
30	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	No Relaxation	<0.001	<0.001	<0.001	<0.001
31	Mineral Oil	APHA 5220 B	mg/l	0.5	No Relaxation	<0.001	<0.001	<0.001	<0.001
32	Pesticides	APHA 6630 B,C	mg/l	Absent	--	Absent	Absent	Absent	Absent
33	E.Coli	APHA 9221-F	MPN/ 100 ml	Shall not be detectable in any 100 ml sample	--	Absent	Absent	Absent	Absent
34	Poly Aromatic Hydrocarbon as PAH	APHA 6440 B	mg/l	0.0001	No relaxation	<0.0001	<0.0001	<0.0001	<0.0001

Note: CL: Colorless, AL: Agreeable, ND: Not Detected.

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed by:

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Approved by:

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Ref: VCSPL/25-26/TR- 11006 **Date: 05.07.2025**

GROUND WATER QUALITY ANALYSIS REPORT MAY-2025

6. Name of Industry	:	**M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha**
7. Sampling location	:	**GW-5:** Nuajamuda Village; **GW-6**: Near Sludge disposal Area; **GW-7:**Garmunda Village; **GW-8:** Larbanga Village
8. Date of sampling	:	**12.05.2025**
9. Date of analysis	:	**13.05.2025 TO 19.05.2025**
10. Sample collected by	:	VCSPL Representative

Sl. No.	Parameter	Testing Methods	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Result			
				Acceptable Limit	Permissible Limit	GW-5	GW-6	GW-7	GW-8
1	pH Value at 250C	APHA 4500H+ B	--	6.5-8.5	No Relaxation	7.29	6.90	7.11	7.18
2	Colour	APHA 2120 B, C	Hazen	5	15	CL	CL	CL	CL
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	1	5	1.5	2.3	<1.0	1.9
6	Total Dissolved Solids	APHA 2540 C	mg/l	500	2000	218	340	211	185
7	Total Hardness (as CaCO3)	APHA 2340 C	mg/l	200	600	136	198	130	102
8	Total Alkalinity	APHA 2320 B	mg/l	200	600	85	70	60	75
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	30.9	41.5	26.8	32.4
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	14.3	22.9	15.3	5.1
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	<0.1	<0.1	<0.1	<0.1
12	Boron (as B)	APHA 4500B, B	mg/l	2.4	No Relaxation	<0.1	<0.1	<0.1	<0.1
13	Chloride (as Cl)	APHA 4500Cl- B	mg/l	250	1000	22.5	20.0	25.0	30.0
14	Sulphate (as SO4)	APHA 4500 SO42- E	mg/l	200	400	7.8	8.0	6.9	7.5
15	Fluoride (as F)	APHA 4500F- C	mg/l	1.0	1.5	0.44	0.45	0.36	0.51
16	Nitrate (as NO3)	APHA 4500 NO3- E	mg/l	45	No Relaxation	2.54	3.8	4.5	3.6
17	Phenolic Compounds (as C6H5OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.001	<0.001	<0.001	<0.001
18	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	No Relaxation	<0.05	<0.05	<0.05	<0.05
19	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	1.0	<0.2	<0.2	<0.2	<0.2
20	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No Relaxation	<0.005	<0.005	<0.005	<0.005
21	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01
22	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.05	<0.05	<0.05	<0.05
23	Lead (as Pb)	APHA 3111 B,C	mg/l	0.01	No Relaxation	<0.005	<0.005	<0.005	<0.005
24	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	0.3	<0.05	<0.05	<0.05	<0.05
25	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No Relaxation	0.34	0.40	0.29	0.28
26	Chromium (as Cr+6)	APHA 3500Cr B	mg/l	--	--	<0.01	<0.01	<0.01	<0.01
27	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01
28	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	15	<0.03	<0.03	<0.03	<0.03
29	Aluminium as(Al)	APHA 3500Al B	mg/l	0.03	0.2	<0.02	<0.02	<0.02	<0.02
30	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	No Relaxation	<0.001	<0.001	<0.001	<0.001
31	Mineral Oil	APHA 5220 B	mg/l	0.5	No Relaxation	<0.001	<0.001	<0.001	<0.001
32	Pesticides	APHA 6630 B,C	mg/l	Absent	--	Absent	Absent	Absent	Absent
33	E.Coli	APHA 9221-F	MPN/ 100 ml	Shall not be detectable in any 100 ml sample	--	Absent	Absent	Absent	Absent
34	Poly Aromatic Hydrocarbon as PAH	APHA 6440 B	mg/l	0.0001	No relaxation	<0.0001	<0.0001	<0.0001	<0.0001

Note: CL: Colorless, AL: Agreeable, ND: Not Detected.

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed by:

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

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Ref: VCSPL/25-26/TR- 11007 **Date: 05.07.2025**

SURFACE WATER QUALITY ANALYSIS REPORT MAY-2025

1. Name of Industry	:	**M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha**
2. Sampling location	:	**SW-1:** Hirakud Reservoir; **SW-2:** Kharjor nala upstream, **SW-3:** Kharjor nala downstream, **SW-4:** Mahanadi river upstream
3. Date of sampling	:	**12.05.2025**
4. Date of analysis	:	**13.05.2025 TO 19.05.2025**
5. Sample collected by	:	VCSPL Representative

Sl. No	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results			
					SW-1	SW-2	SW-3	SW-4
1	pH at 250C	APHA 4500H^+ B	--	6.0-9.0	7.13	7.36	7.51	7.2
2	Temperature	APHA 2550 B	^{0}C	--	26.8	26.3	27.2	27.5
3	Electrical Conductivity	APHA 2510 C	µS/cm	--	319	335	252	393
4	Turbidity	APHA 2130 B	NTU	--	4.0	5.6	8.8	7.6
5	Total Dissolved Solids	APHA 2540 C	mg/l	1500	168	172	233	204
6	Total Suspended Solids	APHA 2540 D	mg/l	--	62	50	71	75
7	Total Hardness (as CaCO3)	APHA 2340 C	mg/l	--	115	156	222	148
8	Total Alkalinity	APHA 2320 B	mg/l	--	40	55	75	55
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	30.2	36.1	40.9	35.6
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--				
11	Oil &Grease	**APHA 5520 B**	mg/l	--	<5.0	<5.0	<5.0	<5.0
12	DO	APHA 4500 O-C	mg/l	4 (min)	5.2	4.6	5.0	4.8
13	BOD(3)days at 270c	APHA 5210 B	mg/l	3	1.5	1.8	1.9	1.8
14	Chemical Oxygen Demand as (COD)	**APHA 5220 C**	mg/l	--	4.8	6.0	6.6	5.8
15	Chloride (as Cl)	APHA 4500Cl^- B	mg/l	600	17.5	35.0	42.5	35.0
16	Sulphate (as SO4)	APHA 4500 SO_4^{2-} E	mg/l	400	18.6	22.4	26.1	30.8
17	Fluoride (as F)	APHA 4500F^- C	mg/l	1.5	0.30	0.41	0.36	0.44
18	Nitrate (as NO3)	APHA 4500 NO_3^- E	mg/l	50	1.66	1.40	1.38	1.54
19	Arsenic (as As)	APHA 3114 B	mg/l	0.2	<0.01	<0.01	<0.01	<0.01
20	Copper (as Cu)	APHA 3111 B,C	mg/l	1.5	<0.05	<0.05	<0.05	<0.05
21	Lead (as Pb)	APHA 3111 B,C	mg/l	0.1	<0.005	<0.005	<0.005	<0.005
22	Manganese (as Mn)	APHA 3500Mn B	mg/l	--	<0.05	<0.05	<0.05	<0.05
23	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.5	0.38	0.36	0.44	0.39
24	Nickel	APHA 3111 B	mg/l	--	<0.01	<0.01	<0.01	<0.01
25	Chromium(as Cr)	APHA 3111 B	mg/l	--	<0.01	<0.01	<0.01	<0.01
26	Zinc (as Zn)	APHA 3111 B,C	mg/l	15	<0.03	<0.03	<0.03	<0.03
27	Mercury (as Hg)	APHA 3500 Hg	mg/l	--	<0.001	<0.001	<0.001	<0.001
28	Total Coliforms	APHA9221-B	MPN/100 ml	5000	110	220	410	330

Note: CL: Colourless, AL:Agreeable, U/O: Unobjectionable, ND: Not detected.

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed by:

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Approved by:

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ADITYA BIRLA
HINDALCO

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

VISIONTEK

Ref: VCSPL/25-26/TR- 11008 **Date: 05.07.2025**

SURFACE WATER QUALITY ANALYSIS REPORT MAY-2025

1. Name of Industry	:	**M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha**
2. Sampling location	:	**SW-5:** Mahanadi river downstream; **SW-6:** Tarasinghpara Drain **SW-7:**Drain near work manager's bunglow, **SW-8:**Sambalpur distributary near ash pond
3. Date of sampling	:	**12.05.2025**
4. Date of analysis	:	**13.05.2025 TO 19.05.2025**
5. Sample collected by	:	VCSPL Representative

Sl. No	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class –'C'	Analysis Results			
					SW-5	SW-6	SW-7	SW-8
1	pH at 250C	APHA 4500H^+ B	--	6.0-9.0	7.0	6.82	6.71	7.15
2	Temperature	APHA 2550 B	^{0}C	--	26.8	26.9	28.0	27.4
3	Electrical Conductivity	APHA 2510 C	µS/cm	--	398	428	460	412
4	Turbidity	APHA 2130 B	NTU	--	3.0	6.9	9.5	6.8
5	Total Dissolved Solids	APHA 2540 C	mg/l	1500	235	241	239	212
6	Total Suspended Solids	APHA 2540 D	mg/l	--	68	70	88	94
7	Total Hardness (as CaCO3)	APHA 2340 C	mg/l	--	146	168	190	224
8	Total Alkalinity	APHA 2320 B	mg/l	--	50	40	45	65
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	32.9	34.5	36.8	38.6
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--				
11	Oil &Grease	**APHA 5520 B**	mg/l	--	<5.0	<5.0	<5.0	<5.0
12	DO	APHA 4500 O-C	mg/l	4 (min)	5.1	4.6	4.8	4.5
13	BOD(3)days at 270c	APHA 5210 B	mg/l	3	1.6	2.2	2.5	2.4
14	Chemical Oxygen Demand as (COD)	**APHA 5220 C**	mg/l	--	5.0	7.8	8.0	8.1
15	Chloride (as Cl)	APHA 4500Cl^- B	mg/l	600	30.0	45.0	50.0	32.5
16	Sulphate (as SO4)	APHA 4500 SO_4^{2-} E	mg/l	400	30.6	22.4	28.5	31.9
17	Fluoride (as F)	APHA 4500F^- C	mg/l	1.5	0.44	0.48	0.50	0.79
18	Nitrate (as NO3)	APHA 4500 NO_3^- E	mg/l	50	1.47	1.56	1.80	1.66
19	Arsenic (as As)	APHA 3114 B	mg/l	0.2	<0.01	<0.01	<0.01	<0.01
20	Copper (as Cu)	APHA 3111 B,C	mg/l	1.5	<0.05	<0.05	<0.05	<0.05
21	Lead (as Pb)	APHA 3111 B,C	mg/l	0.1	<0.005	<0.005	<0.005	<0.005
22	Manganese (as Mn)	APHA 3500Mn B	mg/l	--	<0.05	<0.05	<0.05	<0.05
23	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.5	0.33	0.35	0.45	0.48
24	Nickel	APHA 3111 B	mg/l	--	<0.01	<0.01	<0.01	<0.01
25	Chromium(as Cr)	APHA 3111 B	mg/l	--	<0.01	<0.01	<0.01	<0.01
26	Zinc (as Zn)	APHA 3111 B,C	mg/l	15	<0.03	<0.03	<0.03	<0.03
27	Mercury (as Hg)	APHA 3500 Hg	mg/l	--	<0.001	<0.001	<0.001	<0.001
28	Total Coliforms	APHA9221-B	MPN/100 ml	5000	260	330	430	320

Note: CL: Colourless, AL:Agreeable, U/O: Unobjectionable, ND: Not detected.

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed by:

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Approved by:

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ADITYA BIRLA
HINDALCO

Visiontek Consultancy Services Pvt.Ltd

(Committed For Better Environment)

VISIONTEK

Ref: VCSPL/25-26/TR- 11011 **Date: 05.07.2025**

FORAGE FLUORIDE ANALYSIS REPORT MAY-2025

1	Name of Industry	:	M/s Hindalco Industries Limited, Hirakud Power, Sambalpur, Odisha
2	Date of Sampling	:	08.05.2025 & 09.05.2025
3	Date of Analysis	:	09.05.2025 TO 10.05.2025
4	Name of the Sample	:	Vegetation Sample
5	Sample Collected By	:	VCSPL Representative

Date of Sampling	Name of the Location	Type of Species	Scientific Name	Method of Analysis	Result (PPM)
08.05.2025	Nuajamudi	Duba Ghasa	*Cynodon dactylon*	AOAC 975.04	5.8
08.05.2025	IDC Area	Karanj Tree	*Pongame oil tree*	AOAC 975.04	4.5
08.05.2025	Gandhinagar	Pokasunga	*Ageratum Conyzoides*	AOAC 975.04	4.2
08.05.2025	Nauagujatal	Pokasunga	*Ageratum Conyzoides*	AOAC 975.04	4.9
08.05.2025	Dengimacha	Duba Ghasa	*Cynodon dactylon*	AOAC 975.04	4.5
09.05.2025	Larpark(RITI)	Pedi-Pedika	*Abutilon indicum*	AOAC 975.04	3.0
09.05.2025	Silipathar	Pedi-Pedika	Abutilon indicum	AOAC 975.04	2.5
09.05.2025	Natadhi	Duba Ghasa	*Cynodon dactylon*	AOAC 975.04	4.5
09.05.2025	Biharipada	Duba Ghasa	*Cynodon dactylon*	AOAC 975.04	2.1
09.05.2025	Sahajbhal	Karanj Tree	*Pongame oil tree*	AOAC 975.04	2.3

Reviewed by:

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Annexure - VIII

AMBIENT NOISE QUALITY DATA

(Apr'2025 - Sep'2025)

Sl. No.	Location	Category	Standard* Day / Night	Distance/ Direction w.r.t Plant	Noise Level (Day (avg)/Night) in dB(A)					
					Apr'25	May'25	Jun'25	Jul'25	Aug'25	Sep'25
1.	Riverside Colony	Residential	55/45	0.8 km / SW	50.7/43.9	50.8/44.2	50.8/44.2	50.9/ 44.5	51.1/44.8	51.0/44.3
2.	Tarasinghpada	Residential	55/45	0.2 km / S	50.9/44.1	51.4/43.8	51.4/43.8	51./43.93	51.3/43.5	51.5/43.9
3.	Christian pada	Residential	55/45	0.1 km / S	50.8/42.0	50.5/42.2	50.5/42.2	50.2/42.0	50.2/42.5	50.4/42.8
4.	Security Gate	Industrial	75/70	Plant Site	53.5/56.3	53.3/55.9	53.3/ 55.9	53.0/56.3	53.3/56.1	53.4/55.2
5.	Power Colony	Residential	55/45	0.4 km / NW	49.8/42.1	49.9/41.8	49.9/ 41.8	50.2/41.5	50.2/41.2	50.5/41.8

* Day Time: 0600 to 2200 Hrs. *Nighttime: 2200 to 0600 Hrs.

Annexure - IX

CSR Spent Hindalco Hirakud P&S for the period Apr'25 to Sep'25		
Project Activities	**Population Reached (Nos)**	**Expenditure Rs (in Lacs)**
Education		
Pre-school education		
School Education Program		
Enrollment awareness Programme/ events	668	0.12
Scholarship (Merit and Need based assistance)	11	0.54
School competitions /Best teacher award	45	0.04
Quality of Education (support teachers, Improve education methods,)	41	0.12
Specialized Coaching	32	0.63
Sub-Total	796	1.45
Education support programs		
Knowledge Centre and Library	2200	10.41
Reducing drop-out and continuing Education (Kasturba Balika bridge courses/counselling)	0	0.03
Sub-Total	2200	10.44
Vocational and Technical Education		
Skills based Individual training program	330	3.87
Sub-Total	330	3.87
School Infrastructure		
Buildings and Civil structures(new)	100	0.08
School sanitation/drinking water	60	0.16
Sub-Total	160	0.24
Education Total	**3486**	**16.83**
Health		
Preventive Health Care		
Health Check-up camps	658	2.48
Ambulance Mobile Dispensary Program	9600	20.54
Sub-Total	10258	23.01
Curative Health Care program		
General Health camps	20000	1.92
Specialized Health Camps	345	0.59
Treatment Camps	236	0.83
Homeopathic/Ayurvedic Camps	0	0.88
Company operated hospitals/dispensaries/clinic	0	0.33
Sub-Total	20581	4.54
Reproductive and Child Health		
Mother and Child Health care (Ante Natal Care, Pre Natal Care and Neonatal care)	25	0.04
Sub-Total	25	0.04

Quality / Support Program		
Support for differently abled	100	1.11
Ambulance services	163	2.58
Sub-Total	263	3.69
Health Infrastructure		
Buildings and Civil structures(new)	100	1.97
Drinking water sources (Handpump/RO/Water Tank/well)	`1100	2.32
Sub-Total	100	4.29
Health Care - Others	6500	5.11
Sub-Total	6500	5.11
Health Total	**37727**	**40.68**
Sustainable Livelihood		
Agriculture and Farm Based		
Agriculture & Horticulture training program/ Farmers group	800	15.96
Integrated agricultural/horticultural improvement program /productivity improvement programs	200	23.90
Sub-Total	1000	39.86
Animal Husbandry Based		
Productivity Improvement programs and training	30	0.19
Sub-Total	30	0.19
Non-farm & Skills Based Income Generation Program		
Capacity Building Program-Tailoring, Beauty Parlor, Mechanical….	40	0.46
Support to SHGs for entrepreneurial activities	15	0.08
Training / Skill development cost incurred for Masons / Applicators etc., for increasing employment opportunities	25	0.14
Sub-Total	80	0.68
Sustainable Livelihood - Total	1110	40.73
Infrastructure		
Rural Infrastructure Development other than for the purpose of Health /Education /Livelihood		
Infrastructure development other than for the purpose of Health /Education /Livelihood	500	11.50
New Roads/Culverts/Bridges/Bus Stands	100	5.21
Repair Roads/Culverts/Bridges/Bus Stands	50	0.51
Community Halls	2510	5.18
Other Community Assets	5000	34.88
Infrastructure Total	8160	57.28
Social Development Projects		
Institutional building & strengthening		
Strengthening / formation of community-based organization (SHGs)	15	0.32
Total	15	0.32
Awareness campaign social abuse Early marriage / HIV Prevention	100	0.08
Sub-Total	100	0.08

Promotion of heritage/culture/Sports		
Support to rural cultural programs, festivals & melas	16000	4.44
Sub-Total	16000	4.44
Social Empowerment and Welfare - Others		
Social Empowerment and Welfare - Others	100	0.56
Sub-Total	100	0.56
Protection of Heritage / Art / Culture		
Support to Promotion of Traditional cultural program for protection of heritage / Art / Culture	22024	9.38
Support to Institution for Promotion of Traditional cultural program for protection of heritage / Art / Culture.	5000	2.58
Sub-Total	27024	11.96
Social development Projects - Total	**43239**	**17.35**
All Others		
Others	20	2.71
Total	20	2.71
Grand Total	**93743**	**175.59**

Annexure - X

ENVIRONMENTAL EXPENDITURE
(Period: Apr'25 to Sep'25)

Sl. No.	Heads of Expenses		Expenses in Rs. (Lakh)
1	Envt. Monitoring / Envt. Charges including Environment Management System	:	73.12
2	O & M of RO Plant, ETP & STP	:	41.64
3	Hazardous Waste Disposal Cost	:	1621.12
4	Fume Treatment Plant	:	551.85
5	Ash Handling & management	:	3135.2
	TOTAL	:	**5422.93**

Annexure - XI

COMPLIANCE TO CREP GUIDELINES

Compliance Status as on 30th September 2025

Smelter Plant:

Sr. No.	Conditions	Compliance
1	Environmental clearance for new smelters to be given by MoEF&CC only with pre-baked technology	All the Smelter Pots are based on pre-baked technology only.
2	Fluoride emissions should be limited to 0.8 kg/ton of aluminium production and dry scrubbing of fluorides	Fluoride emissions are being controlled below 0.5 kg/ton of aluminium production against the norm of 0.7 kg/Ton by installing FTPs.
3	Fluoride consumption in the smelter should be limited to 10 kg/ton of aluminium produced	Fluoride consumption in Smelter is meeting the limit prescribed by MoEF&CC vide notification dated 21st July, 2025.
4	The fluoride in forage should be limited to Average of 12 consecutive months - 40 ppm Average of 2 consecutive months - 60 ppm One month - 80 ppm Regular monitoring data to be submitted to SPCB and CPCB.	Forage fluoride is monitored on a monthly basis, and the values are within the prescribed limit. The monitored data is being regularly submitted to SPCB and CPCB.
5	The average life of the pots should be 2500 days. The possibility of using the SPL in cement or steel industry after recovery of aluminium fluoride should be explored.	The pots are designed for longer operation life. The Spent Pot Lining generated is supplied to authorised recyclers, cement plants and refractory part is disposed to CHW-TSDF.
6	The SPL should be disposed in a secured landfill.	Refractory portion of SPL is disposed to TSDF for secured scientific landfill. One captive SLF has been established for use in exigencies and it is currently not in use.
7	Achieving particulate matter limit of 50 mg/Nm3 in anode baking furnace	Not applicable, we are sourcing baked anode from Aditya Aluminium, Lapanga, Sambalpur.

Captive Power Plant:

Sr. No.	Conditions	Compliance
1	Implementation of Environmental Standards (emission & effluent) in non- compliant* Power Plants (31 & 27) - Submission of action plan: June 30, 2003 - Placement of order for Pollution of control equipment: September, 2003 - Installation & commission: December 31, 2005	All the units installed before and after 2023 are meeting the Environmental Emission Standards as per CTO.
2	For existing thermal power plants, a feasibility study shall be carried out by Central Electricity Authority (CEA) to examine possibility to reduce the particulate matter emissions to 100 mg/Nm3. The studies shall also suggest the road map to meet 100 mg/Nm3. The studies shall also suggest the road map to meet 100 mg/Nm3 wherever found feasible. CEA shall submit the report by March 2004.	Not Applicable
3	New / expansion power projects to be accorded environmental clearance on or after1.4.1.2003 shall meet the limit of 100 mg/Nm3 for particulate matter.	Complied. PM emission is within the stipulated limit of 100 mg/Nm^3 for Unit # 1 & 50 mg/Nm^3 for Unit # 2 to 5.
4	Development of SO2 & NOx emission standards for coal based plants by December 2003. - New/ expansion power projects shall meet the limit of SO2 & NOx w.e.f. 1.1.2005. - Existing power plants shall meet the limit of SO2 & NOX w.e.f.1.1.2006.	Not Applicable
5	Install/activate opacity meters/ continuous monitoring system in all the units by December 31, 2004 with proper calibration system.	Continuous monitoring system installed in the stacks attached to Power Plant for monitoring of PM, SO_2 & NOx.
6	Development of guidelines/ standards for mercury and other toxic heavy metals emissions by December 2003.	Not Applicable
7	Review of stack height requirement and guidelines for power plants based on micro meteorological data by June 2003	Not Applicable
8	Implementation of use of beneficiated coal as per GOI Notification: Power plants will sign fuel supply agreement (FSA) to meet the requirement as per the	Not Applicable

	matrix prepared by CEA for compliance of the notification as short term measure. Options/mechanism for setting up of coal washeries as a long term measure * Coal India will up its own washery * Sate Electricity Board to set up its own washery * Coal India to ask private entrepreneurs to set up washeries for CIL and taking washing charges * SEBs to select a private entrepreneur to set up a washery near pit-head installation of coal beneficiation plant	
9	Power plants will indicate their requirement of abandoned coal mines for ash disposal & Coal India/ MOC shall provide the list of abandoned mines by June 2003 to CEA.	We are exploring abandoned stone quarry and mines for backfilling of fly ash.
10	Power plants will provide dry ash to the users outside the premises or uninterrupted access to the users within six months.	Complied
11	Power Plants should provide dry fly ash free of cost to the users	Complied
12	State P.W.Ds/ construction & development agencies shall also adhere to the specifications/Schedules of CPWD for ash based products utilization MoEFCC will take up the matter with State Governments.	Not Applicable
13 (i)	New plants to be accorded environmental clearance on or after 1.04.2003 shall adopt dry fly ash extraction or dry disposal system or Medium (35-40%) ash concentration slurry disposal system or Lean phase with hundred percent ash waste re-circulation system depending upon site specific environmental situation.	Dry ash handling system has been installed as part of the Ash Handling Package.
13 (ii)	Existing plants shall adopt any of the systems mentioned in 13(i)by December 2004	Dry fly ash & bottom ash handling system Implemented
14	Fly ash Mission shall prepare guidelines/manuals for fly ash utilization by March 2004.	Noted
15	New plants shall promote adoption of clean coal and clean power generation technologies * Units will submit bank guarantee to respective SPCB	Noted