ADITYA BIRLA
HINDALCO

Letter No: AAP/E&S/EC/2024/1090 Date: 11/05/2024

To,
The Director
Ministry of Environment, Forest & Climate Change
Integrated Regional Office
A/3, Chandrashekharpur
Bhubaneswar – 750 023 (Odisha)

Sub: Submission of Six-Monthly Compliance from October' 23 to March' 24.

Ref: Environmental Clearance Letter No: J-11011/136/2009-IA. I (I), dated 29/11/2012, J-11011/136/2009-IA. II (I), dated 14/06/2013, J-11011/136/2009-IA. II (I), dated 14/08/2018 & J-11011/136/2009-IA. I (I) dated 20/07/2020 and 12/08/2022.

Dear Sir,

As a part of the compliance to the Environmental Clearance accorded by MoEF&CC to Aditya Aluminium for 0.72 MTPA Smelter and 1650 MW CPP at Lapanga in Sambalpur district, please find enclosed herewith the six-monthly compliance report of aluminium smelter and captive power plant for the period October' 23 to March' 24.

Kindly acknowledge receipt of the reports.

Thanking You

Yours faithfully
For Aditya Aluminium

Sameer Nayak
(Sameer Nayak)
President & Unit Head

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

Hindalco Industries Limited
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Tel: +91 22 6691 7000 | Fax: + 91 222 6691 7001
Corporate ID No.: L27020MH1958PLC011238

Aditya Aluminium: Six Monthly EC Compliance from October 2023– March 2024

Name of the Project	:	Aditya Aluminium (A Division of Hindalco Industries Ltd.) at village: Lapanga, Tehsil: Rengali, District: Sambalpur (Odisha).
Environment Clearance Letter No and date	:	J-11011/136/2009-IA-I(I), dated 29th November 2012, letter no. J-11011/136/2009-IA II (I), dated 14th June 2013 and EC amendment letter no. J-11011/136/2009-IA.II (I), 14th August 2018, 20th July 2020 & 12th August 2022. For 7,20,000 TPA Aluminium Smelter & 1650 MW Captive Power Plant
Period of Compliance Report	:	October 2023 to March 2024

Sr. No.	Specific Conditions	Compliance Status
i)	The streams passing through the project site shall not be disturbed w.r.t their quantity and quality of flow.	The streams passing through the project site is not being disturbed.
ii)	Alumina shall be obtained from those refineries, which have been accorded environmental clearance by the Ministry of Environment and Forests.	Alumina is being obtained from refineries which have been accorded environmental clearance. At Present, the Alumina is being obtained from Utkal Alumina International Limited (UAIL), Rayagada Distt. and it has been accorded environmental clearance from MoEFCC. We have kept an option of importing Alumina in case of any shortage in supply from the above source.
iii)	The gaseous emissions (PM, SO_2, NOx, PAH, HC, VOCs and Fluoride) from various process units shall confirm to the standards prescribed by the concerned authorities from time to time. The SPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the Industry and its size and location. At no time the emissions level should go beyond the prescribed standards. 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 particulate emissions from the bake oven plant shall not exceed 50 mg/Nm^3.	Online Monitoring equipments have been installed at the outlet of following stacks for monitoring of particulate matter and gaseous emissions. The online data has been connected to the Servers of OSPCB and CPCB. a) Smelter GTC 1 & 2- 2 Nos. b) Smelter FTC 1 & 2 - 2 Nos. c) CPP Unit 1 to 6 - 6 Nos. Particulate matter emission from the bake oven does not exceed the prescribed limit of 50 mg/Nm3. The summarized monitoring report w.r.t. particulate matter emission from October 2023 to March 2024 in Anode baking Furnace stacks is stated below:

Stack attached to	PM Emission (mg/Nm3)		
	(Min)	(Max)	(Avg)
FTC # 1	4.7	8.2	6.7
FTC # 2	5.4	7.6	6.3

The monitoring report of Fume treatment Plant stacks is attached as **Annexure-1**.

<table>
<tr>
<td>iv)</td>
<td>Particulate fluoride emissions should not be more than 0.65 mg/Nm3 and fugitive particulate fluoride emissions from pot room should not be more than 1.85 mg/Nm^3.</td>
<td>Online monitoring equipment at Gas Treatment Centre (GTC) and Fume Treatment Centre (FTC) installed for monitoring of Hydrogen Fluoride (HF), Particulate Matter (PM). The particulate fluoride emission from the gas treatment system is within the prescribed standard. The summarized report from October 2023 to March 2024 is stated below:
<table>
<tr><td rowspan="2">Stack attached to</td><td colspan="3">Particulate Fluoride Emission (mg/Nm3)</td></tr>
<tr><td>(Min)</td><td>(Max)</td><td>(Avg)</td></tr>
<tr><td>GTC # 1</td><td>0.09</td><td>0.10</td><td>0.10</td></tr>
<tr><td>GTC # 2</td><td>0.10</td><td>0.11</td><td>0.10</td></tr>
</table>
The average fugitive particulate fluoride emission from pot rooms during October 2023 to March 2024 is 0.045 kg/ton of metal produced.

The monitoring reports of Gas Treatment Centre stacks is attached as Annexure-2.</td>
</tr>
<tr>
<td>v)</td>
<td>The poly aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) should not exceed 2 mg/Nm^3. The data on PAH should be monitored quarterly and report submitted regularly to the Ministry/Regional Office at Bhubaneswar and SPCB.</td>
<td>The poly aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) are being monitored on monthly basis and found within the standard. (Ref: Annexure 1).</td>
</tr>
<tr>
<td>vi)</td>
<td>In plant, control measures like fume extraction and dust extraction system for controlling fugitive emissions from all the materials handling/transfer points shall be provided to control dust emissions.

Fugitive Fluoride emissions from the pot room and in the forage around the smelter complex and the data submitted regularly to the Ministry Regional Office at Bhubaneswar and SPCB.

Further dry scrubbing system to control the emissions from the pot lines should be provided.</td>
<td>Fume Extraction Centre (FTC) in Anode Baking furnace, Gas Treatment Plant (GTC) in potlines and bag filters in raw material handling, GAP, Anode Baking, Roding areas, bath recycling, carbon recycling area, butts recycling area, cathode sealing shop etc in smelter area and coal handing, ash handling plant in captive power plant is installed to control fugitive dust emissions.

Online Roof Top Monitoring analyzer installed for Fugitive fluoride (HF) monitoring in potrooms, the concentration of hydrogen fluoride (HF) varies between 0.210 mg/m3 to 0.362 mg/m3 and average is 0.271 mg/m3 during October 2023 to March 2024. The daily average emission report during these period is attached as Annexure-3.

Forage fluoride analysis around the smelter is being carried out on quarterly basis and the</td>
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<table>
<tr><td></td><td></td><td>concentration of the forage fluoride (analysed in February 2024) are listed below:

<table>
<tr><th>Location</th><th>Species</th><th>Fluoride (in ppm)</th></tr>
<tr><td>Bomaloi</td><td>Aegle marmelos, Oryza Sativa,</td><td>1.6</td></tr>
<tr><td>Gurupali</td><td>Cynodon dactylon, Azadirachta Indica</td><td>1.7</td></tr>
<tr><td>Plant Site</td><td>Dalbergia Sissoo, Cynodon dactylon</td><td>2.4</td></tr>
<tr><td>Thelkolai</td><td>Pongame oil tree, Cynodon dactylon</td><td>1.7</td></tr>
<tr><td>Gumukarma</td><td>Bambuso ideade, Oryza Sativa</td><td>2.1</td></tr>
<tr><td>Ghichamura</td><td>Mimusops elengi, Oryza Sativa</td><td>1.4</td></tr>
<tr><td>Tileimal</td><td>Oryza Sativa, Cynodon dactylon</td><td>1.2</td></tr>
<tr><td>Lapanga</td><td>Azadirachta Indica Oryza Sativa</td><td>2.2</td></tr>
<tr><td>Jangala</td><td>Cynodon dactylon, Oryza Sativa,</td><td>1.6</td></tr>
<tr><td>Bhadrapali</td><td>Pongame oil tree , Oryza Sativa,</td><td>1.3</td></tr>
</table>
Dry scrubbing system is being provided as gas treatment centre (GTC) to each of the pots in the pot room to control fugitive emission.</td></tr>
<tr><td>vii)</td><td>Electrostatic Precipitators (ESP) will be provided to Captive Power Plant (CPP) to control particulate emissions below 50 mg/Nm3.

The company shall provide bag filters, dry scrubbing system and dust suppression system to control all the emissions including fluoride emissions from all melting and casting units. Tar, Dust and fluoride in the fumes shall be controlled in baking furnace by providing dry scrubber.

The emissions shall conform to the standards prescribed by the Ministry CPCB/SPCB whichever is more stringent.</td><td>Electrostatic Precipitators (ESP) of adequate efficiency is installed in Captive Power Plant (CPP) to restrict particulate emissions within 50 mg/Nm^3.

Two nos. of Gas Treatment Centre (GTC) provided and connected to each 180 pots. Besides, Bag filters installed in all the material handling & transfer points in Smelter. Fume treatment centre (FTC) provided to each Anode Baking Furnaces to treat the tar fumes, dust, gaseous and particulate fluorides generated during Anode Baking.

The standards prescribed by the Ministry/ CPCB/ SPCB is being adhered.

The results of the stack emission from the CPP units from October-2023 to March-2024 is stated below:</td></tr>
</table>

		CPP Stack / PM Emission (mg/Nm3) (Min) (Max) (Avg) CPP 1: 38.2 40.6 39.6 CPP 2: 40.1 42.6 41.6 CPP 3: 39.1 43.2 40.6 CPP 4: 39.6 42.5 41.6 CPP 5: 39.5 42.6 40.6 CPP 6: 20.2 43.4 31.7
viii)	Provision for installation of FGD shall be provided for future use.	Installation & commissioning of Semi-dry flue gas desulphurization system has been completed in CPP Unit-6. PG test has performed on 18/10/2023. Provision has been kept for installation of FGD in other CPP units.
ix)	Three tri-flue and one bi-flue stack of 275 m height with flue gas velocity not less than 22 m/s shall be installed and provided with continuous online monitoring equipment's for SO_2, NO_x, and PM_{10}.	Two (02) numbers of tri-flue stacks of 275 m height is installed in phase-I, another two nos. of stacks will be installed during Phase-II. Continuous emission monitoring system (CEMS) installed for monitoring of SO_2, NOx, and PM in all the stacks of CPP and the velocity of the exit flue gas is being maintained above 22 m/s.
x)	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Dust extraction systems (DE), Dry fog dust suppression (DFDS) & Rain gun water sprinkling systems are installed in coal handling plant and ash handling system of Captive Power Plant.
xi)	Utilization of 100% fly ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	Ash generated from CPP is being utilized by means of supplying to M/s Ultratech Cements, Jharsuguda and M/s OCL, Rajgangpur for cement manufacturing. Also we are supplying Ash to the brick manufacturers and utilizing for development of low lying areas with ash inside & outside the plant premises with the prior approval of SPCB, Odisha. The low-lying areas are being filled-up with Ash as per the Guideline for Reclamation Low Lying Areas and Abandoned Quarries with Ash of SPCB, Odisha. The status of ash utilization for the period from April-2023 to March 2024 is stated below: **Particulars** / **Quantity in MT** Total ash generated: 16,89,889 Total Ash Utilised: 16,89,889 Ash Utilization (%): 100 % Details of the ash utilization from April-2023 to March 2024 is attached as **Annexure- 4**.
xii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized ash	Fly ash & bottom ash are collected in dry from and 3x2500 MT Fly ash silo and 1x3000 MT

	shall be disposed-off in the ash pond in the form of slurry. Mercury and other heavy metals (Ag, Hg, Cr, Pb etc) will be monitored in the bottom ash and also in the effluent emanating from the existing ash pond. No ash shall be disposed-off in low lying area.	bottom ash silo have been installed. We are exploring maximum utilization of Ash and unutilized ash is being discharged to the Ash pond through High Concentration Slurry Disposal (HCSD) system, which is the most environment friendly conveying system at present. Monitoring of Mercury and other heavy metals (Ag, Hg, Cr, Pb etc) is being done for the fly ash and bottom ash. The analysis report is enclosed as **Annexure-5**. The ash filling in the low lying area inside the plant premises is being carried out in line with the guideline for disposal/utilization of fly ash for reclamation of Low Lying Areas and in stowing of Abandoned mines/Quarries. (Ref: CPCB guideline published in March 2019).
xiii)	Fluoride (as F) consumption shall be less than 10 kg/ton of Aluminium produced as specified by the CREP.	The specific fluoride (as F) consumption for the period October-2023 to March-24 is 7.08 kg/ton of Aluminium produced.
xiv)	Anode butts generated from the pots shall be cleaned and recycled to the Anode Plant. The spent pot lining generated from the smelter shall be properly treated in spent pot lining treatment plant to remove fluoride and cyanide and disposed-off in secured landfill. The location and design of the land fill site shall be approved by the SPCB as per the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008. Leachate collection facilities shall be provided to the secured land fill facilities (SLF). The dross shall be recycled in the cast house. STP sludge shall be utilized as manure for greenbelt development. All the used oil and batteries shall be sold to the authorized recyclers/ re-processors.	Anode butts generated from the pots is being cleaned and recycled completely for making green anode in green anode plant. M/s Resustainability Ltd has established the facility for detoxification and disposal of SPL refractory as per the protocol given by CPCB in its CHW-TSDF at kanchichuhan, Dist- Jajpur site. Around 54.54 MT SPL Refractory part and 160.44 MT Carbon part is in stock till end of March-2024 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users. The Carbon part of SPL also being detoxified and reprocessed by M/s Regrow Transo Pvt. Ltd. Jharsuguda for use as carbon fuel. Silicon carbide is being supplied to actual users and & SPL refractory is being supplied for trial run to M/s Techno processor LLP. in this way the 100% SPL is being detoxified and recycled/disposed. Permission has been received from SPCB for SPL refractory/fine mix dust supplied to authorized cement plants for co-processing in cement kiln. We are exploring for disposal of SPL fine mix dust/refractory to cement plants for coprocessing in cement kiln.

		The location and design of the land fill site has been prepared as per the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and approved from SPCB. The dross recycling is being done in the inhouse dross processing unit /partly selling to authorized recyclers and the residue generated from dross processing unit is being sent to OSPCB authorized recyclers for Alum/synthetic slag making. STP is in operation at township & Plant area separately, the sludge generated is being used for gardening/greenbelt development. The used oil and batteries are being sold/supplied to authorized recyclers/reprocessors only.
xv)	As proposed, spent pot lining waste shall also be provided to cement and steel industries for further utilization.	The Carbon part of SPL is being supplied to—M/s Regrow Transo Pvt. Ltd. Jharsuguda. Permission has been received from SPCB for SPL refractory/fine mix dust supplied to authorized cement plants for co-processing in cement kiln. Around 54.54 MT SPL Refractory part and 160.44 MT Carbon part is in stock till end of March- 2024 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users. We are exploring for disposal of SPL fine mix dust/refractory to cement plants for coprocessing in cement kiln. SPL refractory/fine mix dust disposal to cement plants will be started soon.
xvi)	Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached. Ash pond water shall be recirculated and reused.	The ash pond has been lined with HDPE liner and adequate safety measures have been taken to minimize the risk to the ash dyke. The ash be disposal through HCSD system has been implemented. The decanted water from the ash pond is being completely recycled and reused for ash disposal. The existing ash pond over an area of 37 acres having fly ash quantity 9.44 lakh MT has been reclaimed. Certificate of closure and reclaimation has been received from SPCB vide letter no. 14036/IND-I-CON-6120 dated 04-09-

		2023. An emergency ash pond has been developed over an area of 30 acres adjacent to existing pond as per the design & drawings provided by NIT-Rourkela and is in operation.
xvii)	Cycle of concentration (CoC) of 5.0 shall be adopted.	We are maintaining the average CoC of cooling tower above 5.
xviii)	Regular monitoring of ground water shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the regional office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Regular monitoring of ground water is being carried out through establishing a network of existing wells and constructing two nos new piezometer wells near ash pond areas and the analysis report is enclosed as **Annexure-6**. Monitoring of heavy metals (Hg, Cr, As, Pb) around the Ash pond area is being carried and record maintained. Please refer **Annexure-5** for the analysis report.
xix)	Regular ground water monitoring shall be carried out by installing peizometers all around the secured land fill site in consultation with the SPCB, Central Ground Water Authority and State Ground Water Board and data submitted to the Ministry's Regional Office and SPCB.	Secured landfill (SLF) has not yet been established inside the plant. Therefore, ground water quality monitoring shall be carried out after establishment of the SLF.
xx)	Total water requirement for the expansion from Hirakud Reservoir shall not exceed 5,200 m3/hr and prior permission for the existing and proposed expansion shall be obtained from the concerned department before commissioning of the plant. All the effluent including from the cooling tower and de-mineralization plant shall be treated in the effluent treatment plant and treated effluent shall be recycled/reutilized in the process in smelter and CPP and also for fire protection, dust suppression, greenbelt development etc. Domestic effluent shall be treated in sewage treatment plant (STP) and treated domestic waste water will be used for greenbelt development.	No additional fresh water will be sourced from Hirakud Reservoir for the proposed expansion. The water requirement estimated for the expansion is within 52.73 cusec, as approved. The Effluent from the cooling towers and de-mineralization plant is being treated in Double Stage RO based effluent treatment plant and is being reused/reutilized in the process of CPP. Separate Sewage Treatment Plant (STP) is installed @ capacity 25 m^3/hr for Smelter & Captive Power Plant, STP of 300 KLD capacity is installed at Township area and the treated water being used for greenbelt development.
xxi)	No effluent shall be discharged outside the premises of smelter during non-monsoon period and shall be discharged during the monsoon period only after treatment and meeting the	We are operating a Double Stage Reverse Osmosis based effluent treatment plant (ETP) of 300 m^3/hr capacity and therefore no effluent water is being discharged to outside without

	norms of the OSPCB/CPCB.	treatment from Smelter.
xxii)	Greenbelt of adequate width and density around the project site shall be developed in 33% area in consultation with the DFO as per the CPCB guidelines having density of 2,000 trees/Ha.	Aditya Aluminium has developed 33% Greenbelt over an area of 1098 acres inside the plant, ash pond area and township areas. Around 7,52,230 saplings planted till March 2024.
xxiii)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is being done as per the Odisha Factories Act.
xxiv)	The company shall develop rain water structures in the township area for recharge of ground water in consultation with the Central Ground Water Authority/Board.	Rain water recharging arrangement is being made in the township buildings, besides a rain water harvesting pond (60,000 cum capacity)has been developed inside the township area. A rain water harvesting scheme has been submitted to CGWA for approval vide our letter no. AA/E&F/EC/2016/131, dated 09/04/2016.
xxv)	Rehabilitation and Resettlement Action Plan as prepared and submitted to the State Govt. shall be implemented as per the R & R Policy of the State Government. All the recommendations mentioned in the R&R Plan shall be strictly followed including suitable employment and other facilities to all the oustees.	Rehabilitation and Resettlement Action Plan is being implemented as per the R & R policy, 2006 of the State Govt. All the recommendations mentioned in the R&R plan are being followed/complied.
xxvi)	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium Sector shall be strictly implemented.	All the conditions of CREP guideline for Aluminium sector is being followed. The point wise compliance to the CREP guideline is attached as **Annexure-7**.
xxvii)	The company shall adopt well laid down corporate policy and identified and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with environmental clearance, environmental laws and regulations.	The company has adopted a well laid down Corporate Environment Policy. The Environment policy has been revised and approved by the Board on 9th August 2022. The copy of the revised environment policy is attached as **Annexure-8**.
xxviii)	All the commitments made to the public during public hearing /public consultation meeting held on 2nd march 2012 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.	All the commitments made to the public during public hearing/public consultation meeting held on 2nd march 2012 is being complied. (Status of implementation is enclosed as **Annexure-9**).

xxix)	At least 5% of the total cost of the project shall be earmarked for towards the Enterprise Social Commitment and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.	The expenses under Enterprise Social Commitment (ESC) till March-2024 is Rs 71.74 Crores. The details of the expenditure made under Enterprise Social Commitment (ESC) till March-2024 is attached as **Annexure-10**.
xxx)	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. the housing may be in the form of temporary structures to be ensured accordingly in a time bound manner.	The construction activities are completed after the plant is installed & commissioned. However, in case of any construction & maintenance activities from time to time we are providing all necessary infrastructure and facilities to the workers as per rules & guidelines.
xxxi)	The company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia address (i) standard operating process/procedure to being into focus any infringement/deviation/violation of environmental or forests norms/ conditions (ii) Hierarchical system or administrative order of the company to deal with environmental issues and ensuring compliance to the environmental clearance and (iii) system of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.	The Corporate Environment Policy prepared and approved by the company Board of Directors, Organizational Structure for Hindalco Corporate Environment, Deployment of Corporate Policy in manufacturing Plants & communication of Policy as regards Corporate Environment is already submitted to MoEF&CC.
	GENERAL CONDITIONS	
i)	The project authorities must strictly adhere to the stipulations made by the OSPCB and the State Government.	We have been following the stipulations made by OSPCB and the State Government. The compliance to CTO conditions is being submitted to OSPCB as per requirement.
ii)	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	We will not carry out any expansion or modification in the plant without prior approval of MoEFCC.
iii)	The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The SPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	We have noted and accepted the stipulated condition.
iv)	At least four number of ambient air quality monitoring stations shall be established in the downward direction as well as where maximum	Installation of four (04) CAAQM Stations completed and commissioned. Data connectivity established with the servers of OSPCB and CPCB.

	ground level concentration of SPM, SO_2 and NO_x are anticipated in consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and Orissa State Pollution Control Board once in Six months.	Installation of the continuous stack emission monitoring system in all the major stacks completed. All the CAAQMS & CEMS synchronized with the webserver of the SPCB & CPCB. Six-monthly compliance along with the monitoring data is being submitted to the concerned authorities regularly.
v)	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (nighttime).	The overall noise levels in and around the plant area is within the prescribed standards and it is being made possible by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The overall noise level is within the standard, regular monitoring is being done. All necessary PPEs are provided to the workers and engineers working in the factory.
vi)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is being done as per the Factories Act.
vii)	The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	The company has developed surface water harvesting structures to the tune of 22 lakhs cum to store water in the lean season and it will harvest the rain water during rainy season in the same reservoirs.
viii)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA report. Further the company must undertake socio-economic development activities in the surrounding villages like community development programmes, drinking water supply and health care etc.	We have noted and accepted all the conditions and will comply in a time bound manner. The economic development activities are going on regularly as a part of our corporate social responsibility. A team of personnel working dedicatedly for peripheral development work like conducting health camps, community developed programmes, formation SHG groups, supply of drinking water and other common infrastructural development works. Details of the CSR, R&R activities undertaken is attached as **Annexure-11**.
ix)	Requisite fund shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment & Forests as well the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	Requisite fund was allocated and has been spent towards capital cost and recurring cost/annum is also allotted & spent for environment pollution control measures & environmental management in each year.
x)	A copy of the clearance letter shall be send by	Copy of the clearance letter has already been

	the proponent to concerned Panchayat, Zillaparishad/Municipality corporation, urban local body and the local NGO, if any from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter also be put on the web site of the company by the proponent.	communicated to all concerned as mentioned in the condition. Scanned copy of the letter is also displayed in our official website.
xi)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitoring 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 SPCB. The criteria pollutant levels namely' PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The status of compliance to the EC conditions is being submitted to the Regional office of the MOEF regularly on 1stJune and 1stDec respectively with a copy to CPCB & OSPCB and the same is being uploaded into the Company website. (http://www.hindalco.com/sustainability/regulatory-compliances). All the stack emission and ambient air monitoring stations are synchronized with the webserver of the SPCB & CPCB. The online monitoring data w.r.t. stack emission, ambient air quality and effluent water quality is being digitally displayed at main entrance gate for information to the public.
xii)	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitoring data (both in hard & soft copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Offices of CPCB and the SPCB. The Regional office of this Ministry at Bhubaneswar. CPCB/SPCB shall monitor the stipulated conditions.	We are submitting the six monthly compliance reports of the stipulated environmental conditions (both in hard & soft copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Offices of CPCB and the SPCB. Before 1st June and 1st December every year. Further, we are also submitting the EC compliance reports through Parivesh Portal accordance to MoEFCC office memorandum dated-14th June 2022. The monitoring data carried out through NABL Accredited Laboratory in respect of AAQ, water, soil, noise etc is enclosed as **Annexure-12**.
xiii)	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office at Bhubaneswar by e-	The environmental statement for each financial year ending 31st March in Form-V is being submitted to the concerned authorities of SPCB and MoEF&CC. Last environmental statement report has been submitted vide our letter no. AA/E&S/EC/2023/979, dated 12.09.2023.

	mail.	
xiv)	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 and may also be seen at website of the Ministry of Environment & Forest at http/www.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 should be forwarded to the Regional office at Bhubaneswar.	Information to Public has been made through advertisement of the environmental clearance in two widely circulated daily newspapers i.e. "The New Indian Express" on 04-12-2012 & "The Samaja" on 05-12-2012, within seven days of receiving the clearance letter. The copy of the advertisement was submitted to the Ministry's Regional Office at Bhubaneswar vide our office letter no. AAP/E&F/786, dated 07-12-2012.
xv)	The authorities shall inform the regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Financial closure for Phase-1 of the Project is completed on 17th September 2012 and Construction activities for Phase-I completed and operating 360 pots out of 360 pots in Smelter and 6 units (6x150 MW) in CPP.
Sr.N	**EC Amendmnet Additional Conditions**	**Compliance Status**
i)	The project proponent shall develop in-house facilities for treatment of Spent Pot Lining (SPL) generated in the Aluminium smelter. Meanwhile, Refractory part may be sent to CHWTSDF as per the provisions of Hazardous and Other Waste Amendment Rules, 2016.	M/s Resustainability Ltd has established the facility for detoxification and disposal of SPL refractory as per the protocol given by CPCB in its CHW-TSDF at kanchichuhan, Dist- Jajpur site. Around 54.54 MT SPL Refractory part and 160.44 MT Carbon part is in stock till end of March-2024 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users. The Carbon part of SPL also being detoxified and reprocessed by M/s Regrow Transo Pvt. Ltd. Jharsuguda for use as carbon fuel. Silicon carbide is being supplied to actual users and & SPL refractory is being supplied for trial run to M/s Techno processor LLP. in this way the 100% SPL is being detoxified and recycled/disposed. Permission has been received from SPCB for SPL refractory/fine mix dust supplied to authorized cement plants for co-processing in cement kiln. We are exploring for disposal of SPL fine mix dust/refractory to cement plants for coprocessing in cement kiln.
ii)	The PP shall ensure 100% utilization of Fly ash generated.	Ash generated is being utilized by means of supplying to M/s Ultratech Cements, Jharsuguda and M/s OCL, Rajgangpur for cement manufacturing. Also we are supplying Ash to the

<table>
<tr><td></td><td></td><td>brick manufactures and utilizing for development of low lying areas inside & outside the Plant premises with the prior approval of SPCB, Odisha. The low-lying areas is being filled-up with Ash as per the Guideline for Reclamation Low Lying Areas and Abandoned Quarries with Ash of SPCB, Odisha. Besides, we are also exploring other modes/areas for more ash utilization. Please refer to Annexure-4 for detail ash utilization from April-2023 to March-2024.

The status of ash utilization for the period from April-2023 to March 2024 is stated below:
<table>
<tr><th>Particulars</th><th>Quantity in MT</th></tr>
<tr><td>Total ash generated</td><td>16,89,889</td></tr>
<tr><td>Total Ash Utilised</td><td>16,89,889</td></tr>
<tr><td>Ash Utilization (%)</td><td>100 %</td></tr>
</table>
</td></tr>
<tr><td>iii)</td><td>All the measures proposed during the presentation and application shall be implemented.</td><td>We have noted and will be implemented.</td></tr>
<tr><td>iv)</td><td>Sale of baked anodes; sale of bath material; and sale of molten metal is permitted following the provisions of Hazardous and Other Waste Management Rules, 2016, applicable if any.</td><td>We have noted and accepted.</td></tr>
<tr><td>v)</td><td>The project proponent shall develop in-house facilities for treatment of SPL in 2 to 3 years.</td><td>The Carbon part of SPL is being supplied to M/s Regrow Transo Pvt. Ltd. Jharsuguda.

Permission has been received from SPCB for SPL refractory/fine mix dust supplied to authorized cement plants for co-processing in cement kiln.

Around 54.54 MT SPL Refractory part and 160.44 MT Carbon part is in stock till end of March- 2024 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users.

We are exploring for disposal of SPL fine mix dust/refractory to cement plants for coprocessing in cement kiln. SPL refractory/fine mix dust disposal to cement plants will be started soon.</td></tr>
<tr><td>vi)</td><td>All the conditions prescribed in the environmental clearance letter No.J-11011/136/2009-IA-II(I) dated 29.11.2012 shall be strictly complied with.</td><td>It is being Complied.</td></tr>
<tr><td>vii)</td><td>The Project Proponent shall take fresh environment clearance in case of any change in the scope of the project.</td><td>There is no change in the scope of the project.</td></tr>
</table>

Encl: As above

Sameer Nayak

(Authorised Signatory)

Point wise compliance of the conditions stipulated in letter no. 4108/IND-II-NOC-MISC-NIPL/74 dated 22/03/2024 regarding Verification on "No Increase in Pollution Load Certificate" by OSPCB

Project Name: - Proposed enhancement of aluminium production capacity from 3.8 LTPA to 4.8 LTPA (by addition of 1.0 LTPA recycled metal) and installation of 0.9 LTPA White Fused Alumina (Phase I- 0.6 LTPA & Phase II- 0.3 LTPA) through change in product mix & plant configuration within the existing plant premises of Aditya Aluminium.

S.No.	Conditions	Compliance status
a.	The proponent shall inform to the MoEF&CC, Govt. of India about verification of "No Increase in Pollution Load Certificate" issued by NIT, Rourkela for enhancement of Aluminium production capacity from 3.80 LTPA to 4.80 LTPA (by addition of 1.0 LTPA recycled metal) and installation of 0.9 LTPA White Fused Alumina (Phase I- 0.6 LTPA & Phase II- 0.3 LTPA) through change in product mix & plant configuration within the existing plant premises.	Complied. Information regarding the NIPL Certificate has been submitted to MoEFCC, New Delhi vide letter no. AA/E&S/2024/1062 dated 27/03/2024 submitted on 01/04/2024.
b.	The proponent shall upload the "No Increase in Pollution Load Certificate" for the proposal on the online portal developed by the MoEF&CC, Govt. of India for No Increase in Pollution Load Certificate and submit the screenshot of the same along with application for Consent to Establish for the proposal.	NIPL Certificate obtained from NIT, Raurkela has already been uploaded on Parivesh portal Proposal no. IA/OR/IND1/458561/2024, dated 31.01.2024. Copy of the same was submitted along with the NIPL application submitted to your good office through online portal on 02/02/2024.
c.	The proponent shall enhance Aluminium production capacity from 3.80 LTPA to 4.80 LTPA (by addition of 1.0 LTPA recycled metal) and installation of 0.9 LTPA White Fused Alumina (Phase I- 0.6 LTPA & Phase II- 0.3 LTPA) through change in product mix & plant configuration within the existing plant premises. Under no circumstances the proponent shall install any other additional plant and machineries	We have noted and accepted it.
d.	The proponent shall be allowed for trial run for 06-months for enhancement of Aluminium production capacity from 3.80 LTPA to 4.80 LTPA (by addition of 1.0 LTPA recycled metal) and installation of 0.9 LTPA White Fused Alumina (Phase I- 0.6 LTPA & Phase II- 0.3 LTPA) through change in product mix & plant configuration within the existing plant premises. During the trial run period, a joint inspection and/or monitoring shall be carried out twice jointly by Regional Office, Head Office of State Pollution Control Board, Odisha, and third-party auditor (i.e., NIT, Rourkela) to check the adequacy of the existing pollution control measures for enhancement of	We have noted and accepted it.

S.No.	Conditions	Compliance status
	Aluminium production capacity from 3.80 LTPA to 4.80 LTPA (by addition of 1.0 LTPA recycled metal) and installation of 0.9 LTPA White Fused Alumina (Phase I- 0.6 LTPA & Phase II- 0.3 LTPA) through change in product mix & plant configuration within the existing plant premises. The monitoring shall be carried out in the full rated capacity. All the parameters submitted in the report of "No Increase in Pollution Load" by the proponent to be verified during this monitoring. Based on the satisfactory performance of the existing pollution control measures, final Consent to Operate will be considered.	
e.	The project proponent shall take responsibility to satisfy itself about 'No Increase in Pollution Load' as a result of changes, expansion or modernization, as the case may be, before under taking such changes or increase, and the project proponent shall be liable for action under the provisions of the Environment (Protection) Act, 1986 if on verification of facts or claim it is found that such change or expansion or modernization involves increase in pollution load. In such case, action will be taken against the 3rd Party Auditor for providing such false information / data.	We have noted and accepted it.

Saumen Nayak

Authorized Signatory

Point wise compliance of the conditions stipulated in letter no.20489/IND-II-NOC-NIPL/20 dated 20th Dec-2021 regarding Verification on "No Increase in Pollution Load Certificate" by OSPCB.

Project Name: - Proposed Change in Product Mix by installation of FRP capacity of 340 KTPA within existing plant premises of Aditya Aluminium (Project under Implementation)

S.No.	Conditions	Compliance status
i.	The proponent shall inform to the MoEF&CC, Govt. of India about verification of "No Increase in Pollution Load Certificate" for installation of Manufacturing Facility of FRP of capacity 340 KTPA (Phase 1: 170 KTPA & Phase 2: 170 KTPA) involving changes in product mix (i.e. addition of sheets and Coils) inside the plant premises of Aditya Aluminium and take additional pollution control measures, if any as advised by the MoEF&CC, Govt. of India.	Complied. Information regarding the NIPL Certificate has been submitted to MoEF&CC, New Delhi vide letter no. AA/E&S/22/761 dated 07/01/2022 submitted on 10/01/2022.
ii.	The proponent shall upload the "No Increase in Pollution Load Certificate" for the proposal on the online portal developed by the MoEF&CC, Govt. of India for No Increase in Pollution Load Certificate and submit the screenshot of the same along with application for Consent to Establish for the proposal	NIPL certificate obtained from NIT, Rourkela has been uploaded on Parivesh portal (Proposal number IA/UP/IND/223122/2021 dated 09/08/2021). Copy of the screenshot submitted along with the NIPL application to OSPCB through online portal on 04/09/2021 and offline on 27/11/2021.
iii.	The proponent shall obtain Consent to Establish from the Board for the installation of Manufacturing Facility of FRP of capacity 340 KTPA (Phase 1: 170 KTPA & Phase 2: 170 KTPA) involving changes in product mix (i.e. addition of sheets and Coils) inside the plant premises of Aditya Aluminium before going for construction activity.	CTE has been obtained from OSPCB for the FRP project vide letter no.455/IND-II-CTE-6594 dated 06/01/2022.
iv.	The project proponent shall take responsibility to satisfy itself about 'no increase in pollution load' as a result of changes, expansion or modernization, as the case may be, before under taking such changes or increase, and the project proponent shall be liable for action under the provisions of the Environment (Protection) Act, 1986 if on verification of facts or claim it is found that such change or expansion or modernization involves increase in pollution load.	We have noted and accepted it.

S.No.	Conditions	Compliance status
v.	The proponent shall abide by the guidelines / SOPs if issued by the MoEF&CC, Govt. of India in future as per order passed by the Hon'ble NGT, Principal Bench, New Delhi in OA No. 55/2019 (WZ), dated 12.02.2020.	We have noted and accepted it.

Saurav Nayak

Authorized Signatory

MINISTRY OF ENVIRONMENT &FORESTS
EASTERN REGIONAL OFFICE, A/3, CHANDRASEKHARPUR, BHUBANESWAR-751023

FORMAT FOR PROVIDING PARTICULARS ON GREENBELT /PLANTATION UNDER F(C) ACT 1980 AND E(P) ACT 1986.

1	a) Name of the Project	Aditya Aluminium (A Unit of Hindalco Industries Limited)
	b) Envt. /Forest Clearance Nos.	i. Env Clearance vide letter No: J-11011/136/2009-IA-II(I), Dated 29/11/2012, amendment dated 14 June 2013, 14 Aug 2018, 20 July 2020 & 12 Aug 2022 ii. Forest Clearance vide letter No: 8-27/2009-FC, 10.02.2011
2	Location/ Block/ Sub-Divn./ Dist/ State	Aditya Aluminium (A Div. of Hindalco Industries Limited) At/Po- Lapanga, Dist.- Sambalpur Pin - 768 212, Odisha
3	Address for communication	Aditya Aluminium (A Div. of Hindalco Industries Limited) At/Po- Lapanga, Dist.- Sambalpur Pin - 768 212, Odisha
4	Existing vegetation in the area/ region	At present several types of vegetation available in the area, however some of the names mentioned as follows- Aegle marmelo, Albizia lebbeck, Albizia procera, Alstonia scholaris, Annona squamosa, Artocarpus heterophyllus, Azadirachta indica, Bauhinia alba, Butea monosperma, Bauhinia purpurea, Cassia fistula, Dalbergia sissoo, Delonix regia, Ficus benghalensis, Ficus religiosa, Madhuca indica, Mangifera indica, Peltophorum ferrugineum, Pongamia pinnata, Syzygium cumini, Tectona grandis, Terminalia arjuna, Terminalia bellirica, Terminalia bellirica, Termanilia catappa, Thevetia peruviana, Mimusops elangi, Psidium gujava, Samanea saman, Anthocephalus kadamba, Casia seamea, Acasia , Neerium oleander, Anacardium occidentale, etc
5	a) Species: (trees/shrubs/grasses/climbers)	Aegle marmelo, Albizia lebbeck, Albizia procera, Alstonia scholaris, Annona squamosa, Artocarpus heterophyllus, Azadirachta indica, Bauhinia alba, Butea monosperma, Bauhinia purpurea, Cassia fistula, Dalbergia sissoo, Delonix regia, Ficus benghalensis, Ficus religiosa, Madhuca indica, Mangifera indica, Peltophorum ferrugineum, Pongamia pinnata, Syzygium cumini, Tectona grandis, Terminalia arjuna, Terminalia bellirica, Terminalia bellirica, Termanilia catappa, Thevetia peruviana, Mimusops elangi, Psidium gujava, Samanea saman, Anthocephalus kadamba, Casia seamea, Acasia , Neerium oleander, Anticardium occidental , Dalbergia latifolia, Heloptela, Thespesia , Bamboo, Butea monosperma etc species available.
	b) Major prevalent species of each type:	Anthocephallus cadambaTerminalia arjuna, Peltoferrumferrugenium, Gmelina arboria, AlberziaLebbeck, Delonix regiaetc are the prevalent species found. Butea monosperma, Madhuca indica etc

6	Land coverage by the project:	1347.35 Ha
	a. Name and number of tree/species felled	2002 nos of trees felled through OFDC, Sambalpur (CKL) Division.
	b. Name and number of plant species still available in the area	Plant species and number will be counted after completion of all the project activities and will be submitted to your good office
	c. By protecting the area will indigenous stock come up	Nil
	d. Extent of greenbelt developed	1098 acres covered under greenbelt.
7	Plantations required to be carried out as per	
	a) Conditions of Environmental Clearance in Ha/Nos.	33% of total project area
	b) Conditions of Forest Act (c) Clearance in Ha/Nos.	25 % of total project area
	c. Voluntarily in Ha/Nos.	NA

8. Details of plantation

a) Total area available for plantation in each category

Greenbelt	Dumps	Back filled area	Road sides	Block plantation
The 33% of the project area will be covered under greenbelt/green cover and the plant. The phase- I facilities completed and Phase-II construction work not started. Till date 1098 acres of land has been covered under greenbelt.				

b) Plantation details (category wise &methodology used)

Year of plantation	Species Planted	Spacing	Height attained(feet)	Total area covered	Area still available
2010-11 & 2011-12	Aegle marmelo, Albizia lebbeck, Albizia procera, Alstonia scholaris, Annona squamosa, Artocarpus heterophyllus, Azadirachta indica, Bauhinia alba, Butea monosperma, Bauhinia purpurea, Cassia fistula, Dalbergia sissoo, Delonix regia, Ficus benghalensis, Ficus religiosa, Madhuca indica, Mangifera indica, Peltophorum ferrugineum, Pongamia pinnata, Syzygium cumini, Tectona grandis, Terminalia arjuna, Terminalia bellirica, Terminalia bellirica, Termanilia catappa, Thevetia peruviana, Mimusops elangi, Psidium gujava, Samanea saman, Anthocephalus kadamba, Casia seamea, Acasia , Neerium oleander, Anacardium occidentale, Dalbergia latifolia, Sterculia	2*2	32'-36'	14.7 Ha	33% of the project area covered under Green Belt.
2012-13		3*3	25'-27'	38.2 Ha	
2013-14		3*3	22'-25'	11.2 Ha	
2014-15		3*3	20'-22'	16.8 Ha	
2015-16		4*4	18'-20'	24.36 Ha	
2016-17		2*2	17'-20'	20.0 Ha	
2017-18		2*2	14'-18'	46.8 Ha	
2018-19		2*2	13'-15'	45.0 Ha	
2019-20		2*2	10- 12'	82.96 Ha	
2020-21		2*2	7'-9'	80.94 Ha	
2021-22		2*2	5'-8'	63.67 Ha	
2022-23 2023-24		2*2 -	5'-7' 4'-5'	Species Enhancement in existing plantation area	
Total				444.63 Ha	

	foetida Heloptela, Thespsia populenea Bamboo etc				

c) Survival of Plantation:

Total Plantation (No.)	7,52,230
Survival (No.)	6,77,007
Survival rate	Approx. 90%

9. Agency carrying out plantation and maintenance: NA

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

Sl. No.	Year	Fund allocated(Rs)	Expenditure made(Rs)	Average cost of each surviving plant in Rs.
1	2010-11	81,62,000	81,62,000.00	245.00
2	2011-12			
3	2012-13	46,21,600	46,21,600.00	121.00
4	2013-14	13,62,500	13,62,500.00	121.00
5	2014-15	18,53,000	18,53,000.00	115.00
6	2015-16	18,65,000	18,65,000	109.00
7	2016-17	49,00,000	49,00,000	100.00
8	2017-18	68,00,000	68,00,000	71.00
9	2018-19	70,00,000	70,00,000	77.00
10	2019-20	70,00,000	72,00,000	84.00
11	2020-21	75,00,000	75,00,000	70.00
12	2021-22	85,00,000	85,00,000	126.00
13	2022-23	85,00,000	85,00,000	188.00
14	2023-24	85,00,000	85,00,000	188.00

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

Forest officials from Divisional Forest Office, Sambalpur and Forest Range Office, Rengali are visiting to our location at periodic intervals and giving their technical guidance from time to time. Joint Director/Director of Regional Office of MoEF &CC, Bhubaneswar also visit our plant site periodically.

12. Remarks/ any other information:

Indigenous species have been planted as per the Guideline of CPCB.

Sameer Nayak

(Signature)

Report-II

PROFORMA FOR PROVIDING INFORMATION ON REHABILITATION

1. No. of villages affected : 11
2. Families Affected : 1450

Families affected	SC	ST	OTH	TOTAL
	-	-	-	1450

3. Compensation package offered per family:

State/ Centre norms	Project package
As per the R&R Policy 2006, Govt. of Odisha	As per the R&R Policy 2006 and 2013, Govt. of Odisha. Aditya Aluminium follows the RR Policy and subsequent Compensation Revision also.

4. Budget estimate for rehabilitation:

   a) Total outlay : 84.59 Crores
   b) Amount paid/used : 82.95 Crores

5. Employment details

   a) Total employment to be provided : 60
   b) Employment given so far : 59

6. Rehabilitation & Resettlement details: Total Displaced Persons Numbers – 430

a	No. of families rehabilitated				
i	Name of the Site	Aditya Aluminium			
ii	Families rehabilitated	SC	ST	OTH	Total
		11	375	22	408
b	Families yet to be rehabilitated				
i	Name of the Site(s)	Aditya Aluminium			
ii	No. of families (Total - 430)	SC	ST	OTH	Total
		00	4	0	04

7. Any other information : NIL

Saroon Nayak

(Authorised Signatory)

ANNEXURE – 1

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

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

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Test Report No.: VCSPL/23-24/TR-09166 Date: 31.10.2023

STACK EMISSION MONITORING REPORT FOR OCTOBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 09.10.2023
3. Sampling Location : ST-7: Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 10.10.2023 TO 12.10.2023

Stack Description	
Stack Height	70 Meter
Stack Diameter	2.06 Meter
Height of Sampling Point	40 Meter
Capacity	504 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-7
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	96.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	14.6
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	136669.7
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	4.7
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	371.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	83.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.40
Total Fluoride as F	mg/Nm^3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	0.1	0.0016
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

P. Pati

Approved by

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

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

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Test Report No.: VCSPL/23-24/TR-09167 Date: 31.10.2023

STACK EMISSION MONITORING REPORT FOR OCTOBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 09.10.2023
3. Sampling Location : ST-8: Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 10.10.2023 TO 12.10.2023

Stack Description	
Stack Height	70 Meter
Stack Diameter	1.6 Meter
Height of Sampling Point	40 Meter
Capacity	336 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-8
Stack Temperature	°C	IS 11255: Part 3 :1985 (Reaff 2008)	-	94.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	72496.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	736.2
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.1
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	356.1
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	80.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.11
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.41
Total Fluoride as F	mg/Nm^3	Calculation	-	0.52
Fluoride Emission	Kg/T	Calculation	0.1	0.00090
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

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Test Report No.: VCSPL/23-24/TR-10746 Date: 30.11.2023

STACK EMISSION MONITORING REPORT FOR NOVEMBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 14.11.2023
3. Sampling Location : ST-7: Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 15.11.2023 TO 17.11.2023

Stack Description	
Stack Height	70 Meter
Stack Diameter	2.06 Meter
Height of Sampling Point	40 Meter
Capacity	504 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-7
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	92.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	10.9
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	103696.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	5.1
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	365.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	81.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.48
Fluoride Emission	Kg/T	Calculation	0.1	0.0012
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

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Test Report No.: VCSPL/23-24/TR-10747 Date: 30.11.2023

STACK EMISSION MONITORING REPORT FOR NOVEMBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 14.11.2023
3. Sampling Location : ST-8: Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 15.11.2023 TO 17.11.2023

Stack Description	
Stack Height	70 Meter
Stack Diameter	1.6 Meter
Height of Sampling Point	40 Meter
Capacity	336 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-8
Stack Temperature	°C	IS 11255: Part 3 :1985 (Reaff 2008)	-	87.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.4
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	71944.1
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.5
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	6.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	358.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	77.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.39
Total Fluoride as F	mg/Nm^3	Calculation	-	0.49
Fluoride Emission	Kg/T	Calculation	0.1	0.00085
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit

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Test Report No.: VCSPL/23-24/TR-12282 Date: 30.12.2023

STACK EMISSION MONITORING REPORT FOR DECEMBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 12.12.2023
3. Sampling Location : ST-7: Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 13.12.2023 TO 14.12.2023

Stack Description	
Stack Height	70 Meter
Stack Diameter	2.06 Meter
Height of Sampling Point	40 Meter
Capacity	504 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-7
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	105.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	13.0
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	119758.9
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	739.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	370.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	79.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.11
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.40
Total Fluoride as F	mg/Nm^3	Calculation	-	0.51
Fluoride Emission	Kg/T	Calculation	0.1	0.0015
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

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Test Report No.: VCSPL/23-24/TR-12283 Date: 30.12.2023

STACK EMISSION MONITORING REPORT FOR DECEMBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 12.12.2023
3. Sampling Location : ST-8: Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 13.12.2023 TO 14.12.2023

Stack Description	
Stack Height	70 Meter
Stack Diameter	1.6 Meter
Height of Sampling Point	40 Meter
Capacity	336 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-8
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	88.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.5
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	72782.4
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	739.8
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	5.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	354.1
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	80.1
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.48
Fluoride Emission	Kg/T	Calculation	0.1	0.00084
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit

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Test Report No.: VCSPL/23-24/TR-13464 Date: 31.01.2024

STACK EMISSION MONITORING REPORT FOR JANUARY-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 23.01.2024
3. Sampling Location : ST-7: Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 24.01.2024 TO 27.01.2024

Stack Description	
Stack Height	70 Meter
Stack Diameter	2.06 Meter
Height of Sampling Point	40 Meter
Capacity	504 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-7
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	94.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.5
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	118199.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	739.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	342.1
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	78.4
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.39
Total Fluoride as F	mg/Nm^3	Calculation	-	0.49
Fluoride Emission	Kg/T	Calculation	0.1	0.0014
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

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Test Report No.: VCSPL/23-24/TR-13465 Date: 31.01.2024

STACK EMISSION MONITORING REPORT FOR JANUARY-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 23.01.2024
3. Sampling Location : ST-8: Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 24.01.2024 TO 27.01.2024

Stack Description	
Stack Height	70 Meter
Stack Diameter	1.6 Meter
Height of Sampling Point	40 Meter
Capacity	336 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-8
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	90.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	14.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	84789.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	738.6
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	348.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	78.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.11
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.39
Total Fluoride as F	mg/Nm^3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	0.1	0.00102
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

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Test Report No.: VCSPL/23-24/TR-14673 Date: 29.02.2024

STACK EMISSION MONITORING REPORT FOR FEBRUARY-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 16.02.2024
3. Sampling Location : ST-7: Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 17.02.2024 TO 19.02.2024

Stack Description	
Stack Height	70 Meter
Stack Diameter	2.06 Meter
Height of Sampling Point	40 Meter
Capacity	504 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-7
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	96.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.8
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	120548.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	740.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	365.1
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	72.4
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.48
Fluoride Emission	Kg/T	Calculation	0.1	0.0014
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

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Test Report No.: VCSPL/23-24/TR-14674 Date: 29.02.2024

STACK EMISSION MONITORING REPORT FOR FEBRUARY-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 16.02.2024
3. Sampling Location : ST-8: Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 17.02.2024 TO 19.02.2024

Stack Description	
Stack Height	70 Meter
Stack Diameter	1.6 Meter
Height of Sampling Point	40 Meter
Capacity	336 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-8
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	91.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	14.92
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	85984.5
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	739.5
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	5.4
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	325.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	72.4
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.48
Fluoride Emission	Kg/T	Calculation	0.1	0.00099
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

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Food Lab
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Soil Lab
Mineral Lab
&
Microbiology Lab

Test Report No.: VCSPL/23-24/TR-15690 Date: 30.03.2024

STACK EMISSION MONITORING REPORT FOR MARCH-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 28.03.2024
3. Sampling Location : ST-7: Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 29.03.2024 TO 30.03.2024

Stack Description	
Stack Height	70 Meter
Stack Diameter	2.06 Meter
Height of Sampling Point	40 Meter
Capacity	504 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-7
Stack Temperature	°C	IS 11255: Part 3 :1985 (Reaff 2008)	-	97.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.4
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	116930.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	738.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	8.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	360.1
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	76.4
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.36
Total Fluoride as F	mg/Nm^3	Calculation	-	0.46
Fluoride Emission	Kg/T	Calculation	0.1	0.0013
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

Reviewed by

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P. Pati

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Microbiology Lab

Test Report No.: VCSPL/23-24/TR-15691 Date: 30.03.2024

STACK EMISSION MONITORING REPORT FOR MARCH-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 28.03.2024
3. Sampling Location : ST-8: Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 29.03.2024 TO 30.03.2024

Stack Description	
Stack Height	70 Meter
Stack Diameter	1.6 Meter
Height of Sampling Point	40 Meter
Capacity	336 Anode/Day
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-8
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	91.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	73381.4
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	739.1
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	5.8
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	345.1
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	70.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.37
Total Fluoride as F	mg/Nm^3	Calculation	-	0.47
Fluoride Emission	Kg/T	Calculation	0.1	0.00083
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	mg/Nm^3	Gas Chromatography	2.0	BDL

Note: BDL: Below Detection Limit.

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Approved by P. Pati

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ANNEXURE-2

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Soil Lab
Mineral Lab
&
Microbiology Lab

Test Report No.: VCSPL/23-24/TR-09168 **Date: 31.10.2023**

STACK EMISSION MONITORING REPORT FOR OCTOBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 12.10.2023
3. Sampling Location : ST-9: Stack attached to GTC-1 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 13.10.2023 TO 16.10.2023

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-9
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	106.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.2
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1911619.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.2
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	4.22
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	72.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	46.1
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.40
Total Fluoride	mg/Nm^3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	0.3	0.046

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Test Report No.: VCSPL/23-24/TR-09169 Date: 31.10.2023

STACK EMISSION MONITORING REPORT FOR OCTOBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 09.10.2023
3. Sampling Location : ST-10: Stack attached to GTC-2 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 10.10.2023 TO 13.10.2023

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-10
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	107.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.3
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1938877.5
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.1
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	3.71
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	73.1
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	62.2
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.40
Total Fluoride	mg/Nm3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	0.3	0.047

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Test Report No.: VCSPL/23-24/TR-10748 Date: 30.11.2023

STACK EMISSION MONITORING REPORT FOR NOVEMBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 14.11.2023
3. Sampling Location : ST-9: Stack attached to GTC-1 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 15.11.2023 TO 17.11.2023

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-9
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	94.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.6
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2064806.7
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	735.2
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	4.02
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	74.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	45.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.09
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.39
Total Fluoride	mg/Nm^3	Calculation	-	0.48
Fluoride Emission	Kg/T	Calculation	0.3	0.048

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Test Report No.: VCSPL/23-24/TR-10749 Date: 30.11.2023

STACK EMISSION MONITORING REPORT FOR NOVEMBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 15.11.2023
3. Sampling Location : ST-10: Stack attached to GTC-2 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 16.11.2023 TO 18.11.2023

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-10
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	101.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.2
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1939003.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	736.1
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	3.90
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	75.1
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	63.5
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.41
Total Fluoride	mg/Nm3	Calculation	-	0.51
Fluoride Emission	Kg/T	Calculation	0.3	0.047

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Test Report No.: VCSPL/23-24/TR-12284 Date: 30.12.2023

STACK EMISSION MONITORING REPORT FOR DECEMBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 19.12.2023
3. Sampling Location : ST-9: Stack attached to GTC-1 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 20.12.2023 TO 21.12.2023

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-9
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	112.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	9.2
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2106450.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	735.5
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	3.8
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	75.5
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	46.1
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.09
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride	mg/Nm^3	Calculation	-	0.47
Fluoride Emission	Kg/T	Calculation	0.3	0.048

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Test Report No.: VCSPL/23-24/TR-12285 Date: 30.12.2023

STACK EMISSION MONITORING REPORT FOR DECEMBER-2023

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 19.12.2023
3. Sampling Location : ST-10: Stack attached to GTC-2 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 20.12.2023 TO 21.12.2023

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-10
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	94.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.8
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2121659.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	736.6
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	4.0
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	74.4
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	62.6
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.40
Total Fluoride	mg/Nm3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	0.3	0.051

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Test Report No.: VCSPL/23-24/TR-13466 Date: 31.01.2024

STACK EMISSION MONITORING REPORT FOR JANUARY-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 18.01.2024
3. Sampling Location : ST-9: Stack attached to GTC-1 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 19.01.2024 TO 22.01.2024

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-9
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	95.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.7
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2079909.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	736.6
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	3.62
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	76.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	45.8
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.39
Total Fluoride	mg/Nm^3	Calculation	-	0.49
Fluoride Emission	Kg/T	Calculation	0.3	0.049

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Test Report No.: VCSPL/23-24/TR-13467 Date: 31.01.2024

STACK EMISSION MONITORING REPORT FOR JANUARY-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 23.01.2024
3. Sampling Location : ST-10: Stack attached to GTC-2 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 24.01.2024 TO 27.01.2024

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-10
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	96.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	9.7
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2319879.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.1
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	4.5
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	71.2
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	60.2
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.11
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.40
Total Fluoride	mg/Nm3	Calculation	-	0.51
Fluoride Emission	Kg/T	Calculation	0.3	0.057

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P. Pati

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Soil Lab
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Test Report No.: VCSPL/23-24/TR-14675 Date: 29.02.2024

STACK EMISSION MONITORING REPORT FOR FEBRUARY-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 19.02.2024
3. Sampling Location : ST-9: Stack attached to GTC-1 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 20.02.2024 TO 22.02.2024

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results ST-9
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	112.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.8
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2014865.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	735.5
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	4.07
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	64.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	40.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride	mg/Nm^3	Calculation	-	0.48
Fluoride Emission	Kg/T	Calculation	0.3	0.045

Reviewed by

Approved by

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Soil Lab
Mineral Lab
&
Microbiology Lab

Test Report No.: VCSPL/23-24/TR-14676 Date: 29.02.2024

STACK EMISSION MONITORING REPORT FOR FEBRUARY-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 19.02.2024
3. Sampling Location : ST-10: Stack attached to GTC-2 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 20.02.2024 TO 22.02.2024

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-10
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	97.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.7
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2072443.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	735.4
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	3.9
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	68.6
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	52.1
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.39
Total Fluoride	mg/Nm3	Calculation	-	0.49
Fluoride Emission	Kg/T	Calculation	0.3	0.048

Reviewed by

Approved by P. Patr

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Mineral Lab
&
Microbiology Lab

Test Report No.: VCSPL/23-24/TR-15692 **Date: 30.03.2024**

STACK EMISSION MONITORING REPORT FOR MARCH-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 28.03.2024
3. Sampling Location : ST-9: Stack attached to GTC-1 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 29.03.2024 TO 30.03.2024

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-9
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	113.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.7
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1985998.7
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	735.2
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	4.18
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	63.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	39.0
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.09
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.37
Total Fluoride	mg/Nm^3	Calculation	-	0.46
Fluoride Emission	Kg/T	Calculation	0.3	0.044

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

P. Pati
Approved by

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Test Report No.: VCSPL/23-24/TR-15693 Date: 01.04.2024

STACK EMISSION MONITORING REPORT FOR MARCH-2024

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 29.03.2024
3. Sampling Location : ST-10: Stack attached to GTC-2 (Pot room)
4. Name of sampling Instrument : Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 30.03.2024 TO 01.04.2024

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Number of POT in operation	180 No.
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	Analysis Results ST-10
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	104.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.8
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2059300.1
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	736.1
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	4.0
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	66.6
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	51.1
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.38
Total Fluoride	mg/Nm3	Calculation	-	0.48
Fluoride Emission	Kg/T	Calculation	0.3	0.047

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Approved by P. Pati

Annexure-3

POTROOM ONLINE FUGITIVE MONITORING(HF) REPORT October '23 TOMarch '24

Oct-23		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Avg. in
		01-10-23	02-10-23	03-10-23	04-10-23	05-10-23	06-10-23	07-10-23	08-10-23	09-10-23	10-10-23	11-10-23	12-10-23	13-10-23	14-10-23	15-10-23	16-10-23	17-10-23	18-10-23	19-10-23	20-10-23	21-10-23	22-10-23	23-10-23	24-10-23	25-10-23	26-10-23	27-10-23	28-10-23	29-10-23	30-10-23	31-10-23	PPM
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.234	0.0108	0.1002	0.1735	0.2248	0.1498	0.1818	0.0781	0.0954	0.1055	0.0851	0.1028	0.1834	0.1131	0.1691	0.2017	0.1499	0.0465	0.1826	0.2501	0.3879	0.2045	0.365	0.197	0.258	0.192	0.1844	0.1814	0.3023	0.1718	0.2308	0.178
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.2976	0.2967	0.2126	0.1741	0.2015	0.1365	0.2234	0.1118	0.1956	0.1521	0.1928	0.2494	0.3308	0.2485	0.1945	0.4336	0.3981	0.4805	0.4948	0.4908	0.6063	0.5617	0.614	0.541	0.564	0.449	0.5612	0.5906	0.6327	0.5289	0.5865	0.379
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.5238	0.5779	0.3779	0.4912	0.401	0.4461	0.3063	0.3961	0.359	0.4901	0.3121	0.479	0.4589	0.4332	0.3619	0.4728	0.4446	0.549	0.484	0.5074	0.5467	0.5681	0.528	0.541	0.531	0.579	0.5265	0.5866	0.531	0.5913	0.4698	0.480
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.1258	0.2039	0.1676	0.1153	0.0141	0.0973	0.0526	0.0691	0.0891	0.0626	0.0243	0.1488	0.088	0.1156	0.1289	0.1864	0.2006	0.1693	0.1938	0.2048	0.18	0.1695	0.231	0.253	0.189	0.174	0.1932	0.2538	0.2838	0.1384	0.2137	0.153
																														Monthly Average(ppm)			0.297
																														Monthly Average (mg/M3)			0.247

Nov-23		Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday		Avg. in
		01-11-23	02-11-23	03-11-23	04-11-23	05-11-23	06-11-23	07-11-23	08-11-23	09-11-23	10-11-23	11-11-23	12-11-23	13-11-23	14-11-23	15-11-23	16-11-23	17-11-23	18-11-23	19-11-23	20-11-23	21-11-23	22-11-23	23-11-23	24-11-23	25-11-23	26-11-23	27-11-23	28-11-23	29-11-23	30-11-23		PPM
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.2153	0.2755	0.1606	0.263	0.161	0.3216	0.1247	0.1897	0.2253	0.3779	0.1063	0.1587	0.104	0.1218	0.1658	0.2194	0.0877	0.2236	0.0954	0.167	0.11	0.1361	0.0673	0.197	0.0583	0.1049	0.0476	0.1233	0.0417	0.1009		0.158
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.5515	0.4571	0.4391	0.521	0.496	0.5177	0.4108	0.4654	0.4794	0.4485	0.3745	0.3727	0.4348	0.3499	0.439	0.4843	0.4137	0.4535	0.4186	0.406	0.448	0.4607	0.3488	0.319	0.4317	0.3189	0.409	0.2921	0.4006	0.2728		0.421
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.5778	0.4778	0.5698	0.562	0.509	0.518	0.586	0.4607	0.537	0.5424	0.5293	0.4536	0.5187	0.5094	0.4976	0.5263	0.5328	0.4927	0.5499	0.478	0.527	0.4324	0.5843	0.489	0.5664	0.4402	0.6235	0.47	0.4823	0.4645		0.517
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.198	0.242	0.1486	0.207	0.223	0.2144	0.1238	0.1303	0.146	0.1842	0.1532	0.204	0.1657	0.0928	0.133	0.2023	0.1687	0.2068	0.1202	0.186	0.168	0.157	0.1612	0.187	0.1	0.0848	0.041	0.1124	0.1558	0.1547		0.159
																														Monthly Average(ppm)			0.314
																														Monthly Average (mg/M3)			0.261

Dec-23		Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Avg. in
		01-12-23	02-12-23	03-12-23	04-12-23	05-12-23	06-12-23	07-12-23	08-12-23	09-12-23	10-12-23	11-12-23	12-12-23	13-12-23	14-12-23	15-12-23	16-12-23	17-12-23	18-12-23	19-12-23	20-12-23	21-12-23	22-12-23	23-12-23	24-12-23	25-12-23	26-12-23	27-12-23	28-12-23	29-12-23	30-12-23	31-12-23	PPM
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.054	0.1579	0.0614	0.0954	0.0115	0.0111	0.0055	0.059	0.153	0.221	0.1604	0.2282	0.1486	0.279	0.1414	0.2604	0.2829	0.2995	0.2665	0.3308	0.482	0.2772	0.2358	0.2581	0.1947	0.2057	0.1581	0.1642	0.073	0.0346	0.0361	0.172
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.3657	0.3143	0.3288	0.5242	0.469	0.4499	0.3698	0.2454	0.548	0.527	0.4742	0.6108	0.5603	0.359	0.4167	0.3887	0.4734	0.5443	0.4301	0.2143	0.412	0.569	0.4801	0.4932	0.5065	0.5135	0.486	0.5045	0.4582	0.43	0.5288	0.529
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.4935	0.4357	0.5285	0.5535	0.4969	0.4133	0.3084	0.4268	0.551	0.613	0.6258	0.4841	0.6654	0.391	0.6428	0.5969	0.7126	0.6704	0.7408	0.5821	0.398	0.5191	0.6817	0.7409	0.7369	0.5253	0.7338	0.5582	0.6704	0.4878	0.7252	0.725
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.161	0.2029	0.1722	0.0735	0.0735	0.0509	0.0033	0.0109	0.227	0.277	0.2864	0.4145	0.1915	0.268	0.1771	0.2345	0.1824	0.2269	0.2148	0.1206	0.332	0.2593	0.2846	0.1961	0.1955	0.1801	0.2061	0.172	0.2095	0.2432	0.3116	0.312
																														Monthly Average(ppm)			0.435
																														Monthly Average (mg/M3)			0.362

Jan-24		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Avg. in
		01-01-24	02-01-24	03-01-24	04-01-24	05-01-24	06-01-24	07-01-24	08-01-24	09-01-24	10-01-24	11-01-24	12-01-24	13-01-24	14-01-24	15-01-24	16-01-24	17-01-24	18-01-24	19-01-24	20-01-24	21-01-24	22-01-24	23-01-24	24-01-24	25-01-24	26-01-24	27-01-24	28-01-24	29-01-24	30-01-24	31-01-24	PPM
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.0651	0.0422	0.0742	0.0554	0.0761	0.0328	0.0476	0.0409	0.0858	0.0435	0.078	0.0733	0.0928	0.0746	0.0879	0.0657	0.1069	0.0896	0.1595	0.0961	0.1527	0.092	0.105	0.0498	0.1191	0.0915	0.1015	0.0926	0.127	0.0348	0.0486	0.081
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.3899	0.4558	0.4337	0.3926	0.3235	0.4234	0.4306	0.4278	0.4689	0.43	0.4826	0.5171	0.4056	0.3711	0.3977	0.521	0.627	0.6416	0.6632	0.5961	0.6398	0.506	0.54	0.6277	0.574	0.4056	0.4936	0.5685	0.5024	0.586	0.4657	0.494
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.5585	0.6477	0.5731	0.7612	0.6508	0.7106	0.6663	0.7325	0.5684	0.7902	0.6523	0.742	0.7004	0.7212	0.577	0.7286	0.6314	0.7551	0.7616	0.7366	0.6079	0.747	0.571	0.7308	0.6972	0.716	0.6955	0.8409	0.6293	0.7521	0.7058	0.689
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.2383	0.149	0.2167	0.1529	0.2164	0.1733	0.1366	0.1324	0.1675	0.1581	0.1162	0.1228	0.0394	0.0911	0.0348	0.128	0.2187	0.2574	0.319	0.2642	0.1872	0.11	0.025	0.0359	0.8931	0.0569	0.0226	0.1108	0.0675	0.0336	0.028	0.158
																														Monthly Average(ppm)			0.355
																														Monthly Average (mg/M3)			0.296

Feb-24		Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday			Avg. in
		01-02-24	02-02-24	03-02-24	04-02-24	05-02-24	06-02-24	07-02-24	08-02-24	09-02-24	10-02-24	11-02-24	12-02-24	13-02-24	14-02-24	15-02-24	16-02-24	17-02-24	18-02-24	19-02-24	20-02-24	21-02-24	22-02-24	23-02-24	24-02-24	25-02-24	26-02-24	27-02-24	28-02-24	29-02-24			PPM
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.0223	0.057	0.032	0.052	0.0537	0.0618	0.0256	0.0583	0.0511	0.0694	0.0291	0.0611	0.0361	0.014	0.0022	0.0053	0.0052	0.0086	0.0014	0.0014	0.0016	0.0047	0.0072	0.0493	0.0182	0.0493	0.0168	0.04	0.0139			0.029
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.5352	0.5224	0.4821	0.5249	0.4893	0.4982	0.6342	0.5604	0.4855	0.4411	0.5544	0.5705	0.5726	0.383	0.4244	0.3278	0.4271	0.2465	0.3105	0.2152	0.2257	0.1594	0.3623	0.5154	0.6695	0.4005	0.4322	0.4426	0.6172			0.449
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.7913	0.6156	0.8356	0.6982	0.8437	0.7079	0.7986	0.6762	0.7319	0.7671	0.7517	0.6825	0.9446	0.546	0.5732	0.5665	0.4156	0.5718	0.4536	0.4136	0.4337	0.3668	0.5888	0.7613	0.7959	0.679	0.6957	0.721	0.7531			0.661
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.1225	0.0909	0.1126	0.0732	0.1186	0.0641	0.0463	0.0881	0.0816	0.0288	0.0198	0.0501	0.0933	0.034	0.0306	0.0249	0.0371	0.0338	0.0498	0.0144	0.026	0.0152	0.0756	0.0717	0.2133	0.1075	0.0771	0.0194	0.0848			0.066
																														Monthly Average(ppm)			0.301
																														Monthly Average (mg/M3)			0.251

Mar-24		Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Avg. in
		01-03-24	02-03-24	03-03-24	04-03-24	05-03-24	06-03-24	07-03-24	08-03-24	09-03-24	10-03-24	11-03-24	12-03-24	13-03-24	14-03-24	15-03-24	16-03-24	17-03-24	18-03-24	19-03-24	20-03-24	21-03-24	22-03-24	23-03-24	24-03-24	25-03-24	26-03-24	27-03-24	28-03-24	29-03-24	30-03-24	31-03-24	PPM
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.0158	0.0055	0.006	0.0046	0.0239	0.017	0.0527	0.0275	0.0361	0.0338	0.0388	0.0214	0.034	0.0124	0.033	0.014	0.040	0.015	0.013	0.007	0.015	0.013	0.017	0.011	0.020	0.006	0.009	0.003	0.008	0.005	0.0073	0.018
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.4188	0.5599	0.467	0.6393	0.3323	0.4563	0.3728	0.5194	0.4023	0.5545	0.2455	0.407	0.2236	0.3986	0.1429	0.3383	0.1936	0.1251	0.2444	0.396	0.1932	0.395	0.1475	0.1031	0.0604	0.2572	0.0459	0.1238	0.0544	0.1044	0.0658	0.290
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.5718	0.6928	0.6829	0.804	0.7245	0.7498	0.7999	0.7053	0.6795	0.8363	0.7212	0.6648	0.5647	0.569	0.6453	0.577	0.6434	0.2875	0.7353	0.7726	0.7262	0.7805	0.628	0.6277	0.7916	0.8053	0.5699	0.6151	0.6145	0.5049	0.5924	0.667
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.0333	0.0729	0.0621	0.098	0.0556	0.059	0.0323	0.0861	0.0613	0.0901	0.0568	0.0542	0.0263	0.0332	0.0286	0.017	0.02	0.0278	0.0094	0.0443	0.0225	0.0338	0.0025	0.0144	0.0066	0.0187	0.005	0.0074	0.0003	0	0.0004	0.035
																														Monthly Average(ppm)			0.253
																														Monthly Average (mg/M3)			0.210

ANNEXURE-4

STATUS OF UTILISATION OF COAL ASH (FLY ASH) for the period April-2023 to March-2024

Sl. No.	Name and address of the TPP	Month	Power Plant Installed Capacity(MW)	Quantity of Coal consumed during the reporting period	Quantity of fly ash generated (MT)	Capacity of dry fly ash storage Silos (MT)	Disposal Method (Dry/HCSD/LCSD)	Modes of Utilisation (MT)														Others	Ash utilised for the reporting Period	%Ash utilised for the reporting Period	Remarks
								Fly ash based Products (Bricks/blocks/tiles/fibre cement sheets,pipes/boards/panels etc)	Cement Manufacturing	Ready mix concrete	Ash and Geo-Polymer based constuction material	Manufacturing of sintered of cold bonded ash Aggregates	Construction of roads/road and flyover imbarkment	Construction of Dams	Filling of Low lying areas	Filling of mine voids	Use Overburden dumps	Agriculture	Construction of shoreline protection structures in coastal districts	Export of ash to other countris				
1	Aditya Aluminium (A Division of M/s Hindalco Industries Ltd.), PO- Lapanga, Dist.: Sambalpur Odisha-768212	Apr-23	900	350874.77	138823	3 X 2500 (7500)	HCSD	25.86	136691.48	0	0	0	0	0	0	0	0	0	0	0	0	136717.34	98.48	
2		May-23	900	352910.06	138257	3 X 2500 (7500)	HCSD	624.63	133601.3	0	0	0	4325	0	0	0	0	0	0	0	0	138550.92	100.21	
3		Jun-23	900	338643.00	134193	3 X 2500 (7500)	HCSD	3234.53	114511.2	0	0	0	0	0	0	0	0	0	0	0	0	117745.7	87.74	
4		Jul-23	900	377762.70	146206	3 X 2500 (7500)	HCSD	1016.36	92200.7	0	0	0	0	0	6415	0	0	0	0	0	0	99632.03	68.14	
5		Aug-23	900	378029.11	140390	3 X 2500 (7500)	HCSD	746.86	89117.98	0	0	0	0	0	17921.64	0	0	0	0	0	10815	118601.48	84.48	
6		Sep-23	900	360895.15	131187	3 X 2500 (7500)	HCSD	615.64	97389.98	0	0	0	0	0	15268.00	0	0	0	0	0	4450	117723.62	89.74	
7		Oct-23	900	368302.56	134304.96	3 X 2500 (7500)	HCSD	788.48	113022.3	0	0	0	0	0	10066.34	0	0	0	0	0	0	123877.13	92.24	
8		Nov-23	900	325582.00	119368.61	3 X 2500 (7500)	HCSD	1685.06	117083.2	0	0	0	0	0	3868.66	0	0	0	0	0	0	122636.91	102.74	
9		Dec-23	900	351817.00	130178.05	3 X 2500 (7500)	HCSD	1827.24	127231.6	0	0	0	0	0	14798.70	0	0	0	0	0	0	143857.54	110.51	
10		Jan-24	900	348078.79	129173.91	3 X 2500 (7500)	HCSD	8363.36	138939.6	0	0	0	0	0	13401.37	0	0	0	0	0	0	160704.31	124.41	
11		Feb-24	900	331255.07	123487.18	3 X 2500 (7500)	HCSD	24435.26	115270.5	0	0	0	0	0	19314.41	0	0	0	0	0	0	159020.13	128.77	
12		Mar-24	900	347283.00	134425.93	4 X 2500 (7500)	HCSD	279.18	134504.74	0	0	0	0	0	26144.06	0	0	0	0	0	0	160927.98	119.71	

ANNEXURE-4

STATUS OF UTILISATION OF COAL ASH (BOTTAM ASH) for the period April-2023 to March-2024

Sl. No.	Name and address of the TPP	Month	Power Plant Installed Capacity(MW)	Quantity of Coal consumed during the reporting period	Quantity of Bottom generated (MT)	Capacity of bottom ash storage Silos (MT)	Disposal Method (Dry/HCSD/LCSD)	Modes of Utilisation (MT)														Others	Bottom Ash utilised for the reporting Period	% Bottom Ash utilised for the reporting Period	Remarks
								Bottom Ash based Products (Bricks/blocks/tiles/fibre cement sheets,pipes/boards/panels etc)	Cement Manufacturing	Ready mix concrete	Ash and Geo-Polymer based constuction material	Manufacturing of sintered of cold bonded ash Aggregates	Construction of roads/road and flyover imbarkment	Construction of Dams	Filling of Low lying areas	Filling of mine voids	Use Overburden dumps	Agriculture	Construction of shoreline protection structures in coastal districts	Export of ash to other countris				
1	Aditya Aluminium (A Division of M/s Hindalco Industries Ltd.), PO- Lapanga, Dist.: Sambalpur Odisha-768212	Apr-23	900	350874.77	7411.5	3000	Dry	0	0	0	0	0	0	0	7411.5	0	0	0	0	0	0	7411.54	100.00	
2		May-23	900	352910.06	7403.0	3000	Dry	0	0	0	0	0	0	0	7403	0	0	0	0	0	0	7403.00	100.00	
3		Jun-23	900	338643.00	7087.8	3000	Dry	0	0	0	0	0	0	0	7087.81	0	0	0	0	0	0	7087.81	100.00	
4		Jul-23	900	377762.70	6467.3	3000	Dry	0	0	0	0	0	0	0	6467.29	0	0	0	0	0	0	6467.29	100.00	
5		Aug-23	900	378029.11	5791.7	3000	Dry	0	0	0	0	0	0	0	5791.7	0	0	0	0	0	0	5791.70	100.00	
6		Sep-23	900	360895.15	5927.0	3000	Dry	0	0	0	0	0	0	0	5927.0	0	0	0	0	0	0	5927.00	100.00	
7		Oct-23	900	368302.56	7131.04	3000	Dry	0	0	0	0	0	0	0	7131.0	0	0	0	0	0	0	7131.04	100.00	
8		Nov-23	900	325582.00	7729.39	3000	Dry	0	0	0	0	0	0	0	7729.4	0	0	0	0	0	0	7729.39	100.00	
9		Dec-23	900	351817.00	8620.95	3000	Dry	0	0	0	0	0	0	0	8621.0	0	0	0	0	0	0	8620.95	100.00	
10		Jan-24	900	348078.79	8606.09	3000	Dry	0	0	0	0	0	0	0	8606.1	0	0	0	0	0	0	8606.09	100.00	
11		Feb-24	900	331255.07	8468.16	3000	Dry	0	0	0	0	0	0	0	8468.2	0	0	0	0	0	0	8468.16	100.00	
12		Mar-24	900	347283.00	9250.07	3000	Dry	0	0	0	0	0	0	0	9250.07	0	0	0	0	0	0	9250.07	100.00	

ANNEXURE-5

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

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

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Enginering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-07584

Date: 04.12.2023

ASH ANALYSIS REPORT NOVEMBER-2023

Name of Industry	:	M/s Hindalco Industries Limited (Unit- Aditya Aluminium), Lapanga.
Sampling Location	:	FA-01: CPP Fly Ash Silo
Date of Sampling	:	21.11.2023
Date of Analysis	:	22.11.2023 TO 27.11.2023
Sample Collected By	:	VCSPL Representative in presence of Aditya Aluminium Representative.

Sl. No.	Parameters	Unit	Analysis Results FA-01	Unit	Analysis Results FA-01
Chemical Analysis					
1	Na_2O	%	0.27	mg/kg	2700
2	MgO	%	0.82	mg/kg	8200
3	Al_2O_3	%	23.6	mg/kg	236000
4	SiO_2	%	52.4	mg/kg	524000
5	P_2O_5	%	0.023	mg/kg	230
6	SO_3	%	2.5	mg/kg	25000
7	K_2O	%	0.76	mg/kg	7600
8	CaO	%	4.7	mg/kg	47000
9	TiO_2	%	---	mg/kg	---
10	MnO	%	0.21	mg/kg	2100
11	Fe_2O_3	%	8.9	mg/kg	89000
Heavy Metals Analysis					
1	Mercury as Hg	%	<0.001	mg/kg	<0.001
2	Arsenic as As	%	<0.001	mg/kg	<0.001
3	Lead as Pb	%	0.0163	mg/kg	163
4	Chromium as Cr	%	< 0.002	mg/kg	< 0.002
5	Vanadium as V	%	<0.001	mg/kg	<0.001
6	Iron as Fe	%	5.261	mg/kg	52610
7	Cobalt as Co	%	<0.001	mg/kg	<0.001
8	Copper as Cu	%	0.065	mg/kg	650
9	Nickel as Ni	%	0.092	mg/kg	920
10	Zinc as Zn	%	0.0618	mg/kg	618
11	Strontium as Sr	%	--	mg/kg	--
12	Barium as Ba	%	<0.001	mg/kg	<0.001

Prepared by:

Verified by: P. Pati.

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
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Visit us at: www.visiontek.org

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

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

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-07585

Date: 04.12.2023

ASH ANALYSIS REPORT NOVEMBER-2023

Name of Industry	:	M/s Hindalco Industries Limited (Unit- Aditya Aluminium), Lapanga.
Sampling Location	:	BA-01: CPP Bottom Ash Silo
Date of Sampling	:	21.11.2023
Date of Analysis	:	22.11.2023 TO 27.11.2023
Sample Collected By Representative	:	VCSPL Representative in presence of Aditya Aluminium

Sl. No.	Parameters	Unit	Analysis Results BA-01	Unit	Analysis Results BA-01
Chemical Analysis					
1	Na_2O	%	0.29	mg/kg	2900
2	MgO	%	2.3	mg/kg	23000
3	Al_2O_3	%	26.5	mg/kg	265000
4	SiO_2	%	51.1	mg/kg	511000
5	P_2O_5	%	0.025	mg/kg	250
6	SO_3	%	10.9	mg/kg	109000
7	K_2O	%	0.97	mg/kg	9700
8	CaO	%	30.8	mg/kg	308000
9	TiO_2	%	---	mg/kg	---
10	MnO	%	0.36	mg/kg	3600
11	Fe_2O_3	%	8.2	mg/kg	82000
Heavy Metals Analysis					
1	Mercury as Hg	%	<0.001	mg/kg	<0.001
2	Arsenic as As	%	<0.001	mg/kg	<0.001
3	Lead as Pb	%	0.0175	mg/kg	175
4	Chromium as Cr	%	< 0.002	mg/kg	< 0.002
5	Vanadium as V	%	<0.001	mg/kg	<0.001
6	Iron as Fe	%	7.2	mg/kg	72000
7	Cobalt as Co	%	<0.001	mg/kg	<0.001
8	Copper as Cu	%	0.031	mg/kg	310
9	Nickel as Ni	%	0.096	mg/kg	960
10	Zinc as Zn	%	0.073	mg/kg	730
11	Strontium as Sr	%	--	mg/kg	--
12	Barium as Ba	%	<0.001	mg/kg	<0.001

Prepare

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Verified by: P. Pati.

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
E-mail: visiontek@visiontek.org, visiontekin@gmail.com
Visit us at: www.visiontek.org

ANNEXURE – 6

Mitra S. K. Private Limited

Plot No-687/2428, Ekamra Villa Square,
Jaydev Vihar, 1st Floor, IRC Village,
Bhubaneswar, Khordha, Odisha-751015
[CIN: U51909WB1956PTC023037]

T :(0674) 2360917, 9777450189
F : (0674) 2362918

MSK TESTING • INSPECTION

TEST REPORT

Name & Address of the Customer :
HINDALCO INDUSTRIES LTD.
(Unit- Aditya Aluminium)
At/Po: Lapanga , Beside SH-10
Sambalpur , Odisha-768212

Report No. : BBS/602
Date : 01.01.2024
Sample No. : MSKGL/ED/2023-24/12/00001
Sample Description : Ground Water
Sampling Location : Piezometric Borewell-1 (Near Ash Pond)
Date of Sampling : 14.12.2023

ANALYSIS RESULT

Organoleptic and Physical Parameters as per IS 10500 : 2012

Sl. No.	Test Parameters	Requirement (Acceptable Limit	Permissible limit in the absence of alternate Source	Test Method / Specification	Result
1.	pH at 26°C	6.5-8.5	No Relaxation	IS 3025 (Part 11)-1984 Rflm: 2012	7.46
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rflm: 2012	BDL(DL:1.0)
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rflm:2012	191.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rflm: 2014	36.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rflm: 2014	16.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rflm: 2013	0.36
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rflm: 2014	0.32
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rflm: 2014	8.0
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rflm: 2014	0.38
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rflm: 2014	BDL(DL:0.001)
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rflm: 2014	21.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	92.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rflm:2003	BDL(DL:0.01)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.001)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	14.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	286.4
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	3.2
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rflm: 2009	8.8

Report Prepared by:

MITRA S.K. PRIVATE LIMITED BBSR

Mitra S. K. Private Limited
Authorized Signatory

Mitra S. K. Private Limited

Plot No-687/2428, Ekamra Villa Square,
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Bhubaneswar, Khordha, Odisha-751015
[CIN: U51909WB1956PTC023037]

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F : (0674) 2362918

MSK TESTING & INSPECTION

TEST REPORT

Name & Address of the Customer :
HINDALCO INDUSTRIES LTD.
(Unit- Aditya Aluminium)
At/Po: Lapanga , Beside SH-10
Sambalpur , Odisha-768212

Report No. : BBS/603
Date : 01.01.2024
Sample No. : MSKGL/ED/2023-24/12/00002
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-2 (Near Proposed Ash Pond)
Date of Sampling : 14.12.2023

ANALYSIS RESULT

Organoleptic and Physical Parameters as per IS 10500 : 2012

Sl. No.	Test Parameters	Requirement Acceptable Limit	Permissible limit in the absence of alternate Source	Test Method / Specification	Result
1.	pH at 26°C	6.5-8.5	No Relaxation	IS 3025 (Part 11)-1984 Rffm: 2012	7.19
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	BDL(DL:1.0)
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	164.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	22.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	14.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.32
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	BDL(DL:0.005)
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	6.4
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	0.92
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	BDL(DL:0.001)
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	11.2
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	36.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	BDL(DL:0.005)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.005)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	6.6
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	240.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	2.9
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	64.0

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MSK TESTING & INSPECTION

TEST REPORT

Name & Address of the Customer :
HINDALCO INDUSTRIES LTD.
(Unit- Aditya Aluminium)
At/Po: Lapanga , Beside SH-10
Sambalpur , Odisha-768212

Report No. : BBS/604
Date : 01.01.2024
Sample No. : MSKGL/ED/2023-24/12/00003
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-3 (Near RR Colony)
Date of Sampling : 14.12.2023

ANALYSIS RESULT

Organoleptic and Physical Parameters as per IS 10500 : 2012

Sl. No.	Test Parameters	Requirement Acceptable Limit	Permissible limit in the absence of alternate Source	Test Method / Specification	Result
1.	pH at 26^{0}C	6.5-8.5	No Relaxation	IS 3025 (Part 11)-1984 Rffm: 2012	7.50
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	BDL(DL:1.0)
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	338.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	43.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	48.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.36
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.23
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	6.7
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	2.6
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	BDL(DL:0.001)
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	32.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	136.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	BDL(DL:0.005)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.005)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	36.1
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	569.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	6.4
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	132.0

Report Prepared by:

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MSK TESTING & INSPECTION

TEST REPORT

Name & Address of the Customer :
HINDALCO INDUSTRIES LTD.
(Unit- Aditya Aluminium)
At/Po: Lapanga , Beside SH-10
Sambalpur , Odisha-768212

Report No. : BBS/605
Date : 01.01.2024
Sample No. : MSKGL/ED/2023-24/12/00004
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-4 (Bomaloi Village)
Date of Sampling : 14.12.2023

ANALYSIS RESULT

Organoleptic and Physical Parameters as per IS 10500 : 2012

Sl. No.	Test Parameters	Requirement Acceptable Limit	Permissible limit in the absence of alternate Source	Test Method / Specification	Result
1.	pH at 26^{0}C	6.5-8.5	No Relaxation	IS 3025 (Part 11)-1984 Rffm: 2012	7.13
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	BDL(DL:1.0)
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	112.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	14.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	18.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.33
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.47
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	9.6
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	2.4
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	BDL(DL:0.001)
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	18
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	76.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	BDL(DL:0.005)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.005)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	13.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	194.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	6.7
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	72.0

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MSK TESTING • INSPECTION

TEST REPORT

Name & Address of the Customer :
HINDALCO INDUSTRIES LTD.
(Unit- Aditya Aluminium)
At/Po: Lapanga , Beside SH-10
Sambalpur , Odisha-768212

Report No. : BBS/802
Date : 10.04.2024
Sample No. : MSKGL/ED/2023-24/03/01148
Sample Description : Ground Water
Sampling Location : Piezometric Borewell-1 (Near Ash Pond)
Date of Sampling : 27.03.2024

ANALYSIS RESULT

Organoleptic and Physical Parameters as per IS 10500 : 2012

Sl. No.	Test Parameters	Requirement (Acceptable Limit	Permissible limit in the absence of alternate Source	Test Method / Specification	Result
1.	pH at 26°C	6.5-8.5	No Relaxation	IS 3025 (Part 11)-1984 Rffm: 2012	7.33
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	BDL(DL:1.0)
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	188.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	38.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	17.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.30
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.14
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	7.8
12.	Mangenese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	0.35
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	BDL(DL:0.001)
15.	Selenium as Sc in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	24.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	96.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	BDL(DL:0.01)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
21.	Mercuey as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.001)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	16.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	320.5
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	4.1
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	11.7

Report Prepared by

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MSK TESTING & INSPECTION

TEST REPORT

Name & Address of the Customer :
HINDALCO INDUSTRIES LTD.
(Unit- Aditya Aluminium)
At/Po: Lapanga , Beside SH-10
Sambalpur , Odisha-768212

Report No. : BBS/803
Date : 10.04.2024
Sample No. : MSKGL/ED/2023-24/03/01149
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-2 (Near Proposed Ash Pond)
Date of Sampling : 27.03.2024

ANALYSIS RESULT

Organoleptic and Physical Parameters as per IS 10500 : 2012

Sl. No.	Test Parameters	Requirement Acceptable Limit	Permissible limit in the absence of alternate Source	Test Method / Specification	Result
1.	pH at 26°C	6.5-8.5	No Relaxation	IS 3025 (Part 11)-1984 Rffm: 2012	7.37
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	BDL(DL:1.0)
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	170.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	20.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	15.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.30
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	BDL(DL:0.005)
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	6.9
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	0.87
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	BDL(DL:0.001)
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	13.5
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	39.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	BDL(DL:0.005)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.005)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	6.4
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	236.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	2.1
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	66.0

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MSK TESTING & INSPECTION

TEST REPORT

Name & Address of the Customer :
HINDALCO INDUSTRIES LTD.
(Unit- Aditya Aluminium)
At/Po: Lapanga , Beside SH-10
Sambalpur , Odisha-768212

Report No. : BBS/804
Date : 10.04.2024
Sample No. : MSKGL/ED/2023-24/03/01149
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-3 (Near RR Colony)
Date of Sampling : 27.03.2024

ANALYSIS RESULT

Organoleptic and Physical Parameters as per IS 10500 : 2012

Sl. No.	Test Parameters	Requirement Acceptable Limit	Permissible limit in the absence of alternate Source	Test Method / Specification	Result
1.	pH at 26°C	6.5-8.5	No Relaxation	IS 3025 (Part 11)-1984 Rffm: 2012	7.62
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	BDL(DL:1.0)
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	340.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	48.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	46.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.37
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.16
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	7.9
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	2.8
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	BDL(DL:0.001)
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	38.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	142.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	BDL(DL:0.005)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.005)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	40.8
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	580.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	4.8
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	140.0

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MSK TESTING & INSPECTION

TEST REPORT

Name & Address of the Customer :
HINDALCO INDUSTRIES LTD.
(Unit- Aditya Aluminium)
At/Po: Lapanga , Beside SH-10
Sambalpur , Odisha-768212

Report No. : BBS/805
Date : 10.04.2024
Sample No. : MSKGL/ED/2023-24/12/01150
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-4 (Bomaloi Village)
Date of Sampling : 27.03.2024

ANALYSIS RESULT

Organoleptic and Physical Parameters as per IS 10500 : 2012

Sl. No.	Test Parameters	Requirement Acceptable Limit	Permissible limit in the absence of alternate Source	Test Method / Specification	Result
1.	pH at 26°C	6.5-8.5	No Relaxation	IS 3025 (Part 11)-1984 Rffm: 2012	7.46
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	BDL(DL:1.0)
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	130.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	16.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	20.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.39
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.14
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	8.1
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	2.3
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	BDL(DL:0.001)
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	22.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	74.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	BDL(DL:0.005)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.005)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	15.1
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	190.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	7.8
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	76.0

Report Prepared by:

MITRA S. K. PRIVATE LIMITED BBSR

Mitra S. K. Private Limited

Authorized Signatory

Annexure-07

Compliance Status from October- 23 to March- 24

COMPLIANCE TO CREP GUIDELINES FOR SMELTER

Sr. No.	Particulars	Compliance
1	Environmental clearance for new smelters to be given by MoEF only with pre-baked technology	Smelter design is 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 is being controlled by installing GTC & FTC below 0.8 kg/ton of aluminium metal produced. The average total fluoride emission for the period October'23 to March'24 is 0.094 Kg/Ton of metal production.
3	Fluoride consumption in the smelter should be limited to 10 kg/ton of aluminium produced	The specific fluoride (as F) consumption for the period October'23 to March'24 is 7.08 Kg/ton of metal produced.
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 being monitored on quarterly basis as a part of post project monitoring activities. 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 aluminum fluoride should be explored.	M/s ReSustainability Ltd has established the facility for detoxification and disposal of SPL refractory as per the protocol given by CPCB in its CHW-TSDF at kanchichuhan, Dist- Jajpur site. Around 54.54 MT SPL Refractory part and 160.44 MT Carbon part is in stock till end of March- 2024 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users. The Carbon part of SPL also being detoxified and reprocessed by M/s Regrow Transo Pvt. Ltd. Jharsuguda for use as carbon fuel. Silicon carbide is being supplied to actual users and & SPL refractory is being supplied for trial run to M/s Techno processor LLP. in this way the 100% SPL is being detoxified and recycled/disposed. Permission has been received from SPCB for SPL refractory/fine mix dust supplied to
6	The SPL should be disposed in secured landfill.	

Compliance Status from October- 23 to March- 24

		authorized cement plants for co-processing in cement kiln. We are exploring for disposal of SPL fine mix dust/refractory to cement plants for coprocessing in cement kiln.
7	Achieving particulate matter limit of 50 mg/Nm3 in anode baking furnace	It is being Complied with.

COMPLIANCE TO CREP GUIDELINES FOR CPP

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	Not Applicable
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 well below stipulated limit of 50 mg/Nm3
4	Development of SO_2 & NO_x emission standards for coal based plants by December 2003. - New/ expansion power projects shall meet the limit of SO_2 & NO_x w.e.f. 1.1.2005. - Existing power plants shall meet the limit of SO2 & NOX w.e.f.1.1.2006.	Standard for SO_2 & NOx has been published by MOEF.
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

Annexure-07

Compliance Status from October- 23 to March- 24

		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.	Standard for Hg emission for captive power plant has been published by MOEF&CC. Monthly monitoring report is being submitted to SPCB.
7	Review of stack height requirement and guidelines for power plants based on micro meteorological data by June 2003	Guideline has been published for stack height by MOEFCC in this regard.
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 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	Not Applicable
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.	Not Applicable
10	Power plants will provide dry ash to the users outside the premises or uninterrupted access to the users within six months.	It is being Complied with.
11	Power Plants should provide dry fly ash free of cost to the users	Dry fly ash is being provided to the ash brick manufacturing units in free of cost.
12	State P.W.Ds/ construction & development agencies shall also adhere to the specifications/Schedules of CPWD for ash-based products utilization MoEF 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-	Complied

Annexure-07

Compliance Status from October- 23 to March- 24

	circulation system depending upon site specific environmental situation.	
13 (ii)	Existing plants shall adopt any of the systems mentioned in 13(i)by December 2004	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

ANNEXURE - 8

ADITYA BIRLA
HINDALCO

ENVIRONMENT POLICY

We, at Hindalco Industries Limited, operating across the process chain from mining to semi-fabricated products in non-ferrous metals, will strive to continually improve our environmental performance for sustainable operations and responsible growth globally, by integrating sound environmental systems & practices and Pollution Prevention approach.

To achieve this, we shall:

- Continue to comply with all applicable legal and other requirements on environment.
- Continually improve environmental performance by strengthening the Environmental Management System conforming to national /international standards, including setting up and reviewing targets and measuring, monitoring and reporting their progress.
- Allocate sufficient resources such as organisational structure, technology and funds for implementation of the policy and for regular monitoring of performance.
- Adopt pollution prevention approach for all our processes; enhance material efficiency and achieve high productivity.
- Conserve key resources like electricity, coal, water, oil, and raw materials, by promoting efficient technologies and manufacturing process improvements, water conservation programmes, and efficient use of raw materials.
- Adopt energy efficient and cleaner technologies based on techno-economic viability, appropriate to the region in which we operate, and in line with our growth and diversification plans.
- Promote the principles of waste prevention, reduction, reuse, recycling and recovery to minimize waste generation and strengthen the practices for management of wastes.
- Work in partnership with regulatory authorities, relevant suppliers, contractors, distributors and logistics partners and all other stakeholders, as applicable, to understand and initiate improvement actions.
- Engage with internal and external stakeholders including key business partners such as joint venture partners, licensees and outsourcing partners and wider communities, to broaden our understanding of environmental priorities and initiate actions on key environmental challenges.
- Adapt environmental performance over life cycle as an important input to the decision-making processes in the organization.
- Raise environmental awareness at all levels of our operations, through training and effective communication, participation and consultation.
- Communicate this Policy within the Organization. Develop and follow appropriate communication system to inform other stakeholders, as applicable, about our environmental commitment and performance.
- Conduct environmental, health and safety due diligence before undergoing any mergers and acquisitions.

This policy shall be made available to all employees, suppliers, customers, community and other stakeholders, as appropriate. The implementation of this policy is the responsibility of respective heads of units with the monitoring and tracking done by the Apex Sustainability Committee under the guidance of the Managing Director.

Satish Pai
MD, Hindalco Industries Limited
Date : 8th August, 2022

Annexure-09

POINT-WISE COMPLIANCE TO THE POINTS RAISED DURING PUBLIC HEARING OF ADITYA ALUMINIUM

Sl. No.	POINTS RAISED	COMPLIANCE STATUS
1	The Project Proponent should provide employment to the locals on priority basis.	The industry has already provided employment to the locals based on the eligibility in the ongoing projects and they are committed to do so in the proposed expansion project.
2	The Industry should establish an ITI training centre to train the young people in technical field so as to enable them for getting suitable employment in the plant.	The industry has been providing opportunity for Students are trained 2 months vocational course. Vocational training like Beautician, Mobile repairing, Micro irrigation Bike repairing, Soft Toy, Driving, Grafting, Organic Farming (Agriculture) and Tailoring has been instituted last months. Company has placed students in industries tied up for tailoring and others.
3	The Industry should carry out massive plantation in the vacant spaces of the surrounding villages, R.R colony etc. Trees which are not under the purview of the core plant area are to be protected and minimum 25% of the project area to be made green cover.	The industry has already planted 7,52,230 saplings inside the factory premises till Mar-2024. Also, the industry has started plantation in the vacant spaces of the surrounding villages every year and distributed grafted mango saplings to the beneficiaries supplied by Horticulture department. Company tried its best to maximise the green cover.
4	The industry should inform the Public about the air pollution control measures to be adopted in the proposed plant for control of air pollution and also proactive measures to be taken by the company for control of rise in ambient temperature. Pollution measurement machines to be installed in every villages and pollution control committees to be formed to regulate the pollution.	The industry has installed ESPs, Bag filters etc to control air pollution. Greenbelt development and selecting the best environment friendly technology & equipment's for Smelter and Power plants are some of the proactive measures taken by the Company. Online ambient air quality monitoring stations are being installed inside the plant area for information on real time information on different pollutants.
5	The Project Proponent should inform the public about the peripheral developmental works to be carried out in future.	Peripheral developmental works are being carried out in consultation with the Gram Panchayat Sarpanch, villagers, opinion makers and well-wishers as per the CSR guideline. There are 11 nos of Single User Plastic awareness program and 01 nos of Blood donation camp have been conducted. There are 55 nos of Vermi bed provided to 55 nos of farmers on World Farmers Day. TB patients supported 62 nos in Rengali block under Ni-Kshay Mitra program. World Aids Day celebrated with Community. World Health Day celebrated with 120 participants have joined. Women's day and Women Sports have been conducted well. Menstrual hygiene, Suposhan,

		Samadhan, Telemedicine, vision care, Biowaste collection meeting with Govt and PRI members.
6	The industry should make necessary arrangements for provision of drinking water in the affected area.	The industry has been supplying drinking water through tankers, into the project affected villages in coordination with Sarpanchs, RWSS and BDO Rengali of 6 nos of Gram Panchayats in peak summer. Drinking water supply to covers revenue villages and 78 nos of hamlets-cum-villages also got the facility catering 26000 nos of villagers with 3000 households.
7	The industry should make necessary arrangement to provide round the clock doctors for better medical service in the Lapanga area.	The industry has been very actively contributing the greater causes of Health Opened up Eye Healthcare Unit at Rengali, and awareness program at all villages catering benefit to 1874 nos of beneficiaries. First Aid centre has facility to local areas for free treatment by reputed doctors. Provided free treatment facility to more than 1851 nos of local people with free treatment, medicine, and consultation. Telemedicine also supported to 2891 nos of beneficiaries in villages.
8	The industry should make alternate arrangement to source water instead of deep bore wells in & around the project area.	The industry is getting water from the Hirakud Reservoir meets all the requirements of the industry.
9	The industry should give financial support to grow small scale industries in the localities.	The industry is supporting farmers to grow the livelihood of the villagers as per their CSR policy. However, many training programs have been conducted for self-employment SHGs such as Spice units, Oil Processing units and paper cup making units, Vegetable farming, Phenol making, Hand wash making, Duckery, 7 nos of poultry units, Tailoring, to the 200 nos of SHGs comprising of 2143 nos of women and 11 Farmers Group adopted by Industry where 198 members are there. CSR has mobilised 15.99 Lakh for SHG entrepreneurship program. There are 8 nos of villages girls have been placed in ABFRL.
10	The industry should pay financial support for each local traditional festival to villagers. Cremation ground should be provided in each village. Alternate Football ground to be provided to Bomaloi villagers as the company is occupying the existing football ground.	We are already providing financial support for each local Traditional festivals like Nuakhai, Sheetal Sasthi, Astaprahari Namajagnya and sports like Football, Badminton and Cricket tournament with the locals. We conducted women sports, school sports programs at different villages every year as a part of promotion of Rural sports. Company has kept aside the football ground and taken the boundary by the side by leaving the ground free for villagers to play football. Cremation ground has been identified a Lapanga and will try to complete the same asap.
11	The industry should provide community toilets at the surrounding affected villages. Special care to be taken for physical	We have already started ODF++ activities in Bomaloi village and will complete the same with water regulatory facility asap by the FY 2024-25. Physically challenged people are continuously supported by the company. Gayatri Sahu one blind graduate working

	handicapped persons in the affected areas	with CSR team since four years and all programs are conducted regarding physically challenged persons in Block level every year.

Annexure - 10

Expense incurred under Enterprise Social Commitment till March- 2024:

Sl. Nos.	Description	Amount Spent (In Crores)	Remarks
1	G D Birla Medical Research and Education Foundation for School at Kurki	20.25	
2	Land taken on Lease from IDCO for School at Kurki	9.10	
3	Sponsorship of Kalinga Lancers in Indian Hockey league FY15, FY16 & FY17	4.50	
4	ESC expenses in & around Aditya Aluminium including Hirakud areas in FY17	7.61	
5	Sponsorship for Asian Athletic Championship 2017	0.50	
6	ESC expenses in & around Aditya Aluminium including Hirakud areas during April 18 to March 19	4.65	
7	ESC expenses in & around Aditya Aluminium including Hirakud areas during April 2019 to March 2020	0.62	
8	ESC expenses in & around Aditya Aluminium including Hirakud areas during April 2020 to Mar 2021	5.31	
9	ESC expenses in & around Aditya Aluminium including Hirakud areas during April 2021 to Mar 2022	8.81	
10	ESC expenses in Education (EDU)	0.33	
11	ESC expenses in in & around in Environment and sustainable Livelhood	0.57	
12	ESC expenses in in & around in Healthcare in Hirakud areas also	1.06	
13	ESC expenses in in & around in social causes	0.40	
14	ESC expenses in in & around in Rural & Development projects	0.26	
15	Aditya Expenses from Oct-22 to March-23	0.76	
16	Hirakud power and Smelter Expenses from Oct-22 to Mar-23	0.87	
17	Aditya Expenses from Apr-23 to Sept-23	1.67	
18	Hirakud power and Smelter Expenses from Apr-23 to Sept-23	0.90	
19	Aditya Expenses from Oct-23 to Mar-24	1.80	
20	Hirakud power and Smelter Expenses from Oct-23 to Mar-24	1.77	
Total Expense		**71.74**	

Aditya Aluminium intends to continue with the following activities under Enterprise Social Commitment like: -

a) Infrastructure development in villages around the Project area.

b) Drinking Water supply facilities.

c) Green cover development in collaboration with State Govt. departments.

d) Football playground or mini stadium in Bomaloi village, as stated in the minutes of public consultation held before environmental clearance.

e) Free distribution of schoolbooks & bags to children.

f) Constructing Toilets for girls in schools/villages.

g) Scholarship to poor, talented students in the schools.

h) Subsidy for Ash supply (Rs 150/- per Tonne at present) to local Ash brick manufacturers, as per OSPCB/MOEF&CC Notifications.

i) Providing Ash brick manufacturing machines to unemployed youth in the villages and one time assistance to establish the Unit.

j) Contributing to the development of Railway infrastructures in consultation with the railway authorities (e.g., ROB).

k) Implementation of skill development programmes and providing necessary infrastructure to existing ITI, Polytechnic colleges.

l) Development of Schools in the State of Odisha.

The remaining 5% amount for Phase-1 capacity (i.e., Smelter of 0.38 MTPA and CPP of 900 MW) is proposed to be spent over a period of 39 years from the year 2017.

ANNEXURE-11

ADITYA CSR COMPLAINCE REPORT
OCT-23 to MAR-24 (2023-24)

EDUCATION		As on 31st March 2024	
SL. No	Name of the Program	No of Activities	Beneficiaries
1	Science Exhibition, Seminar & Drama	1	165
2	Support of Desk & Bench	273	1227
3	Provision of New Bus for Jamankira High School	1	497
4	Inaugural Function of Desk & Bench Support	1	165
6	Celebration of Republic Day in school	72	4475
7	Support for District & Block level sports selection	3	165
8	Global Hand Wash Day	1	59
9	Awareness on POCSO	1	67
10	Awareness on Cyber Security	1	250
11	SMC Meeting	1	17
12	Career Counselling	2	110
13	Awareness on Single Use Plastic	10	447
14	Promotion of Yoga & Leadership Development	1	97
15	Observation of Global Hand Wash Day	1	59
16	GET Emersion Program & ABGLP	3	46
17	TOT, Installation & Inauguration of Pustakalay	5	507
18	Visit of Niti Ayog	1	127
19	National sports day 2023 at Lapanga HS school	1	223
20	Support of School Bus for different abled children as requested by BEO.	1	65
21	Set up & inauguration of Mini Science Centre at 5 high school	5	960
22	School level competitions	13	163
23	Joy of giving	03	540
		50	**3331**
HEALTH			
25	Community Dispensary	01	1819
26	Vision Centre	01	1872
27	Cataract operation	144	333
28	Awareness on eye care & Eye screening Camp	81	1499
29	Mega Health Camp	01	257
30	Blood Donation Camp	01	86
31	Adolescent Health Awareness	01	160
32	World AIDS Day	01	60
33	Awareness on TB & Observation of World TB Day	31	333
34	Status of Swasthya Vahini	01	2507
35	Observation of World Food Day	01	78

35	Ni-kshayamitra	05	552
46	Sankalpa Bikasit Yatra	04	280
	Total	**273**	**9836**
	SHG & Farmer's Livelihood Support Service		
47	SHG Mobilization Meeting	80	541
48	SHG Federation Meeting	02	50
49	Meeting with ORMAS, Mission Shakti, OLM	03	35
50	Interaction with SHG entrepreneurship	04	57
51	Training on CB of SHG	01	26
52	Training on Goat Rearing	02	66
53	Training on Mushroom	02	50
54	Exposure Visit of SHG	01	26
55	Women's Sports	06	412
56	Women's Day	01	320
	Total	**102**	**1586**
	Entrepreneurship Activities & Social Cause		
57	Safety Jacket	01	06
58	Mixture & Namkin	01	12
59	Phenyl	02	24
60	Mushroom Cultivation	15	27
61	Paper Plate & Dana	02	12
62	Polutry Farming	03	42
63	Soft Toy	01	02
64	Turmeric	01	22
65	Distribution of Fruit bearing Plants	02	1300
66	Farmers Interaction Meeting	77	194
67	Training on Organic Vegetable Cultivation & Pest Management	01	47
68	Exposure Visit of potential Farmers	07	73
69	Farmer's Day	01	275
70	Study on Watershed project	01	17
71	GET Emersion & Visit of ABGLP	05	39
72	Football Tournament	01	5000
73	Rengali Mahotchhav	01	2500
74	Inauguration of Bhagbat Tungi & Club House	01	250
75	Karama Puja	01	137
76	Kumar Purnima	01	1550
	Total	**121**	**11487**

Major Activities Status Details	
No of Activities	**No of Beneficiaries**
545	**26240**

Project: S A D H A N A

Article 26 of the 1948 Universal Declaration of Human Rights states that "Everyone has the right to education." In this context Aditya CSR committed to evolve as pioneer in education sector to provide all sorts of support for qualitative education through joyful environment and multiple need based activities to generate interest among children and parents towards school activities. Continuous child centric activities undertaken in 3rd & 4th quarter with appreciation from Govt. and local community to carry forward the initiatives in future prospective.

Key activities undertaken:

❖ **Science Exhibition, Seminar & Drama**

Schools and institutions often organize science exhibitions that include displays of different experiments or projects related to science. This is a predictive way to generate curiosity among students and promote their interest in science. These exhibitions encourage students to come up with unique science-related discoveries or experiments. The block level exhibition, science and drama organized with our support where children familiar with various aspect of innovative projects and theme based drama. More than 165 selected children across the block participated.

❖ **Support of Desk & Bench and inaugural ceremony**

With experience in setting up and running schools in rural areas, Aditya is only too aware of the challenges faced by government schools. These include a high student-teacher ratio, unmotivated teachers, lack of basic facilities like proper sitting arrangement, gaps in teacher recruitment & training and a high student drop-out rate. 273 pair of well-furnished desk & bench provided to 15 no Govt. schools and 1227 children benefited with proper sitting arrangement. The inaugural function was organized and DEO joined hands with us for the noble cause.

❖ **Celebration of Independence Day & Republic Day.**

Independence Day organized at 72 AWC, School & HSS across Rengali Block. Aditya supported 4432 snacks packet for children & teachers to celebrate the event. At Rengali, mini stadium, the grand function was organized and dignitaries from Govt. and Aditya joined hands to celebrate the grand festival. Similarly Republic Day also organized this year and more than 4000 pupils enjoyed the grand event.

❖ **Support for District & Block level sports selection**

The block & district level player selection process held at Kuchinda, where, under 17, 140 no children participated and among them 10 pupils selected to represent District level Football, Cricket and Kho-Kho tournament. Aditya provides in time support for their safe communication facility

❖ **Transportation support for board exam aspirants**

While the year 2024 does present unique challenges for students, it also offers incredible opportunities for growth and resilience. During the year, the board exam aspirants have exam centers in the remote schools of Katarbaga & NR High School. Hence as per the request of SMC, Parents & HM requested for transportation facility for the children. 2 no of buses provided to concerned authorities for stress less, smooth & in time communication of children to attend at their respective centers properly.

❖ **Awareness on POCSO**

The POCSO Act was enacted to protect children from sexual offences. The Act has been enacted to protect children from offences of sexual assault, sexual harassment and pornography and provide for the establishment of Special Courts for the trial of such offences and related matters and incidents. The awareness program on POCSO has been organized at 2 Govt. HSSSs, Lapanga and Katarbaga High School, where Miss. Arushi Gupta facilitated the program and more than 177 children & teachers participated. The program was appreciated from all corner.

❖ **Carrier Counselling session**

Career counselling emerges as a valuable tool for moral support for student without any stress before or during exam. During the quarters 4 no of career-counseling session has been organized at Golamal UGHS where more than 220 students participated. The session consisted with, how to overcome stress before and during the exam. Mr. Bhavani Mohapatra, AGM (HR) joined in the program, and facilitate with some moral tips to avoid stress and opportunities after board exam.

❖ **Promotion of Yoga & Leadership Development Program**

Yoga promotes leadership quality to lead the team in a positive manner and it enhance potentiality among children in every aspect of life. During the year, Yoga & Leadership Development Program organized at Govt. HSS, Lapanga where, 97 children and teachers participated actively. It has been also planned to organize the program in every Saturday at different schools.

❖ Inauguration of STEM Education

Mini Science Centre is comprises of 80 hands on, table top, plug and play models which is best for the students from 5th to 10th Standard. Science and Mathematics are activity-oriented subjects. That is why these subjects are required to be taught in an innovative way. After setup of mini science center, the inaugural ceremony was organized at Lapanga High School where, Mr. Vinoba Nand Thakur, Head HR, Captain Anirban Banerjee, Security & Admin, Mr. Jatin Kumar Banjar, HM & Teachers, SMC members and parents involved and appreciated the initiative of Aditya to improve in education sector on science & mathematics. More than 600 students will be benefited from the program.

❖ Awareness on Single Use Plastic

Govt. of India decided to phase out single use plastic by 2024. Plastic pollution is today one of the most serious environmental issue affecting the world. In order to rising awareness of the dangerous of plastic to our environment. Schoolchildren, local community engagement awareness on promoting plastic free products in daily life. In coordination with Environment Dept., To create need based awareness among schoolchildren, here at Aditya, Dept. of Environment organized drawing competition on the theme, "No to say Single use Plastic" at school level where 35 children participated and 3 best painting nominated for award on the eve of World Environment Day. During the quarters 11 no program organized and 229 participants involved.

❖ Awareness on Cyber Security Program

Children's use of the internet is changing fast, in response. According to the literature review, there are many benefits, if a school is able to fully apply cybersecurity education. A survey on adults and cybersecurity states that participants are less willing to spend money or time on seminars or programmes about cybersecurity. In coordination with Thelkoli Police station, awareness on Cyber Security program was organised where 250 children, parents, SMC Members & SHG members participated.

❖ Inauguration of Project Pustakalay

In partnership with Anandya Foundation, the project Pustakalay was inaugurated and 5 schools selected for promotion of libraries. The orientation on library organised for selected teachers and student leaders. The program facilitated with levelling of books through hide & seek game; other exercises also help children to familiar with pictorial and textbooks. Do & don'ts also cleared for smooth functioning of library as per SOP. More than 137 children & teachers trained for effective utilization of library. In 5 no of Pustakalay, 507 children will be \benefited.

Project: A A Y U S H

The word health refers to a state of complete emotional, mental, and physical well-being. Healthcare exists to help people stay well in these key areas of life. Physical well-being involves pursuing a healthful lifestyle to decrease the risk of disease. Maintaining physical fitness, for example, can protect and develop the endurance of a person's breathing and heart function, muscular strength, flexibility, and body composition. Aditya CSR, main intention was to sustain the health of the people by availing free for medical services to the needy and community around 6 Gram panchayats of Rengali Block.

❖ Community Dispensary

The First Aid Centre is functioning successfully at Lapanga where Dr. Ram Narayan Sahu, MBBS, Pediatric Specialist Dr. Debasmita Senapati from, Dr. Lata Tirkey Aditya Health Centre continues their service for First Aid Centre. During the midyear 820 patients treated and benefited with free medicine and consultancy service.

❖ Vision Centre

The state of art Vision Centre is now very popular for its best service in eye care across the Rengali Block, the relentless service in partnership with Trilochan Netralaya, the center running successfully to fulfill the objective of promoting need-based eye care support service at Rengali. During the mid-year, 1872 no of patient's availed eye care facility. 333 cataract operation done successfully and 81 awareness program organized across Rengali Block & 1499 people from various community participated.

❖ Cataract operation

During Q3 & Q4, 144 Free Cataract operation camp organized at Base hospital and 333 operation done successfully. Patients also benefited free accommodation, food, medicine and spectacle during the camp.

❖ Awareness on eye care & Eye screening Camp

The awareness program aims to familiarize the service delivery of VC and encouraged people to avail the Facility at door step. During Q3-4, 81 No eye care awareness program organized and 1499 patients participated. PRI Members, IIC of local PS also joined hand with us for the noble cause.

❖ Mega Health Camp

Health camps in rural areas are organized to ensure that medical care is accessible to all. By setting up these camps in areas where people do not have access to medical facilities, patients can receive treatment and medical care without having to travel long distances. Mega Health Camp was organized and 257 patients benefited with free health checkup & medicines.

❖ Blood Donation Camp

Blood Donation is a noble responsibility of every human being. It has multiple health benefits, such as balancing iron levels in the blood, reducing the risk of heart attacks and cardiovascular accidents, among others. A donor can help up to 3 people with a single donation. Blood Donation Camp Organized at Aditya Health Care Centre, where 87-unit blood donated. Dr. Vivekanand Mishra inaugurated the program. All health professionals, Vendors, and volunteers appreciated the initiative.

❖ World menstruation hygiene day

The theme for this year's Menstrual Hygiene Day is **"Making menstruation a normal fact by 2030"**. It is not acceptable that because of a natural bodily function women and girls continue to be prevent from getting an education, earning an income and fully and equally participating in everyday life. The program was organized at Bomaloi where 77 no of girls and women were involved. Drawing competition has been organized and prize distributed. Street play all so organized on the theme and appreciated by all.

❖ Awareness on TB & Observation of World TB Day

Tuberculosis or TB is an age-old diareses Tuberculosis or TB is an age-old infectious disease that India has been fighting for a long Tuberculosis or TB is an age-old infectious disease that India has been fighting for a long. Our country has listed this illness as one of the top public health concerns that require awareness and enough information among the general population. During Q3 & 4, 31 no of awareness organized at community level and 333 people participated.

❖ Observation of World Food Day

The day focuses on the requirement for feasible farming practices, equitable food distribution, and availability of nutritious food for all. The day urges governments, associations, and people to make a move towards accomplishing the 'Unified Nations Sustainable Development Goal of zero hunger' by 2030. Here at Aditya, World Food Day has been organised at Bomaloi where, 78 participants joined hands to make the program success. Nutrition Kit distributed among needy people.

❖ Ni-kshayamitra

The Nikshay Mitra, a government project that enables people to adopt tuberculosis patients and take care of their nutritional and medical requirements, aims to combat the stigma associated with the disease. Aditya closely associated with Govt. for the program provides best support for success of the program.5 no of program organized and 552 participants joined. Nutrition kits distributed and the program was closely monitored by Aditya.

❖ Awareness on Fire Safety

The most important factor of fire safety is the need for skillful and cautious response so that, people stay safe. Developing Fire extinguisher is also important to avoid fire safety. During the year, in house and community based training on Fire Safety was organized at Community Dispensary and Lapanga Village where 12 members involved. Aditya Fire Safety dept. head & staff joined and elaborated various prevention messages regarding the themes

❖ SHG mobilization

Instilling leadership skills among women through SHGs empowers them. Electoral participation and Gram Sabha participation are higher among empowered women. Self Help Groups are a multiplier of social and economic advancements, improving women's self-esteem and status in society. During the Q3-4. 80 no of agenda based SHG meetings has been organized and 541 members joined. Asper norm of Mission Shakti & OLM, 2 no SHG federation meeting also organized in coordinated with CRP & MBK and discussed on various schemes and projects for FY 24-25.

❖ Meeting with ORMAS & Mission Shakti & OLM.

To explore opportunity of Govt. schemes and project, CSR Staff visited Govt. officials in interval and discussed with staff for new schemes and projects in our operational SHG level. Convergence mechanism clearly discussed to undertake livelihood activities and increase income opportunity through various entrepreneurship activities.3 no consecutive meeting organized and 35 members involved.

❖ Interaction with SHG entrepreneurs.

At present, Spices, Hand wash, Phenyl, Mushroom, Mixture & Namkin, Paper plate, Poultry, Stitching of Safety jacket, Food processing activities are continuing successfully in which 97 SHG members are getting additional income source which boosting their will power to sustain the IG activities. All products already in pick-up stage due to its better quality and affordable price in comparison to the branded product available in the local market. SHG members now attending the local market and sailing their products in the weekly market, which is a prospective sig to promote their product in the locality.

❖ Training on CB of SHG

Entrepreneurship is one of the four factors of production (the economic resources, both human and other, that are used to bring about a flow or output of goods and services), the other three being land, capital, and labor. It nowadays plays a significant role in capitalist economies, often-involving high-risk ventures that forge innovative commercial strategies to sell existing products and services or that introduce new products and services altogether. During Q3-4. Training on Entrepreneurship development on various products given to potential SHG members. In convergence with SBIRSET, 2no of training on goat rearing has been organized where 66 SHG members trained.

❖ Exposure Visit of SHG

Exposure visit helps for learning on current best practices so that the women's credit groups can be used as an instrument for social change and empowerment through participatory techniques. SHG participated in Exposure Visit to Jamankira and interacted with individual entrepreneur of oil processing unit. 5 potential SHG members involved in this program and shown interest to start the activity very soon.

❖ Training on Finance Literacy

To enhance the learning level on financial literacy and book keeping & to know the importance of financial literacy and book keeping, The 2 days training on Financial Literacy & Book Keeping has been organized at Lapanga RGSK where more than 45 members from 12 SHG were participated. The training was organized at Rajiv Gandhi Sewa Kendra, Lapanga for twenty SHG consisting of two members from each SHGs who are maintaining their register and book keeping.

❖ SHG Sports Meet

Sport has the power to change lives. By teaching women and girl's teamwork, self-reliance, resilience and confidence, sport is one of the great drivers of gender equality. Women in sport defy gender stereotypes and social norms; make inspiring role models, and showmen and women as equals. As a regular yearly activity during the month, 6 no of cluster level SHG sports organized with various funny games and potential winners awarded with attractive gifts. Employee Volunteers, PRI Members and villagers enjoyed the sports and impressed. More than 412 viewers enjoyed the colorful event.

❖ Awareness on social security scheme

India's social security system is composed of a number of schemes and programs spread throughout a variety of laws and regulations. Keep in mind, however, that the government-controlled social security system in India applies to only a small portion of the population. Health Insurance and Medical Benefit, Disability Benefit, Maternity Benefit and other benefits. 3 awareness program has been organized where 111 SHG members were participated, and encouraged for on line registration.

❖ Soft Toy Unit

During the year, 5no girls joined for soft toys training program at SBIRSET & among them 2no Candidates shown their keen interest to startup Soft Toy Manufacturing unit. Aditya supported necessary materials to them and the unit was inaugurated. In this program, 20 no of women and adolescent girls involved and encouraged the candidates for their new journey to be entrepreneur.

❖ Driving Training(LMV) at SBIRSET

Self-employment has acquired much significance these days as employment opportunities for youths are less nowadays. Even highly qualified youths do not get the jobs they deserve. This is because the number of educated youths is increasing year by year, but the job opportunities remain more or less the same or they may be a little more than in the last year. SBIRSET is the leading institution where, unemployment youths getting scope for self-employment. During the year, 5 no of youths joined and successfully completed their Training on LMV.

❖ Counselling on self-employment

Aditya Birla Fashion and Retail Limited (ABFRL), one of India is leading fashion companies, started a new era of self-employment with focused on production of garments in various part of India. Looking to the requirement of candidates, mobilization campaign organized at 14 villages and circulate the message of career opportunity. More than 123 candidate mobilized and counselling session organized.

❖ Farmer's Meeting

Farmers Meeting organized frequently on institution building and capacity building. Major topics discussed as, Seasonal Vegetable cultivation, organic farming, availability of agricultural resources, importance of Farmers Club and convergence activity under Govt. Schemes. Above all, potential farmers profile has been prepared for future project and schemes. It has been finalized to organized monthly farmers meeting, training and exposures from time to time. During the year 120 no of farners interaction meeting organised and 1512 farmers involved.

❖ Training on Integrated Vegetable & Organic Pest Management

Training on integrated vegetable cultivation & organic pest management organised at Ludhapali colony, where more than 47 participants from 4 village attended and trained on Organic pest management techniques. The training was facilitated by Mrs.Tanmayee Saseni, Mr. Rajendra Bhoi facilitated the program with their vast experience. Local NOG, representative also actively participated. All participants showing their interest to form a group for adoption of the process with formation of a committee and its registration.

❖ National Farmer's Day

National Farmer's Day or Kisan Diwas 2023: It is also known as Kisan Samman Diwas. It is observed in India on 23 December. This day symbolizes the birthday of Chaudhary Charan Singh- the fifth Prime Minister of the Indian Republic. Charan Singh served as the Prime Minister of India from 28 July 1979 to 14 January 1980. He was principally a farmer and his individual way of life was exceptionally plain. To honor and appreciate all the responsible farmers for their contributions to society. National Farmers day has been has been organized and near about 400 farmers joined.

❖ Provision of Vermin Compost to potential farmer.

To encourage farmers for organic farming, on eve of farmer's day 2023, 47 no of vermin bed distributed to potential farmers and installed.

❖ Joy of Giving

Giving is an essential aspect of numerous religious and spiritual traditions. It is considered a moral and ethical duty, reflecting the divine attributes of compassion, love, and stewardship. By giving selflessly, we align ourselves with higher principles and contribute to the well-being of others and the world around us. Giving is not merely a transaction but a powerful act that shapes our character and spiritual growth._. As of our best practice and Indian Culture, Dan Utchhav is the holy moments of our employees, vendors and well-wishers who contributed for the needy children of society by contributing their best support and love. During the month 3 no of event organized to share love and joy of giving among

school & community orphan children. More than 540 children, employs, GETs and vendors joined and celebrated the events and sharing their happiness through close involvement and sharing of love & care.

❖ Infrastructure Development

Infrastructure has brought social and economic change among rural households and empowered them to live their lives with dignity and safety with improved living standards. Community centers, or community halls are public locations where members of a community tend to gather for group activities, social support, public information, and other purposes. Adivasi Club & Bhagbat Tungi inaugurated and people expressed their happiness. More than 250 community members joined in the program and also discussed on various issues of the village.

❖ Sports & Culture

Kumar Purnima Puja was organized at Lapanga & Gurupali village where more than 1550 devotee involved in puja. Various cultural programs organized by renowned Dance group of nearby district. Other sports programs are as follows.

Kumar Purnima at Lapanga

Cricket Tournament at Golamal

Cricket Tournament at Rengali

❖ Work in Progress

Providing a local linkage and cultural basis for development is important. People are likely to take part in and remain committed to development efforts to which they have a direct connection. it is important to consider the social basis of culture, its relationship to interaction, and the types of development and local actions it can contributed.

Lord Shiva Temple at Ponduloi Colony

Maa Samalei Temple at Jangala

ANNEXURE-12

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

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

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Enginering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13913

Date: 01.12.2023

METEOROLOGICAL MONITORING REPORT NOVEMBER-2023

1. Name of Industry : M/s Hindalco Industries Limited
2. Data Collected By : Unit-Aditya Aluminium, Lapanga, Sambalpur
   Automatic Weather Monitoring Station

Date	Temperature(°C)		Relative Humidity (%)		Wind Speed Km/h		Wind	Rain fall
	Max	Min	Max	Min	Max	Min	Direction	(mm)
1-Nov-23	33.1	20.6	88.0	63.0	2.4	0.7	ESE	0
2-Nov-23	32.9	21.1	86.0	61.0	1.8	0.5	SSE	0
3-Nov-23	32.5	22.4	89.0	62.0	1.5	0.4	ESE	0
4-Nov-23	31.5	21.3	85.0	68.0	1.6	0.4	SSE	0
5-Nov-23	31.6	21.5	83.0	74.0	3.2	0.9	SE	0
6-Nov-23	32.3	20.8	89.0	73.0	3.4	0.9	SE	0
7-Nov-23	32.5	18.6	90.0	72.0	2.5	0.7	ESE	0
8-Nov-23	32.8	19.4	82.0	69.0	2.4	0.7	ESE	0
9-Nov-23	32.4	18.5	76.0	65.0	1.8	0.5	ESE	0
10-Nov-23	33.2	16.3	77.0	58.0	1.9	0.5	ENE	0
11-Nov-23	33.6	17.5	80.0	56.0	2	0.6	SE	0
12-Nov-23	32.5	18.2	82.0	56.0	1.6	0.4	ESE	0
13-Nov-23	31.7	19.3	79.0	59.0	2.3	0.6	ESE	0
14-Nov-23	30.8	18.6	83.0	60.0	2.4	0.7	SSE	0
15-Nov-23	30.2	17.8	91.0	41.0	3.2	0.9	ESE	0
16-Nov-23	29.6	19.2	95.0	64.0	4.6	1.3	SE	0
17-Nov-23	30.5	20.5	93.0	52.0	4	1.1	SE	0
18-Nov-23	32.7	21.6	89.0	58.0	3.2	0.9	SSE	0
19-Nov-23	31.3	19.9	85.0	49.0	2.8	0.8	SSE	0
20-Nov-23	31.8	18.6	90.0	50.0	2.6	0.7	SE	0
21-Nov-23	32.2	19.5	88.0	45.0	0.8	0.2	WSW	0
22-Nov-23	30.3	18.4	86.0	49.0	1.2	0.3	WSW	0
23-Nov-23	29.9	17.5	85.0	40.0	1.6	0.4	SW	0
24-Nov-23	30.4	17.9	89.0	48.0	2	0.6	SSE	0
25-Nov-23	30.1	16.5	87.0	44.0	0.8	0.2	S	0
26-Nov-23	29.8	18.2	82.0	41.0	1.2	0.3	SSE	0
27-Nov-23	30.6	16.9	85.0	56.0	1	0.3	SSE	0
28-Nov-23	31.5	17.2	86.0	47.0	1.4	0.4	SE	0
29-Nov-23	31.9	18.4	84.0	48.0	1.6	0.4	SE	0
30-Nov-23	31.2	18.2	90.0	52.0	2.4	0.7	NNE	0
AVERAGE	**31.6**	**19.0**	**85.8**	**56.0**	**2.17**	**0.6**	-	**0.0**

Prepared by:

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

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P. Pati

Verified by:

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Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

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- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-14638 **Date: 04.03.2024**

METEOROLOGICAL MONITORING REPORT FEBRUARY-2024

1. Name of Industry : **M/s Hindalco Industries Limited**
2. Data Collected By : **Unit-Aditya Aluminium, Lapanga, Sambalpur**
   Automatic Weather Monitoring Station

Date	Temperature(°C)		Relative Humidity (%)		Wind Speed Km/h		Wind	Rain fall
	Max	Min	Max	Min	Max	Min	Direction	(mm)
1-Feb-24	32.3	19.5	90.0	50.0	1.9	1.1	NW	0
2-Feb-24	31.8	20.1	90.0	42.0	1.9	0.6	S	0
3-Feb-24	31.5	21.6	91.0	48.0	1.9	0.6	S	0
4-Feb-24	30.3	21.7	88.0	43.0	1.9	0.6	NNE	0
5-Feb-24	33.2	20.6	87.0	45.0	2.5	1.1	NNE	0
6-Feb-24	34.5	21.3	88.0	42.0	1.9	0.6	SE	0
7-Feb-24	32.6	23.5	92.0	47.0	1.9	1.7	S	0
8-Feb-24	29.5	20.8	91.0	45.0	1.9	1.1	SE	0
9-Feb-24	29.8	18.6	83.0	46.0	2.5	0.6	W	0
10-Feb-24	30.5	15.4	82.0	43.0	1.7	1.1	SSW	0
11-Feb-24	31.6	16.2	90.0	42.0	3.0	1.1	WNW	0.4
12-Feb-24	33.2	18.5	96.0	45.0	3.0	0.6	SW	1.4
13-Feb-24	33.4	19.4	90.0	47.0	1.7	1.1	WNW	0
14-Feb-24	33.9	20.5	93.0	48.0	2.5	1.1	S	0
15-Feb-24	32.5	21.4	90.0	44.0	1.9	0.6	SE	0
16-Feb-24	33.2	19.6	88.0	43.0	1.9	1.1	SW	0
17-Feb-24	34.1	21.5	91.0	45.0	1.7	1.1	SW	0
18-Feb-24	35.6	23.6	89.0	41.0	1.7	0.6	SE	0
19-Feb-24	34.2	23.1	85.0	46.0	1.7	1.1	SW	0
20-Feb-24	37.1	22.5	88.0	44.0	3.0	1.9	NE	0
21-Feb-24	35.6	22.4	88.0	48.0	5.3	2.5	S	0
22-Feb-24	36.2	23.6	90.0	50.0	5.3	1.1	ENE	0
23-Feb-24	33.9	22.5	76.0	42.0	1.9	1.7	S	0
24-Feb-24	30.5	21.9	72.0	45.0	4.2	1.9	S	0
25-Feb-24	30.7	20.5	69.0	46.0	5.3	2.5	SW	0
26-Feb-24	33.6	21.7	83.0	48.0	3.0	1.7	S	0
27-Feb-24	36.5	19.6	90.0	50.0	5.5	1.1	NNE	0
28-Feb-24	35.1	21.4	78.0	45.0	2.5	1.1	S	0
29-Feb-24	34.3	22.3	90.0	46.0	1.9	1.1	S	0
AVERAGE	**33.1**	**20.9**	**86.8**	**45.4**	**2.7**	**1.2**	**0.0**	**1.8**

Prepared by: VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Verified by: P. Pati. VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Visiontek Consultancy Services Pvt. Ltd.

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- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13889 **Date: 01.01.2024**

AMBIENT AIR QUALITY MONITORING REPORT (OCT-2023 TO DEC-2023)

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location	:	Monitoring Station No.- AAQMS-1 : Gumkarma
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 ($\mu g/m^3$)
02.10.2023	50.3	28.9	16.2	16.6	< 4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.10.2023	51.2	28.1	16.8	17.8	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.10.2023	51.2	26.6	15.9	15.9	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.10.2023	52.1	27.5	17.3	16.5	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.10.2023	50.8	28.7	15.5	18.4	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.10.2023	46.6	28.6	15.3	19.2	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.10.2023	51.7	26.3	16.5	17.5	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.10.2023	48.6	27.1	18.2	16.8	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.10.2023	50.2	28.5	16.4	15.8	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.11.2023	49.1	26.3	15.8	17.2	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
06.11.2023	50.6	28.2	16.9	16.8	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.11.2023	51.1	27.6	15.7	16.1	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
13.11.2023	53.6	28.4	16.2	16.9	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.11.2023	52.3	28.4	15.7	17.5	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
20.11.2023	50.1	27.5	17.9	18.4	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.11.2023	49.2	28.8	16.3	17.3	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
27.11.2023	50.8	29.9	15.8	15.8	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.11.2023	51.2	30.2	15.4	14.3	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2023	53.1	30.3	16.1	15.2	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.12.2023	52.3	29.5	15.5	14.9	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2023	50.9	28.6	16.3	15.5	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.12.2023	50.3	29.1	15.8	16.4	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2023	52.1	28.4	15.3	17.2	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.12.2023	50.6	29.8	16.2	15.9	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2023	51.4	28.2	14.9	16.3	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.12.2023	51.8	29.6	15.3	15.8	<4.0	0.29	<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	50.8	28.4	16.1	16.6	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gravimetric	Improved West and Geake method	Modified Jacob & Hochheisor (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< 9 $\mu g/m^3$,O_3<4 $\mu g/m^3$, Ni<0.01 ng/m^3, As< 0.001 ng/m^3, C_6H_6<0.001 $\mu g/m^3$, BaP<0.002 ng/m^3, Pb<0.001 $\mu g/m^3$, F<0.01$\mu g/m^3$ CO-<0.1 mg/m^3

Prepared by:

Verified by: P. Pati

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Visiontek Consultancy Services Pvt. Ltd.

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- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
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- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/-TR-13890 **Date: 01.01.2024**

AMBIENT AIR QUALITY MONITORING REPORT (OCT-2023 TO DEC-2023)

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location	:	Monitoring Station No.- AAQMS-2: Ghichamura
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 ($\mu g/m^3$)
02.10.2023	49.6	27.9	9.4	18.2	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.10.2023	50.1	26.8	10.1	17.8	<4.0	0.39	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.10.2023	48.3	28.2	10.3	18.2	<4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.10.2023	50.6	28.5	10.5	16.8	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.10.2023	51.4	29.3	9.9	17.6	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.10.2023	50.6	27.4	10.2	15.4	<4.0	0.37	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.10.2023	49.8	26.8	9.8	16.2	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.10.2023	48.2	27.5	9.3	18.1	<4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.10.2023	50.9	29.2	9.2	17.2	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.11.2023	51.6	28.1	10.4	18.3	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
06.11.2023	52.9	26.8	10.1	18.1	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.11.2023	51.9	29.0	10.3	17.9	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
13.11.2023	50.7	28.4	9.9	17.3	<4.0	0.37	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.11.2023	51.2	29.6	9.7	18.2	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
20.11.2023	52.8	28.5	8.2	16.4	<4.0	0.38	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.11.2023	51.6	29.1	9.4	17.8	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
27.11.2023	52.1	28.7	9.6	17.1	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.11.2023	49.8	29.1	9.7	16.9	<4.0	0.39	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2023	53.1	28.2	10.3	16.7	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.12.2023	54.6	28.6	10.1	17.2	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2023	53.8	28.4	10.2	16.8	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.12.2023	54.6	28.3	11.1	16.9	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2023	53.8	28.9	9.2	17.2	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.12.2023	53.2	28.5	11.4	17.5	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2023	54.1	29.1	10.1	16.8	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.12.2023	51.7	27.8	10.5	16.3	<4.0	0.33	<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	51.6	28.3	9.9	17.3	<4.0	0.35	<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< 9 $\mu g/m^3$,O_3<4 $\mu g/m^3$, Ni<0.01 ng/m^3, As< 0.001 ng/m^3, C_6H_6<0.001 $\mu g/m^3$, BaP<0.002 ng/m^3, Pb<0.001 $\mu g/m^3$, F<0.01$\mu g/m^3$,CO-<0.1 mg/m^3

Prepared by:

Verified by:

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

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- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13891 **Date: 01.01.2024**

AMBIENT AIR QUALITY MONITORING REPORT (OCT-2023 TO DEC-2023)

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location	:	Monitoring Station No.- AAQMS-3 : Tileimal
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 ($\mu g/m^3$)
02.10.2023	51.5	28.5	10.4	16.9	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.10.2023	52.1	27.9	10.1	18.1	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.10.2023	51.6	29.3	10.9	19.4	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.10.2023	50.8	28.6	10.5	19.6	<4.0	0.3	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.10.2023	52.7	29.3	9.9	18.9	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.10.2023	50.9	28.4	10.2	19.5	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.10.2023	51.8	27.3	9.8	18.4	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.10.2023	52.2	26.5	9.9	19.6	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.10.2023	50.1	27.1	10.5	17.3	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.11.2023	52.1	28.3	10.1	18.5	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
06.11.2023	50.9	26.4	10.6	19.4	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.11.2023	53.2	28.6	10.2	20.5	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
13.11.2023	51.6	29.8	9.8	21.9	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.11.2023	52.4	28.6	10.5	20.8	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
20.11.2023	51.6	27.4	10.6	18.2	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.11.2023	52.8	28.5	11.1	19.8	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
27.11.2023	51.1	29.6	10.4	17.6	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.11.2023	52.2	29.5	10.8	16.7	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2023	52.5	29.1	10.5	18.5	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.12.2023	51.8	29.5	10.1	19.4	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2023	53.1	29.4	10.5	21.6	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.12.2023	54.2	28.2	10.8	19.5	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2023	55.4	29.6	11.0	18.4	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.12.2023	56.3	28.7	10.2	19.6	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2023	55.4	30.5	10.5	19.5	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.12.2023	56.8	29.1	10.1	19.2	<4.0	0.28	<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	52.8	28.6	10.3	19.1	<4.0	0.27	<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< 9 $\mu g/m^3$, O_3<4 $\mu g/m^3$, Ni<0.01 ng/m^3, As< 0.001 ng/m^3, C_6H_6<0.001 $\mu g/m^3$, BaP<0.002 ng/m^3, Pb<0.001 $\mu g/m^3$, F<0.01$\mu g/m^3$ CO-<0.1 mg/m^3

Prepared by:

Verified by: P. Pati

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- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13892 **Date: 01.01.2024**

AMBIENT AIR QUALITY MONITORING REPORT (OCT-2023 TO DEC-2023)

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location	:	Monitoring Station No.- AAQMS-4 : Bomaloi
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} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_x (µg/m³)	O_3 (µg/m³)	CO (mg/m³)	NH_3 (µg/m³)	C_6H_6 (µg/m³)	BaP (ng/m³)	Ni (ng/m³)	Pb (µg/m³)	As (ng/m³)	F (µg/m³)
02.10.2023	51.3	29.1	16.2	20.2	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.10.2023	49.2	29.2	15.9	21.1	<4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.10.2023	50.4	30.9	16.3	19.8	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.10.2023	49.5	28.5	16.4	23.1	5.6	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.10.2023	50.3	30.7	16.2	23.5	5.5	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.10.2023	51.5	28.2	18.1	24.2	5.4	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.10.2023	50.2	30.6	17.6	23.1	5.8	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.10.2023	51.5	29.4	17.3	24.3	5.6	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.10.2023	52.4	30.2	16.4	25.3	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.11.2023	52.2	29.9	17.3	21.9	5.9	0.41	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
06.11.2023	49.8	28.5	15.8	22.4	5.3	0.38	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.11.2023	50.9	29.5	16.2	23.1	5.7	0.39	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
13.11.2023	48.7	29.2	17.9	21.3	5.2	0.40	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.11.2023	50.4	30.4	16.5	20.5	<4.0	0.43	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
20.11.2023	48.2	29.3	17.1	21.4	<4.0	0.41	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.11.2023	50.9	39.6	18.5	20.3	5.3	0.42	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
27.11.2023	51.7	29.8	16.9	21.3	<4.0	0.39	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.11.2023	52.8	27.2	15.8	20.9	<4.0	0.37	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2023	51.1	30.4	14.8	21.2	5.5	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.12.2023	50.9	28.5	16.6	22.5	5.2	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2023	52.4	29.9	17.2	23.4	5.6	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.12.2023	51.8	30.2	18.1	22.2	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2023	53.8	29.4	17.9	23.5	5.2	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.12.2023	51.2	28.7	17.6	22.9	5.1	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2023	52.6	29.2	17.7	21.2	5.5	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.12.2023	51.1	30.5	17.3	20.5	5.3	0.32	<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	51.0	29.8	16.9	22.1	5.5	0.36	<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: SO2< 4 µg/m3, NOX< 9 µg/m3,O3<4 µg/m3, Ni<0.01 ng/m3, As< 0.001 ng/m3, C6H6<0.001 µg/m3, BaP<0.002 ng/m3, Pb<0.001 µg/m3, F<0.01µg/m3,CO-<0.1 mg/m³

Prepared by:

Verified by:

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- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13893 **Date: 01.01.2024**

AMBIENT AIR QUALITY MONITORING REPORT (OCT-2023 TO DEC-2023)

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location	:	Monitoring Station No.- AAQMS-5 : Kapulas
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} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_x (µg/m³)	O_3 (µg/m³)	CO (mg/m³)	NH_3 (µg/m³)	C_6H_6 (µg/m³)	BaP (ng/m³)	Ni (ng/m³)	Pb (µg/m³)	As (ng/m³)	F (µg/m³)
02.10.2023	50.9	28.5	18.5	20.5	< 4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.10.2023	51.6	29.1	17.6	22.6	< 4.0	0.38	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.10.2023	52.1	27.9	16.9	21.4	< 4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.10.2023	52.4	28.6	15.8	22.1	< 4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.10.2023	50.6	30.1	16.3	23.6	< 4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.10.2023	51.8	26.8	17.4	20.1	< 4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.10.2023	52.2	28.4	16.8	20.5	< 4.0	0.38	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.10.2023	51.1	27.6	16.9	21.3	< 4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.10.2023	53.2	28.5	15.8	21.5	< 4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.11.2023	52.9	27.6	20.1	22.1	< 4.0	0.39	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
06.11.2023	52.1	29.1	18.6	20.8	< 4.0	0.42	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.11.2023	53.6	28.7	17.5	21.6	< 4.0	0.41	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
13.11.2023	52.1	27.6	16.9	22.8	< 4.0	0.40	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.11.2023	53.2	28.5	15.8	22.9	< 4.0	0.44	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
20.11.2023	51.5	28.4	17.4	21.8	< 4.0	0.46	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.11.2023	52.2	27.6	16.6	22.1	< 4.0	0.43	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
27.11.2023	53.9	28.5	15.8	24.3	<4.0	0.42	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.11.2023	51.1	26.5	16.3	26.4	<4.0	0.39	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2023	52.5	29.1	17.2	25.7	< 4.0	0.38	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.12.2023	51.9	30.5	16.5	26.8	< 4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2023	54.3	28.6	17.8	25.9	< 4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.12.2023	54.4	27.4	18.2	25.6	< 4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2023	54.3	28.5	16.9	24.4	< 4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.12.2023	55.3	30.2	14.5	26.5	< 4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2023	54.8	26.8	15.3	25.7	< 4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.12.2023	52.6	28.7	16.1	26.1	< 4.0	0.30	<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	52.6	28.4	16.9	23.2	<4.0	0.37	<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< 9 µg/m³, O_3<4 µg/m³, Ni<0.01 ng/m³, As< 0.001 ng/m³, C_6H_6<0.001 µg/m³, BaP<0.002 ng/m³, Pb<0.001 µg/m³, F<0.01µg/m³ CO-<0.1 mg/m³

Prepared by:

Verified by:

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- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13894 **Date: 01.01.2024**

AMBIENT AIR QUALITY MONITORING REPORT (OCT-2023 TO DEC-2023)

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location	:	Monitoring Station No.- AAQMS-6 : Phulchanghal
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)
02.10.2023	51.6	27.6	15.9	24.2	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.10.2023	52.6	28.1	16.2	21.9	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.10.2023	51.7	26.9	15.5	22.8	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.10.2023	52.2	27.8	14.6	23.3	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.10.2023	54.1	30.1	16.2	22.5	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.10.2023	52.2	28.6	14.5	21.8	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.10.2023	51.3	29.3	15.9	22.4	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.10.2023	50.2	28.5	16.3	23.9	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.10.2023	52.1	27.4	15.2	21.8	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.11.2023	51.2	29.3	17.9	22.1	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
06.11.2023	52.9	29.5	16.8	21.4	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.11.2023	53.2	28.4	18.2	22.6	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
13.11.2023	51.2	29.6	17.4	21.3	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.11.2023	50.9	30.1	16.8	24.8	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
20.11.2023	51.6	30.5	16.9	24.4	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.11.2023	52.2	29.6	17.5	23.5	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
27.11.2023	51.3	30.3	19.8	22.3	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.11.2023	52.7	30.1	19.3	24.8	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2023	50.4	31.2	20.1	23.2	<4.0	0.30	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.12.2023	54.1	30.5	21.4	22.9	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2023	55.9	29.8	19.6	24.5	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.12.2023	55.3	30.6	18.5	22.3	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2023	54.8	29.4	20.5	24.6	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.12.2023	56.2	31.3	21.4	24.3	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2023	54.9	30.5	19.6	24.5	<4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.12.2023	55.3	31.1	20.1	25.3	<4.0	0.32	<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	52.7	29.4	17.8	23.2	<4.0	0.31	<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 µg/m³, NO_x< 9 µg/m³, O_3<4 µg/m³, Ni<0.01 ng/m³, As< 0.001 ng/m³, C_6H_6<0.001 µg/m³, BaP<0.002 ng/m³, Pb<0.001 µg/m³, F<0.01µg/m³ CO-<0.1 mg/m³

Prepared by

Verified by: P. Pati

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- Quality Control & Project Management
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- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13895 **Date: 01.01.2024**

AMBIENT AIR QUALITY MONITORING REPORT (OCT-2023 TO DEC-2023)

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location	:	Monitoring Station No.- AAQMS-7 : Khadiapali
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)
02.10.2023	53.2	28.2	11.2	17.5	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
05.10.2023	54.6	26.9	10.8	16.4	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.10.2023	53.9	28.4	12.3	17.6	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
12.10.2023	52.8	28.1	12.4	15.2	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.10.2023	53.3	27.6	10.6	18.3	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
19.10.2023	52.4	28.2	11.1	18.1	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.10.2023	51.9	26.5	11.8	17.6	<4.0	0.20	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
26.10.2023	52.3	24.8	10.5	18.2	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.10.2023	52.5	26.9	12.4	18.1	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
02.11.2023	54.3	28.4	10.9	18.9	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
06.11.2023	53.6	27.6	10.4	18.2	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
09.11.2023	52.1	26.9	11.3	18.4	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
13.11.2023	54.2	25.4	10.5	17.8	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
16.11.2023	53.2	25.2	12.1	19.2	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
20.11.2023	50.9	27.3	10.3	20.3	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
23.11.2023	53.5	28.5	11.6	20.6	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
27.11.2023	52.1	27.7	10.4	18.2	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.11.2023	50.9	26.3	10.8	19.5	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2023	52.8	27.1	11.2	19.8	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.12.2023	53.6	28.5	12.4	18.2	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2023	54.5	28.9	12.3	20.5	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.12.2023	52.7	26.8	12.9	18.7	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2023	53.1	27.4	11.7	17.6	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.12.2023	54.6	28.2	11.6	16.3	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2023	52.9	27.1	12.2	18.7	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.12.2023	52.3	28.2	11.6	17.4	<4.0	0.24	<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	53.0	27.3	11.4	18.2	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gruvimetric	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< 9 µg/m³, O_3<4 µg/m³, Ni<0.01 ng/m³, As< 0.001 ng/m³, C_6H_6<0.001 µg/m³, BaP<0.002 ng/m³, Pb<0.001 µg/m³, F<0.01µg/m³,CO-<0.1 mg/m³

Prepared by: VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Verified by: P. Pati

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Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13896 **Date: 01.01.2024**

AMBIENT AIR QUALITY MONITORING REPORT (OCT-2023 TO DEC-2023)

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location	:	Monitoring Station No.- AAQMS-8 : Thelkoloi
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 (ug/m3)	NOx (µg/m3)	O3 (µg/m3)	CO (mg/m3)	NH3 (ug/m3)	C6H6 (µg/m3)	BaP (ng/m3)	Ni (ng/m3)	Pb (ug/m3)	As (ng/m3)	F (µg/m3)
02.10.2023	53.2	28.2	15.2	25.1	8.9	0.35	22.3	<4	<0.5	<2.5	<0.02	<1	<0.01
05.10.2023	54.1	29.1	15.4	29.5	8.5	0.34	25.4	<4	<0.5	<2.5	<0.02	<1	<0.01
09.10.2023	55.6	28.6	15.2	28.4	8.1	0.36	25.9	<4	<0.5	<2.5	<0.02	<1	<0.01
12.10.2023	52.3	27.9	15.9	26.3	9.6	0.38	21.4	<4	<0.5	<2.5	<0.02	<1	<0.01
16.10.2023	53.1	26.5	16.1	29.4	9.7	0.39	25.9	<4	<0.5	<2.5	<0.02	<1	<0.01
19.10.2023	54.6	28.4	15.7	30.9	8.9	0.31	22.5	<4	<0.5	<2.5	<0.02	<1	<0.01
23.10.2023	53.2	26.9	15.6	22.9	8.6	0.35	20.2	<4	<0.5	<2.5	<0.02	<1	<0.01
26.10.2023	52.8	28.2	15.3	30.9	9.2	0.31	26.1	<4	<0.5	<2.5	<0.02	<1	<0.01
30.10.2023	54.1	27.6	15.8	22.9	9.9	0.39	28.9	<4	<0.5	<2.5	<0.02	<1	<0.01
02.11.2023	55.3	27.2	17.6	27.9	9.2	0.33	21.4	<4	<0.5	<2.5	<0.02	<1	<0.01
06.11.2023	53.6	28.5	16.8	19.7	9.9	0.34	25.9	<4	<0.5	<2.5	<0.02	<1	<0.01
09.11.2023	52.4	29.6	17.3	22.6	10.1	0.36	22.5	<4	<0.5	<2.5	<0.02	<1	<0.01
13.11.2023	54.1	27.4	17.9	26.5	10.5	0.38	20.2	<4	<0.5	<2.5	<0.02	<1	<0.01
16.11.2023	53.2	28.2	16.2	24.1	9.9	0.39	26.1	<4	<0.5	<2.5	<0.02	<1	<0.01
20.11.2023	55.1	26.8	15.9	25.1	9.4	0.31	28.9	<4	<0.5	<2.5	<0.02	<1	<0.01
23.11.2023	53.6	27.8	16.3	26.5	8.6	0.39	22.6	<4	<0.5	<2.5	<0.02	<1	<0.01
27.11.2023	53.8	26.8	16.6	24.9	8.8	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
30.11.2023	53.2	27.4	15.2	25.6	7.6	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2023	54.1	28.8	16.2	26.8	9.7	0.35	24.9	<4	<0.5	<2.5	<0.02	<1	<0.01
07.12.2023	53.9	26.9	14.9	24.9	9.3	0.31	20.1	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2023	54.6	28.1	15.6	26.9	9.5	0.36	22.8	<4	<0.5	<2.5	<0.02	<1	<0.01
14.12.2023	53.7	27.4	17.2	30.1	9.9	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2023	54.5	28.2	15.6	28.6	8.1	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.12.2023	53.2	28.3	16.4	26.9	7.5	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2023	54.6	28.6	15.8	30.5	9.2	0.36	23.9	<4	<0.5	<2.5	<0.02	<1	<0.01
28.12.2023	52.9	29.2	17.3	31.6	9.8	0.35	22.8	<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	53.8	27.9	16.1	26.8	9.1	0.35	23.8	<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< 9 µg/m³, O_3<4 µg/m³, Ni<0.01 ng/m³, As< 0.001 ng/m³, C_6H_6<0.001 µg/m³, BaP<0.002 ng/m³, Pb<0.001 µg/m³, F<0.01µg/m³ CO-<0.1 mg/m³

Prepared by: VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Verified by: P. Pati

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Laboratory Services
Environment Lab
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Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13908 **Date:30.11.2023**

SURFACE WATER QUALITY ANALYSIS REPORT NOVEMBER-2023

1. Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling location	:	SW-1: Hirakud Reservoir; SW-2: Lapanga Pond; SW-3: Matwadinadi –U/S, SW-4:Bamloi Pond; SW-5: Bhedan River Near Katikela
3. Date of sampling	:	14.11.2023
4. Date of analysis	:	15.11.2023 TO 21.11.2023
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	SW-5
1	pH at 25°C	APHA 4500H+ B	--	6.0-9.0	7.41	7.34	7.46	7.40	7.52
2	Colour	APHA 2120 B, C	Hazen	300	<1.0	<1.0	<1.0	<1.0	<1.0
3	Taste	APHA 2160 C	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	--	4.0	5.1	2.8	6.3	5.2
6	Total Dissolved Solids	APHA 2540 C	mg/l	1500	90.0	132	88	130	94
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	--	86	102	118	98	108
8	Total Alkalinity	APHA 2320 B	mg/l	--	52	62	60	62	64
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	22.2	24.0	19.6	26.1	21.1
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	3.36	4.6	5.1	4.8	4.4
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	--	BDL	BDL	BDL	BDL	BDL
12	Boron (as B)	APHA 4500B, B	mg/l	--	<0.1	<0.01	<0.01	<0.01	<0.01
13	Chloride (as Cl)	APHA 4500Cl- B	mg/l	600	32.0	31.0	30.0	28.0	30.0
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	400	18.5	28.0	22.4	32.8	28.6
15	Fluoride (as F)	APHA 4500F- C	mg/l	1.5	0.31	0.28	0.33	0.36	0.30
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	50	1.54	1.69	1.25	1.43	1.30
17	Sodium as Na	APHA3500-Na	mg/l	--	9.2	10.5	8.9	9.2	8.8
18	Potassium as K	APHA 3500-K	mg/l	--	2.6	3.2	2.7	3.1	2.8
19	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	0.005	<0.05	<0.05	<0.05	<0.05	<0.05
20	Cyanide (as CN)	APHA 4500 CN^- C,D	mg/l	0.05	BDL	BDL	BDL	BDL	BDL
21	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	1.0	<0.2	<0.2	<0.2	<0.2	<0.2
22	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
23	Arsenic (as As)	APHA 3114 B	mg/l	0.2	<0.004	<0.004	<0.004	<0.004	<0.004
24	Copper (as Cu)	APHA 3111 B,C	mg/l	1.5	<0.02	<0.02	<0.02	<0.02	<0.02
25	Lead (as Pb)	APHA 3111 B,C	mg/l	0.1	<0.02	<0.02	<0.02	<0.02	<0.02
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	--	<0.03	<0.03	<0.03	<0.03	<0.03
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.5	0.061	0.19	0.040	0.21	0.052
28	Chromium (as Cr^{+6})	APHA 3500Cr B	mg/l	0.05	<0.02	<0.02	<0.02	<0.02	<0.02
29	Selenium (as Se)	APHA 3114 B	mg/l	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
30	Zinc (as Zn)	APHA 3111 B,C	mg/l	15	<0.01	<0.01	<0.01	<0.01	<0.01
31	Aluminium as(Al)	APHA 3500Al B	mg/l	--	<0.1	<0.1	<0.1	<0.1	<0.1
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	--	<0.004	<0.004	<0.004	<0.004	<0.004
33	Mineral Oil	APHA 5220 B	mg/l	--	<0.001	<0.001	<0.001	<0.001	<0.001
34	Pesticides	APHA 6630 B,C	mg/l	--	Absent	Absent	Absent	Absent	Absent
35	E.Coli	APHA 9221-F	MPN/100 ml	--	Absent	Absent	Absent	Absent	Absent
36	Total Coliforms	APHA9221-B	MPN/100 ml	5000	230	320	360	240	260

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

Prepared by:

Verified by: P. Pati

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Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13909 **Date: 30.11.2023**

SURFACE WATER QUALITY ANALYSIS REPORT NOVEMBER-2023

1. Name of Industry	:	**M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling location	:	**SW-6:** Bhedan River Near Khinda Village;**SW-7**:Matwadinadi-D/S; **SW-8:** Hirakud Reservoir Near Gurupali village; **SW-9:** Salepali village Pond; **SW-10:** Sanamal village Pond
3. Date of sampling	:	**14.11.2023**
4. Date of analysis	:	**15.11.2023 TO 21.11.2023**
5. Sample collected by	:	VCSPL Representative

Sl. No.	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class - "C"	Analysis Results				
					SW-6	SW-7	SW-8	SW-9	SW-10
1	pH at 25°C	APHA 4500H+ B	--	6.0-9.0	7.38	7.68	7.33	7.40	7.43
2	Colour	APHA 2120 B, C	Hazen	300	<1.0	<1.0	<1.0	<1.0	<1.0
3	Taste	APHA 2160 C	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
6	Turbidity	APHA 2130 B	NTU	--	3.1	4.0	3.4	4.0	3.8
7	Total Dissolved Solids	APHA 2540 C	mg/l	1500	106	96	110	118	140
8	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	--	66	68	94	78	84
9	Total Alkalinity	APHA 2320 B	mg/l	--	60	64	84	72	88
10	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	22.1	20.4	29.1	28.2	26.6
11	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	4.2	3.8	7.61	4.03	5.1
12	Residual, free Chlorine	APHA 4500Cl, B	mg/l	--	BDL	BDL	BDL	BDL	BDL
13	Boron (as B)	APHA 4500B, B	mg/l	--	<0.01	<0.01	<0.01	<0.01	<0.01
14	Chloride (as Cl)	APHA 4500Cl- B	mg/l	600	32	28	36	42	46
15	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	400	15.2	14.3	13.2	22.5	24.9
16	Fluoride (as F)	APHA 4500F- C	mg/l	1.5	0.35	0.31	0.40	0.38	0.33
17	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	50	2.76	2.35	2.51	3.16	3.28
18	Sodium as Na	APHA 3500-K	mg/l	--	10.4	9.2	9.8	10.2	8.8
19	Potassium as K	APHA3500-Na	mg/l	--	3.1	3.6	3.1	3.6	3.8
20	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	0.005	<0.05	<0.05	<0.05	<0.05	<0.05
21	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	BDL	BDL	BDL	BDL	BDL
22	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	1.0	<0.2	<0.2	<0.2	<0.2	<0.2
23	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
24	Arsenic (as As)	APHA 3114 B	mg/l	0.2	<0.004	<0.004	<0.004	<0.004	<0.004
25	Copper (as Cu)	APHA 3111 B,C	mg/l	1.5	<0.02	<0.02	<0.02	<0.02	<0.02
26	Lead (as Pb)	APHA 3111 B,C	mg/l	0.1	<0.02	<0.02	<0.02	<0.02	<0.02
27	Manganese (as Mn)	APHA 3500Mn B	mg/l	--	<0.03	<0.03	<0.03	<0.03	<0.03
28	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.5	0.042	0.072	0.068	0.053	0.049
29	Chromium (as Cr^{++})	APHA 3500Cr B	mg/l	0.05	<0.02	<0.02	<0.02	<0.02	<0.02
30	Selenium (as Se)	APHA 3114 B	mg/l	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
31	Zinc (as Zn)	APHA 3111 B,C	mg/l	15	<0.01	<0.01	<0.01	<0.01	<0.01
32	Aluminium as(Al)	APHA 3500Al B	mg/l	--	<0.1	<0.1	<0.1	<0.1	<0.1
33	Mercury (as Hg)	APHA 3500 Hg	mg/l	--	<0.004	<0.004	<0.004	<0.004	<0.004
34	Mineral Oil	APHA 5220 B	mg/l	--	<0.001	<0.001	<0.001	<0.001	<0.001
35	Pesticides	APHA 6630 B,C	mg/l	--	Absent	Absent	Absent	Absent	Absent
36	E.Coli	APHA 9221-F	MPN/100 ml	--	Absent	Absent	Absent	Absent	Absent
37	Total Coliform	APHA9221-B	MPN/100 ml	5000	270	330	260	360	360

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

Prepared by

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

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P. Pati
Verified by:

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Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13902 **Date: 01.12.2023**

GROUND WATER QUALITY ANALYSIS REPORT NOVEMBER-2023

1.	Name of Industry	:	**M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga.**
2.	Sampling location	:	**GW-1:** Lapanga Village; **GW-2:** Pandoloi Village; **GW-3:**Bamloi Village; **GW-4:** Tilaimal Village
3.	Date of sampling	:	**14.11.2023**
4.	Date of analysis	:	**15.11.2023 TO 21.11.2023**
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	7.28	7.35	7.30	7.33
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	<1.0	<1.0	<1.0	<1.0
6	Total Dissolved Solids	APHA 2540 C	mg/l	500	2000	186	178	162	175
7	Total Hardness (as CaCO3)	APHA 2340 C	mg/l	200	600	102	118	96	104
8	Total Alkalinity	APHA 2320 B	mg/l	200	600	92	89	86	96
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	28.3	32.4	31.6	30.2
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	7.61	9.01	4.15	6.95
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	BDL	BDL	BDL	BDL
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	25.6	26.2	25.3	27.5
14	Sulphate (as SO4)	APHA 4500 SO42- E	mg/l	200	400	4.6	4.4	4.5	4.2
15	Fluoride (as F)	APHA 4500F- C	mg/l	1.0	1.5	0.33	0.28	0.26	0.31
16	Nitrate (as NO3)	APHA 4500 NO3- E	mg/l	45	No Relaxation	2.6	3.0	3.2	2.9
17	Sodium as Na	APHA3500-Na	mg/l	--	--	13.5	13.9	12.1	13.3
18	Potassium as K	APHA 3500-K	mg/l	--	--	3.9	4.6	4.2	4.8
19	Phenolic Compounds (as C6H5OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.001	<0.001	<0.001	<0.001
20	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01
21	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	1.0	<0.2	<0.2	<0.2	<0.2
22	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No Relaxation	<0.01	<0.01	<0.01	<0.01
23	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.004	<0.004	<0.004	<0.004
24	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.02	<0.02	<0.02	<0.02
25	Lead (as Pb)	APHA 3111 B,C	mg/l	0.01	No Relaxation	<0.02	<0.02	<0.02	<0.02
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	0.3	<0.03	<0.03	<0.03	<0.03
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No Relaxation	0.16	0.21	0.15	0.19
28	Chromium (as Cr)	APHA 3500Cr B	mg/l	0.05	No Relaxation	<0.05	<0.05	<0.05	<0.05
29	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001	<0.001	<0.001	<0.001
30	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	15	<0.01	<0.01	<0.01	<0.01
31	Aluminium as(Al)	APHA 3500Al B	mg/l	0.03	0.2	<0.1	<0.1	<0.1	<0.1
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	No Relaxation	<0.004	<0.004	<0.004	<0.004
33	Mineral Oil	APHA 5220 B	mg/l	0.5	No Relaxation	<0.001	<0.001	<0.001	<0.001
34	Pesticides	APHA 6630 B,C	mg/l	Absent	--	Absent	Absent	Absent	Absent
35	E.Coli	APHA 9221-F	MPN/ 100 ml	Shall not be detectable in any 100 ml sample	--	Absent	Absent	Absent	Absent
36	Total Coliforms	APHA9221-B	MPN/ 100 ml	Shall not be detectable in any 100 ml sample	--	<1.1	<1.1	<1.1	<1.1

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

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Ref: VCSPL/23-24/TR-13903 **Date: 01.12.2024**

GROUND WATER QUALITY ANALYSIS REPORT NOVEMBER-2023

1.	Name of Industry	:	**M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga.**
2.	Sampling location	:	**GW-5:** Thelkoloi Village ,**GW-6:** Ghichamura Village , **GW-7:** Gumkarma Village, **GW-8:** Chalatikra Village
3.	Date of sampling	:	**14.11.2023**
4.	Date of analysis	:	**15.11.2023 TO 21.11.2023**
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-5	GW-6	GW-7	GW-8
1	pH Value at 25°C	APHA 4500H+ B	--	6.5-8.5	No Relaxation	7.33	7.28	7.30	7.31
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	APHA2510-B	µs/cm	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	1	5	<1.0	<1.0	<1.0	<1.0
6	Total Dissolved Solids	APHA 2540 C	mg/l	500	2000	186	212	192	204
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	200	600	90	86	84	88
8	Total Alkalinity	APHA 2320 B	mg/l	200	600	90	86	86	85
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	23.2	24.1	22.6	25.4
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	6.6	7.3	5.79	7.2
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	BDL	BDL	BDL	BDL
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	24.5	27.2	25.4	26.8
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	200	400	6.0	4.8	5.8	5.6
15	Fluoride (as F)	APHA 4500F- C	mg/l	1.0	1.5	0.28	0.25	0.23	0.28
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	45	No Relaxation	3.4	3.2	3.5	3.0
17	Sodium as Na	APHA3500-Na	mg/l	--	--	13.2	11.9	12.8	13.6
18	Potassium as K	APHA 3500-K	mg/l	--	--	4.2	6.1	5.5	4.8
19	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.001	<0.001	<0.001	<0.001
20	Cyanide (as CN)	APHA 4500 CN- C,D	mg/l	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01
21	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	1.0	<0.2	<0.2	<0.2	<0.2
22	Cadmium (as Cd)	APHA 3111 B,C	mg/l	0.003	No Relaxation	<0.01	<0.01	<0.01	<0.01
23	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.004	<0.004	<0.004	<0.004
24	Copper (as Cu)	APHA 3111 B,C	mg/l	0.05	1.5	<0.02	<0.02	<0.02	<0.02
25	Lead (as Pb)	APHA 3111 B,C	mg/l	0.01	No Relaxation	<0.02	<0.02	<0.02	<0.02
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	0.3	<0.03	<0.03	<0.03	<0.03
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	1	No Relaxation	0.17	0.18	0.20	0.18
28	Chromium (as Cr)	APHA 3500Cr B	mg/l	0.05	No Relaxation	<0.05	<0.05	<0.05	<0.05
29	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001	<0.001	<0.001	<0.001
30	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	15	<0.01	<0.01	<0.01	<0.01
31	Aluminium as(Al)	APHA 3500Al B	mg/l	0.03	0.2	<0.1	<0.1	<0.1	<0.1
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	0.001	No Relaxation	<0.004	<0.004	<0.004	<0.004
33	Mineral Oil	APHA 5220 B	mg/l	0.5	No Relaxation	<0.001	<0.001	<0.001	<0.001
34	Pesticides	APHA 6630 B,C	mg/l	Absent	--	Absent	Absent	Absent	Absent
35	E-Coli	APHA 9221-F	MPN/ 100 ml	Shall not be detectable in any 100 ml sample	--	Absent	Absent	Absent	Absent
36	Total Coliforms	APHA9221-B	MPN/ 100 ml	Shall not be detectable in any 100 ml sample	--	<1.1	<1.1	<1.1	<1.1

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

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Verified By P. Pati.

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Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13904 **Date: 30.11.2023**

GROUND WATER LEVEL MONITORING REPORT NOVEMBER-2023

1. Name of Industry 2. Sampling Location	: :	**M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur** GW-1:Near Ash Pond, GW-2:Near Proposed Pond, GW-3:Near RR Colony, GW-4: Bomaloi Village
3. Date of Sampling	:	14.11.2023
4. Monitoring By	:	VCSPL Representative

SL No.	Date of Sampling	Name of Location	Unit	Water Level
01	14.11.2023	GW1	Mbgl	1.62
02	14.11.2023	GW2	Mbgl	4.6
03	14.11.2023	GW3	Mbgl	2.11
04	14.11.2023	GW4	Mbgl	3.19

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Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13905

Date: 30.11.2023

GROUND WATER QUALITY (Heavy Metals) ANALYSIS REPORT NOV-2023

1. Name of Industry	:	M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur
2. Sampling Location	:	GW-1:Near Ash Pond,
3. Date of Sampling	:	14.11.2023
4. Date of Analysis		15.11.2023 TO 17.11.2023
5. Monitoring By	:	VCSPL Representative

SL No.	Parameters	Test Method	Unit	Standard	Result
01	Mercury as Hg	APHA 3112 B	Mg/l	0.001	<0.001
02	Arsenic as As	APHA 3112 B	Mg/l	0.01	<0.005
03	Lead as Pb	APHA 3112 B	Mg/l	0.01	<0.005
04	Chromium as Cr	APHA 3112 B	Mg/l	0.05	<0.01

Prepared By:

Verified By: P. Pati

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Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13906 **Date: 30.11.2023**

GROUND WATER QUALITY ANALYSIS REPORT NOV-2023

1. Name of Industry	:	M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur
2. Sampling Location	:	GW-1:Near Ash Pond, GW-2:Near Proposed Pond, GW-3:Near RR Colony, GW-4: Ash Pond Area Bore well
3. Date of Sampling	:	14.11.2023
4. Date of Analysis	:	15.11.2023 TO 17.11.2023
5. Sample Collected By	:	VCSPL Representative

Sl. No	Parameter	Testing Method	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Results			
				Acceptable Limit	Permissible Limit	GW-1	GW-2	GW-3	GW-4
1.	pH Value	APHA 4500 H^+ B	--	6.5-8.5	No Relaxation	7.35	7.40	7.40	7.36
2.	Turbidity	APHA 2130B	NTU	1	5	BDL	BDL	BDL	BDL
3.	Total Hardness(as $CaCO_3$)	APHA 2340 C	mg/l	200	600	92.0	48.0	132.0	124.0
4.	Iron (as Fe)	APHA 3500 Fe B	mg/l	1.0	No Relaxation	0.28	0.21	0.25	0.23
5.	Chloride (as Cl)	APHA 4500 Cl^- B	mg/l	250	1000	19.2	16.1	40.0	22.4
6.	Dissolved Solids	APHA 2540 C	mg/l	500	2000	160	158	270.6	182
7.	Calcium (as Ca)	APHA 3500 Ca B	mg/l	75	200	23.2	24.2	41.0	29.5
8.	Magnesium (as Mg)	APHA 3500 Mg B	mg/l	30	100	6.8	3.2	7.1	6.32
9.	Copper (as Cu)	APHA 3111Cu B	mg/l	0.05	1.5	<0.001	<0.001	<0.001	<0.001
10.	Sodium (as Na)	APHA 3500Na B	mg/l	--	--	28.0	6.5	16.2	15.8
11.	Potassium (as K)	APHA 3500 K B	mg/l	--	--	6.2	3.1	5.2	4.4
12.	Manganese (as Mn)	APHA 3111 B	mg/l	0.1	0.3	<0.005	<0.005	<0.005	<0.005
13.	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	200	400	26.0	8.1	22.1	11.6
14	Nitrate (as NO_3)	APHA 4500 NO_3^- B	mg/l	45	No Relaxation	0.36	0.76	1.64	0.56
15.	Fluoride (as F)	APHA 4500 F^- D	mg/l	1.0	1.5	0.38	0.36	0.37	0.35
16.	Phenolic Compounds (as C_6H_5OH)	APHA 5530 C	mg/l	0.001	0.002	<0.001	<0.001	<0.001	<0.001
17.	Mercury (as Hg)	APHA 3112B	mg/l	0.001	No Relaxation	<0.001	<0.001	<0.001	<0.001
18.	Cadmium (as Cd)	APHA 3111 B	mg/l	0.003	No Relaxation	<0.001	<0.001	<0.001	<0.001
19.	Selenium (as Se)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001	<0.001	<0.001	<0.001
20	Arsenic (as As)	APHA 3114 B	mg/l	0.01	No Relaxation	<0.001	<0.001	<0.001	<0.001
21.	Cyanide (as CN)	APHA 4500 CN^- C,D	mg/l	0.05	No Relaxation	ND	ND	ND	ND
22.	Lead (as Pb)	APHA 3111 B	mg/l	0.01	No Relaxation	<0.001	<0.001	<0.001	<0.001
23.	Zinc (as Zn)	APHA 3111 B	mg/l	5	15	<0.005	<0.005	<0.005	<0.005
24.	Chromium (as Cr)	APHA 3500 Cr B	mg/l	0.05	No Relaxation	<0.005	<0.005	<0.005	<0.005
25.	Alkalinity	APHA 2320 B	mg/l	200	600	98	78	130.0	126.0
26.	Aluminium as(Al)	APHA 3500 Al B	mg/l	0.03	0.2	<0.001	<0.001	<0.001	<0.001
27.	Boron (as B)	APHA 4500 B	mg/l	2.4	No Relaxation	<0.001	<0.001	<0.001	<0.001

Note: ND: Not Detected, BDL: Below Detection Limit

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&
Microbiology Lab

Ref: VCSPL/23-24/TR-13910 **Date: 30.11.2023**

SOIL QUALITY ANALYSIS REPORT NOVEMBER-2023

1.	Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2.	Date of Sampling	:	13.11.2023
3.	Sampling Location	:	S-1: Project Site; S-2: Thelkoloi; S-3: Ghichamura; S-4: Lapanga; S-5: Bamloi
4.	Date of Analysis	:	14.11.2023 TO 20.11.2023
5.	Sample Collected By	:	VCSPL representative

Sl. No.	Parameters	Unit	S-1	S-2	S-3	S-4	S-5
1	P^H at 25°C	--	7.25	7.17	7.30	7.28	7.33
2	Conductivity	--	158	142	136	152	137
3	Soil Texture	--	Sandy Loamy	Clay Loamy	Clay Loamy	Sandy Loamy	Sandy Loamy
4	Sand	%	55.2	24.9	25.1	50.8	52.6
5	Silt .	%	14.8	22.3	24.9	21.5	23.1
6	Clay	%	34.1	55.2	48.3	28.4	30.3
7	Bulk Density	gm/cc	1.72	1.40	1.59	1.46	1.58
8	Exchangeable Calcium as Ca	%	34.2	32.8	34.6	33.5	42.1
9	Exchangeable Magnesium as Mg	%	51.3	55.4	56.4	59.1	50.4
10	Available Sodium as Na	%	0.023	0.030	0.025	0.042	0.029
11	Available Potassium as K	%	0.051	0.058	0.048	0.045	0.051
12	Available phosphorous as P	%	0.028	0.030	0.027	0.026	0.032
13	Available Nitrogen as N	%	0.37	0.30	0.32	0.35	0.33
14	Organic Matter	%	4.5	6.2	4.6	5.0	4.3
15	Organic Carbon as OC	%	1.72	1.50	1.59	1.57	1.68
16	Water soluble Chlorides as Cl	%	0.31	0.34	0.28	0.26	0.32
17	Water soluble Sulphates as SO_4	%	0.23	0.21	0.27	0.24	0.23
18	Aluminium as Al	%	0.00014	0.00017	0.00020	0.00018	0.00022
19	Total Iron as Fe	%	0.068	0.055	0.049	0.070	0.069
20	Manganese as Mn	%	0.0030	0.0025	0.0028	0.0031	0.0027
21	Boron as B	%	0.00019	0.00022	0.00025	0.00024	0.00025
22	Zinc as Zn	%	0.00031	0.00027	0.00023	0.00028	0.00030
23	Silica as SiO_2	%	6.4	5.8	7.0	6.6	6.1
24	Ferric Oxide as Fe_2O_3	%	0.043	0.050	0.049	0.045	0.042
25	Calcium Oxide as CaO	%	32.9	33.0	31.5	33.4	31.8
26	Magnesium Oxide as MgO	%	24.9	28.2	23.9	27.2	24.6
27	Aluminium Oxide as Al_2O_3	%	0.00016	0.00014	0.00018	0.00020	0.00022
28	Iron Oxide as FeO	%	0.038	0.030	0.050	0.036	0.037
29	Manganese Oxide as MnO	%	0.0048	0.0031	0.0026	0.0025	0.0034
30	Potassium Oxide as K_2O	%	0.0485	0.0443	0.0461	0.0498	0.0502
31	Phosphorus Oxide as P_2O_5	%	0.0078	0.0070	0.0074	0.0068	0.0080
32	Fluoride as F	%	6.08	6.42	6.31	7.09	7.11

ND: Not Detected.

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Verified by:

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- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: VCSPL/23-24/TR-13911 **Date: 30.11.2023**

SOIL QUALITY ANALYSIS REPORT NOVEMBER-2023

1.	Name of Industry	:	M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2.	Date of Sampling	:	13.11.2023
3.	Sampling Location	:	S-6: Tileimal; S-7: Jangala; S-8: Gurupali; S-9: Gumkarma; S-10: Bhadrapali.
4.	Date of Analysis	:	14.11.2023 TO 20.11.2023
5.	Sample Collected By	:	VCSPL representative

Sl. No.	Parameters	Unit	S-6	S-7	S-8	S-9	S-10
1	P^H at 25°C	--	7.31	7.36	7.04	7.35	7.31
2	Conductivity	--	162	148	166	142	155
3	Soil Texture	--	Clay Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Clay Loamy
4	Sand	%	26.2	50.5	48.7	53.5	30.1
5	Silt	%	20.9	18.6	23.2	20.7	21.7
6	Clay	%	64.1	36.3	34.6	34.4	53.2
7	Bulk Density	gm/cc	1.57	1.50	1.46	1.58	1.74
8	Exchangeable Calcium as Ca	%	45.2	48.1	42.4	46.3	43.3
9	Exchangeable Magnesium as Mg	%	54.1	56.5	52.8	65.2	58.5
10	Available Sodium as Na	%	0.028	0.030	0.033	0.029	0.032
11	Available Potassium as K	%	0.055	0.052	0.061	0.057	0.053
12	Available phosphorous as P	%	0.025	0.029	0.023	0.030	0.031
13	Available Nitrogen as N	%	0.34	0.32	0.29	0.30	0.28
14	Organic Matter	%	4.5	3.9	5.1	4.6	4.4
15	Organic Carbon as OC	%	1.48	1.65	1.62	1.76	1.40
16	Water soluble Chlorides as Cl	%	0.35	0.29	0.31	0.40	0.43
17	Water soluble Sulphates as SO_4	%	0.25	0.27	0.30	0.26	0.28
18	Aluminium as Al	%	0.00016	0.00020	0.00019	0.00020	0.00018
19	Total Iron as Fe	%	0.056	0.050	0.053	0.055	0.052
20	Manganese as Mn	%	0.0022	0.0031	0.0029	0.0028	0.0026
21	Boron as B	%	0.00024	0.00027	0.00025	0.00030	0.00027
22	Zinc as Zn	%	0.00023	0.00026	0.00022	0.00021	0.00025
23	Silica as SiO_2	%	6.3	6.8	7.2	7.0	6.8
24	Ferric Oxide as Fe_2O_3	%	0.028	0.033	0.030	0.040	0.037
25	Calcium Oxide as CaO	%	32.3	31.8	33.4	32.2	31.5
26	Magnesium Oxide as MgO	%	23.1	26.5	27.8	25.1	23.9
27	Aluminium Oxide as Al_2O_3	%	0.00041	0.00037	0.00032	0.00030	0.00028
28	Iron Oxide as FeO	%	0.0172	0.0185	0.0178	0.0200	0.0192
29	Manganese Oxide as MnO	%	0.0023	0.0022	0.0025	0.0020	0.0022
30	Potassium Oxide as K_2O	%	0.0413	0.0438	0.0469	0.0384	0.0458
31	Phosphorus Oxide as P_2O_5	%	0.0079	0.0091	0.0085	0.0082	0.0077
32	Fluoride as F	%	7.42	6.85	7.23	6.94	7.18

Prepared by

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P. Pati

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Ref: VCSPL/3-24/TR-13897 **Date: 30.11.2023**

NOISE QUALITY MONITORING REPORT NOVEMBER-2023

1. **Name of Industry** : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. **Monitored By** : VCSPL representative

Daytime Noise monitoring results (Noise Level in dB (A) NOVEMBER-2023

TIME (6.00AM to 9.00PM)	N1:Gumkarma (06.11.2023)	N2:Ghichamura (06.11.2023)	N3:Bomaloi (13.11.2023)	N4:Tileimal (13.11.2023)	N5:Thelkoli (20.11.2023)	N6:Khadiapali (20.11.2023)	N7:Kapilas (27.11.2023)	N8:Phulchanghal (27.11.2023)
06.00am	46.2	50.6	46.5	46.5	46.9	49.1	44.6	44.5
07.00am	48.5	48.8	49.8	49.5	48.5	50.3	45.4	46.5
08.00am	47.3	51.4	49.1	47.5	50.1	48.8	47.5	47.2
09.00am	48.9	49.6	50.2	49.6	52.5	50.2	46.9	46.8
10.00am	46.4	50.5	47.6	48.2	50.6	49.4	46.5	47.5
11.00am	48.6	48.8	50.8	49.6	52.4	48.6	47.2	46.3
12.00 noon	49.2	50.6	48.6	48.4	50.9	50.3	46.5	45.9
01.00pm	47.6	51.1	50.2	47.6	53.2	49.4	45.8	45.1
02.00pm	49.1	50.6	51.1	46.2	54.1	50.8	47.3	46.3
03.00pm	48.6	52.2	48.8	45.8	50.9	50.2	48.1	45.8
04.00pm	50.2	51.8	47.2	46.3	51.2	49.9	46.6	46.2
05.00pm	49.6	50.5	50.6	47.5	52.8	50.2	47.5	45.9
06.00pm	51.2	49.2	49.2	48.2	53.2	48.3	47.6	48.6
07.00pm	48.5	50.6	48.6	49.6	54.1	50.4	46.8	49.8
08.00pm	49.3	49.9	50.1	50.4	52.6	50.6	47.2	50.5
09.00pm	50.8	48.7	50.8	47.8	51.6	50.3	46.9	49.8
Average	48.7	50.3	49.3	48.0	51.6	49.8	46.7	47.0
Standard as per CPCB	55							

Nighttime Noise monitoring results (Noise Level in dB (A) NOVEMBER-2023

TIME (10.00PM to 5.00AM)	N1:Gumkarma (06.11.2023)	N2:Ghichamura (06.11.2023)	N3:Bomaloi (13.11.2023)	N4:Tileimal (13.11.2023)	N5:Thelkoli (20.11.2023)	N6:Khadiapali (20.11.2023)	N7:Kapilas (27.11.2023)	N8:Phulchanghal (27.11.2023)
10.00pm	40.5	42.1	42.6	42.8	42.9	43.5	38.6	42.3
11.00pm	41.6	40.6	42.9	41.2	42.2	42.6	39.5	41.9
12.00 Midnight	40.9	42.5	42.1	43.1	41.7	43.1	39.5	42.5
01.00am	42.2	41.8	43.5	42.9	42.5	43.6	40.2	40.6
02.00am	40.8	40.6	42.6	41.5	42.1	41.5	40.6	41.8
03.00am	41.6	41.3	42.2	42.3	43.5	43.5	38.6	41.6
04.00am	40.2	41.9	41.3	42.2	42.9	42.6	40.8	40.3
05.00am	39.7	42.3	42.9	41.5	41.3	43.1	41.5	41.6
Average	40.9	41.6	42.5	42.1	42.3	42.9	39.9	41.5
Standard as per CPCB	45							

Prepared By:

Verified By: P. Pati

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Microbiology Lab

Ref: VCSPL/22/R-13912 **Date: 30.11.2023**

FORAGE FLUORIDE ANALYSIS REPORT NOVEMBER-2023

1	Name of Industry	:	M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga
2	Date of Sampling	:	22.11.2023 & 23.11.2023
3	Date of Analysis	:	24.11.2023 to 27.11.2023
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)
22.11.2023	Bomaloi	Bela Tree, Rice Plant	*Aegle marmelo, Oryza Sativa*	AOAC 975.04	1.5
22.11.2023	Gurupali	Duba Ghasa, Neem Tree	*Cynodon dactylo, Azadirachta Indica*	AOAC 975.04	1.6
22.11.2023	Plant Site	Sisu Tree, Duba Ghasa	*Dalbergia sissoo, Cynodon dactylon*	AOAC 975.04	2.5
22.11.2023	Thelkoloi	Bamboo Tree, Rice Plant	*Pongame oil tree, Cynodon dactylon*	AOAC 975.04	1.8
22.11.2023	Gumukarma	Bamboo Tree, Rice Plant	*Bambusoideae, Oryza Sativa*	AOAC 975.04	2.2
23.11.2023	Ghichamura	Baulakoli Tree, Rice Plant	*Mimusops elengi, Oryza Sativa*	AOAC 975.04	1.3
23.11.2023	Tileimal	Rice Plant, Duba Ghasa	*Oryza Sativa, Cynodon dactylon*	AOAC 975.04	1.3
23.11.2023	Lapanga	Neem tree, Rice Plant	*Azadirachta indica, Oryza Sativa*	AOAC 975.04	2.1
23.11.2023	Jangala	Duba Ghasa, Rice Plant	*Cynodon dactylon, Oryza Sativa*	AOAC 975.04	1.5
23.11.2023	Bhadrapali	Karanj Tree, Duba Grass, Rice Plant	*Pongame oil tree, Cynodon dactylon, Oryza Sativa*	AOAC 975.04	1.4

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Microbiology Lab

Ref: VCSPL/23-24/R-14639 **Date: 04.03.2024**

FORAGE FLUORIDE ANALYSIS REPORT FEBRUARY-2024

1	Name of Industry	:	M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga
2	Date of Sampling	:	21.02.2024 & 22.02.2024
3	Date of Analysis	:	23.02.2024 TO 28.02.2024
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)
21.02.2024	Bomaloi	Bela Tree, Rice Plant	*Aegle marmelo, Oryza Sativa*	AOAC 975.04	1.6
21.02.2024	Gurupali	Duba Ghasa, Neem Tree	*Cynodon dactylo, Azadirachta Indica*	AOAC 975.04	1.7
21.02.2024	Plant Site	Sisu Tree, Duba Ghasa	*Dalbergia sissoo, Cynodon dactylon*	AOAC 975.04	2.4
21.02.2024	Thelkoloi	Bamboo Tree, Rice Plant	*Pongame oil tree, Cynodon dactylon*	AOAC 975.04	1.7
21.02.2024	Gumukarma	Bamboo Tree, Rice Plant	*Bambusoideae, Oryza Sativa*	AOAC 975.04	2.1
22.02.2024	Ghichamura	Baulakoli Tree, Rice Plant	*Mimusops elengi, Oryza Sativa*	AOAC 975.04	1.4
22.02.2024	Tilcimal	Rice Plant, Duba Ghasa	*Oryza Sativa, Cynodon dactylon*	AOAC 975.04	1.2
22.02.2024	Lapanga	Neem tree, Rice Plant	*Azadirachta indica, Oryza Sativa*	AOAC 975.04	2.2
22.02.2024	Jangala	Duba Ghasa, Rice Plant	*Cynodon dactylon, Oryza Sativa*	AOAC 975.04	1.6
22.02.2024	Bhadrapali	Karanj Tree, Duba Grass, Rice Plant	*Pongame oil tree, Cynodon dactylon, Oryza Sativa*	AOAC 975.04	1.3

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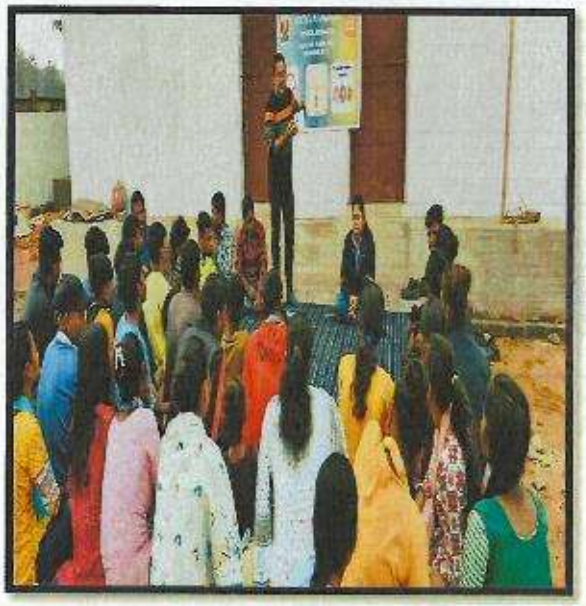
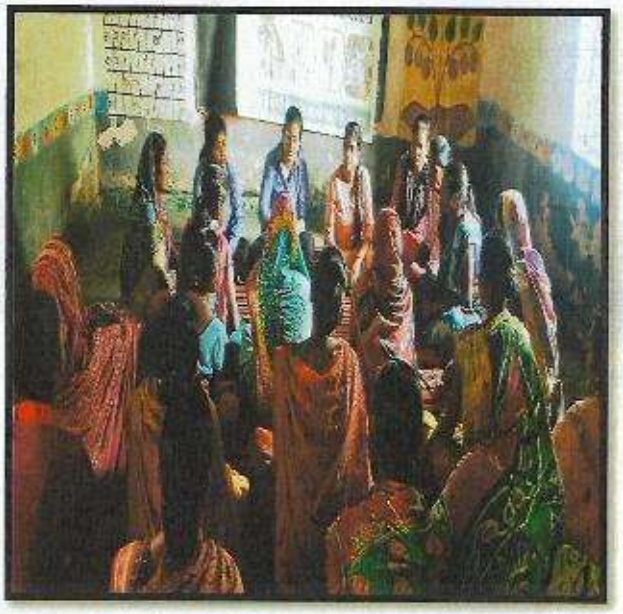
ANNEXURE-13

Reference: - MoEF&CC Office memorandum F. No. IA3-22/8/2021-1A.III [150512] dated 18/07/2022

Glimpses of Sensitization & Awareness of ban on Single Use Plastic Inside Plant, Township and Nearby Villages

SUP Ban Awareness in Khinda & Ghichamura villa

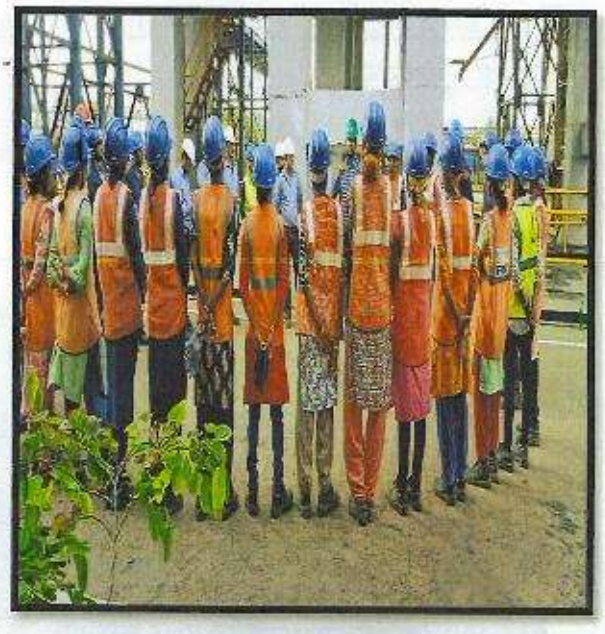




SUP Ban Awareness in Bomaloi & Gumkarma village

SUP Ban Awareness to Workmen inside Township

Reference: - MoEF&CC Office memorandum F. No. IA3-22/8/2021-1A.III [150512] dated 18/07/2022



SUP Ban Awareness to Workmen inside Plant & Township

SUP Ban Awareness to Workmen inside Plant & Township

Reference: - MoEF&CC Office memorandum F. No. IA3-22/8/2021-1A.III [150512] dated 18/07/2022

SUP Ban Awareness to Workmen inside Plant

SUP Ban Awareness to Workmen inside Plant

Reference: - MoEF&CC Office memorandum F. No. IA3-22/8/2021-1A.III [150512] dated 18/07/2022

ADITYA BIRLA

HINDALCO

Date: 25.07.2022

OFFICE ORDER

Subject: Discontinuation of Single Use Plastic ("SUP") items.

Dear Colleague,

As we all know, plastic items are not good for sustainable environment. We are hereby making a conscious effort in accordance with the Plastic Waste Amendment Rule, 2021 to refuse/ reduce the consumption of plastic items, including packaging but wherever unavoidable will be separately binned (whenever rejected), collected and send it to disposal for its proper recycling.

We are regularly creating awareness campaigns for all our employees, family members, vendors and stakeholders to reduce the generation of plastic waste. For safer, healthier and inclusive plant and township for all we hereby prohibit the following plastic items inside the plant and all public building of Aditya Aluminium effective immediately.

1. Thermocol/ Plastic items like plates, cups, glasses, cutlery such as forks, spoons, knives, straws, etc.
2. Barricading strips
3. Plastic Folders
4. Plastic sample bags
5. Mineral Water Bottles
6. Single use plastic bottles for drinking purposes
7. Plastic used for packing of motors/ value
8. Gift wrapping plastic films
9. Plastic carry bag
10. Plastic or PVC banners (Flex Banners)

Special instructions shall be given to vendors while procuring items to substitute single use plastic packaging with sustainable options. All are requested to cooperate and use alternate biodegradable substitutes.

Thanking You

Yours faithfully

Dr. Vivekanand Mishra

Vice President and HR Head

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Tel: +91 22 6691 7000 | Fax: + 91 222 6691 7001
Corporate ID No.: L27020MH1958PLC011238

Communication to Employee, Workmen and Contactors