ADITYA BIRLA

HINDALCO

Letter No: AAP/E&S/EC/2022/ 799

Date: 25/05/2022

The Director
Eastern Regional Office
Ministry of Environment & Forests
A/3, Chandrashekharpur
Bhubaneswar – 750 023 (Odisha)

Sub: Submission of Six Monthly Compliance from October' 21 to March' 22.

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.

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 reports of aluminium smelter and captive power plant for the period October' 21 to March' 22.

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

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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 2021– March 2022

Name of the Project	:	M/s. 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(1), Dated 29th November 2012, EC amendment dated 14th June 2013,14th Aug 2018 & 20th July 2020. For 7,20,000 TPA ALUMINIUM SMELTER & 1650 MW CAPTIVE POWER PLANT.
Period of Compliance Report	:	October 2021 to March 2022

<table>
<tr><th>Sr. No.</th><th>Specific Conditions</th><th>Compliance</th></tr>
<tr><td>i)</td><td>The streams passing through the project site shall not be disturbed w.r.t their quantity and quality of flow</td><td>The streams passing through the project site is not being disturbed.</td></tr>
<tr><td>ii)</td><td>Alumina shall be obtained from those refineries, which have been accorded environmental clearance by the Ministry of Environment and Forests.</td><td>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.</td></tr>
<tr><td>iii)</td><td>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.</td><td>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' 21 to March' 22 in Anode baking Furnace stacks of stated below
<table>
<tr><td rowspan="2">Stack attached to</td><td colspan="3">PM Emission (mg/Nm3)</td></tr>
<tr><td>(Min)</td><td>(Max)</td><td>(Avg)</td></tr>
<tr><td>FTC # 1</td><td>7.9</td><td>13.4</td><td>11.70</td></tr>
<tr><td>FTC # 2</td><td>5.8</td><td>13.6</td><td>9.55</td></tr>
</table>
The monitoring report of Fume treatment Plant stacks is attached as Annexure-1.</td></tr>
</table>

<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’ 21 to March’ 22 is stated below:
<table>
<tr><th rowspan="2">Stack attached to</th><th colspan="3">Particulte Fluoride Emission (mg/Nm3)</th></tr>
<tr><th>(Min)</th><th>(Max)</th><th>(Avg)</th></tr>
<tr><td>GTC # 1</td><td>0.11</td><td>0.12</td><td>0.12</td></tr>
<tr><td>GTC # 2</td><td>0.09</td><td>0.14</td><td>0.11</td></tr>
</table>
The average fugitive particulate fluoride emission from pot rooms during October’ 21 to March’ 22 is 0.07 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 quarterly 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 concentartion of hydrogen fluoride(HF) varies between 0.066 mg/m3 to 0.413 mg/m3 and average is 0.242 mg/m3 during October’ 21 to March’ 22. The daily average emission report during these period is attached as Annexure-3.
Forage fluoride analysis around the smelter is being carriedout on quarterly basis and the concentration of the forage fluoride (analysed in March 2022) are listed below:</td>
</tr>
</table>

<table>
<tr><td></td><td></td><td>
<table>
<tr><th>Location</th><th>Species</th><th>Fluoride (in ppm)</th></tr>
<tr><td>Bomaloi</td><td>Oryza Sativa,
Murraya Koenigii</td><td>1.41</td></tr>
<tr><td>Gurupali</td><td>Aegle marmelos,
Cynodon dactylon</td><td>1.24</td></tr>
<tr><td>Plant Site</td><td>Dalbergia Sissoo,
Roxb Pongame oil tree</td><td>1.72</td></tr>
<tr><td>Thelkolai</td><td>Cynodon dactylon
Syzygium cumini</td><td>1.18</td></tr>
<tr><td>Gumukarma</td><td>Bambuso ideade
Cynodon dactylon</td><td>1.34</td></tr>
<tr><td>Ghichamura</td><td>Mimusops elengi</td><td>0.74</td></tr>
<tr><td>Tileimal</td><td>Aegle marmelos
Cynodon dactylon</td><td>0.82</td></tr>
<tr><td>Lapanga</td><td>Azadirachta Indica
Oryza Sativa</td><td>1.41</td></tr>
<tr><td>Jangala</td><td>Oryza Sativa,
Solanum Melongena</td><td>1.18</td></tr>
<tr><td>Bhadrapali</td><td>Cynodon dactylon,
Solanum lycopersicum</td><td>1.42</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 Ano de 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’ 21 to March’ 22 is stated below:
<table>
<tr><td rowspan="2">CPP Stack</td><td colspan="3">PM Emission (mg/Nm3)</td></tr>
<tr><td>(Min)</td><td>(Max)</td><td>(Avg)</td></tr>
<tr><td>CPP 1</td><td>40.8</td><td>43.6</td><td>42.08</td></tr>
<tr><td>CPP 2</td><td>41.4</td><td>44.7</td><td>43.72</td></tr>
<tr><td>CPP 3</td><td>38.5</td><td>43.4</td><td>40.92</td></tr>
<tr><td>CPP 4</td><td>38.8</td><td>44.2</td><td>42.48</td></tr>
</table>
</td></tr>
</table>

		<table><tr><td>CPP 5</td><td>40.9</td><td>43.1</td><td>42.08</td></tr><tr><td>CPP 6</td><td>43.2</td><td>45.8</td><td>44.22</td></tr></table>
viii)	Provision for installation of FGD shall be provided for future use.	Installation of semi-dry FGD in CPP unit-6 is under progress and is expected to be commissioned by Nov' 2022.
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) and Dry fog dust suppression (DFDS) system 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 is being utilized by means of supplying to M/s Ultratech Cements, Jharsuguda, M/s ACC, Bargarh and M/s OCL, Rajgangpur for cement manufacturing. Also we are supplying Ash to the brick manufactures, used in own fly ash brick units and utilizing for development of low lying areas with ash inside 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. The efforrts being made for achiving target ash utilization as stated below: ➢ Increase supply to Cement Plants like M/s Ultratech, Jharsuguda unit; M/s ACC, Bargarh Unit; M/s OCL, Rajgangpur Unit ➢ Use in own ash brick unit installed inside the plant & increased supply to the local brick manufacturing Units ➢ Low lying area development, ash dyke raising and road making inside and outside the plant premises ➢ A dedicated team is working to explore more areas of Ash utilization like Road making, Abandoned mines/quarry filling, infrastructure projects etc.

<table>
<tr><td></td><td></td><td>Fly ash dispatched thorugh BOXN Wagon in Rakes to various cement manufacturing units (Dalmia Cement, Shree Cement, Ultratech, ACC, Ambuja, Nuvoco vistas etc.) for cement manufacturing.This has resulted increase in ash utilization.

The status of ash utilization for the period from October’ 21 to March’ 22 is stated below:
<table>
<tr><th>October’ 21 to March’ 22</th><th>Quantity in MT</th></tr>
<tr><td>Total ash generated</td><td>780921.9</td></tr>
<tr><td>Total Ash Utilised</td><td>966057.7</td></tr>
<tr><td>Utilization (%)</td><td>123.71%</td></tr>
</table>
Details of the ash utilization from October’ 21 to March’ 22 is attached as Annexure- 4.</td></tr>
<tr><td>xii)</td><td>Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized ash 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 laying area.</td><td>Fly ash & bottom ash are collected in dry form and 3x2500 MT Fly ash silo and 1x3000 MT bottom ash silo have been installed. We are exploring maximum utilization of Ash and unutilized ash is being dischatged to the Ash pond through High Concentration Slurry Dsiposal (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 carriedout 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).</td></tr>
<tr><td>xiii)</td><td>Fluoride (as F) consumption shall be less than 10 kg/ton of Aluminium produced as specified by the CREP.</td><td>The specific fluoride (as F) consumption for the period October’ 21 to March’ 22 is 7.46 kg/ton of Aluminium produced.</td></tr>
<tr><td>xiv)</td><td>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</td><td>Anode butts generated from the pots is being cleaned and recycled completely for making green anode in green anode plant.

The Carbon part of SPL is being supplied to M/s Green Energy Limited, Sambalpur for reprocessing/detoxification and in this way the carbon part is completely recycled.

M/s Ramky Enviro Pvt. Ltd has established the facility for detoxification and disposal as per the</td></tr>
</table>

	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.	protocol given by CPCB in its CHW-TSDF at kanchichuhan, Dist- Jajpur site. M/s Ramky has started lifting the refractory part of SPL for the trial run, permission given by OSPCB. Around 13332.86 MT SPL Refractory part and 1740 MT Carbon part is in stock till end of Mar-2022 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users. We are awaiting permission for disposal of SPL in TSDF to M/S Ramky Enviro Pvt Ltd for regular lifting of SPL Refractory materials to their CHW-TSDF. Besides, we are also exploring the option of co-processing in cement plants for which we have applied for Consent to Establish(CTE) for SPL Crushing & Screening Unit at Aditya Aluminium. The crushed SPL will be supplied to authorized Cement Plants for co-processing 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 and the residue generated is sent to OSPCB authorized reprocessing for menufacture of Alum/synthetic slag. 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 the OSPCB authorized recycler M/s Green Energy Resources, Sambalpur. We have applied for Consent to Establish (CTE) for SPL Crushing & Screening Unit at Aditya Aluminium. The crushed SPL will be supplied to authorized Cement Plants for co-processing in cement kiln.
xvi)	Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such	The ash pond is provided with HDPE liner and adequate safety measures have been taken to

	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.	minimize the risk to the ash dyke. The ash disposal through HCSD system to the ash pond started from January 2017. The decanted water from the ash pond is being completely recycled and reused for ash disposal. The ash pond and water decantation system is constructed in line with the design & drawings provided by NIT-Rourkela. The assessment of safety, strength and stability of ash dyke has been checked by Dr. CR Patra of NIT Rourkela and at present condition it is found, the dyke is stable,safe and has sufficient material strength.
xvii)	Cycle of concentration (CoC) of 5.0 shall be adopted.	We are maintaing 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 carriedout 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.	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.

	Domestic effluent shall be treated in sewage treatment plant (STP) and treated domestic waste water will be 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 norms of the OSPCB/CPCB.	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 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 6,51,800 saplings planted till March 2022.
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 structures has been developed in the township buildings, beside 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 Enviornment policy has been revised and approved by the Board in 30 June 2020. 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	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).

	Regional Office at Bhubaneswar.	
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 Mar-2022 is Rs 61.35 Crores. The details of the expenditure made under Enterprise Social Commitment (ESC) till March 2022 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 & maintainance 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. The organizational structure of Corporate Sustainability cell is being revised and the modified one will be submitted after the formal structure is published by Hindalco Management.
	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 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 four (04) CAAQMStations completed and commissioned. Data connectivity established with the servers of OSPCB and CPCB. 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 progammes, 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	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.

	Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	
x)	A copy of the clearance letter shall be send by the proponent to concerned Panchayat, Zillaparishad/Municipality corporation, urban local boby 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.	Copy of the clearance letter has already been 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 electrocically 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, the respective Zonal Offices of CPCB and the SPCB. Before 1st June and 1st December every year. 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-mail.	The environmental statement for each financial year ending 31st March in Form-V is being submitted to the concerned authorities of SPCB and MoEF. Last environmental clearance report has been submitted vide our letter no. AA/E&S/EC/2021/743, dated 26.11.2021.

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 in operating 360 pots out of 360 pots in Smleter and 6 units (6x150 MW) in CPP.
Sr. No.	**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.	We have applied for Consent to Establish (CTE) for SPL Crushing & Screening Unit at Aditya Aluminium. The crushed SPL will be supplied to authorized Cement Plants for co-processing 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, M/s ACC, Bargarh and M/s OCL, Rajgangpur for cement manufacturing. Also we are supplying Ash to the brick manufactures, using in own fly ash brick unit and utilizing for development of low lying areas inside 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 ash utilization from October' 21 to March' 22. Fly ash dispatched thorugh BOXN Wagon in Rakes to various cement manufacturing units (Dalmia Cement, Shree Cement, Ultratech, ACC, Ambuja, Nuvoco vistas etc.) for cement manufacturing.This has resulted increase in ash

<table>
<tr><td></td><td></td><td>utilization.

The status of ash utilization for the period from October' 21 to March' 22 is stated below:
<table>
<tr><td>October'21 to March'22</td><td>Quantity in MT</td></tr>
<tr><td>Total ash generated</td><td>780921.9</td></tr>
<tr><td>Total Ash Utilised</td><td>966057.7</td></tr>
<tr><td>Utilization (%)</td><td>123.71%</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>Carbon part is being suppied to M/s Green Energy Resureces for detoxification and reuse as carbon fuel.
M/s Ramky has started lifting the refractory part of SPL for the trial run, permission given by OSPCB. Around 13332.86 MT SPL Refractory part and 1740 MT Carbon part is in stock till end of Mar-2022 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users.

We are in the process of exploring suitable technology for treatment and areas of utilization (co-processing in cement plants). we have applied for Consent to Establish (CTE) for SPL Crushing & Screening Unit at Aditya Aluminium. The crushed SPL will be supplied to authorized Cement Plants for co-processing in cement kiln.</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)

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-I(I), Dated 29/11/2012, amendment dated 14 June 2013, 14 Aug 2018 & 20 July 2020 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, Odisha6
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, Anacardium occidentale , 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 no's 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	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 etc	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	12'-14'	45.0 Ha	
2019-20		2*2	8'- 10'	82.96 Ha	
2020-21		2*2	5'-7'	80.94 Ha	
2021-22		2*2	3-4'	63.66 Ha	
Total				444.63 Ha	

c) Survival of Plantation:

Total Plantation (No.)	6,51,800
Survival (No.)	5,86,620
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	85,00000	126.00

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 : 80.81 Crores

5. Employment details

   a) Total employment to be provided : 61
   b) Employment given so far : 60

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
		08	368	18	394
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	22	14	36

7. Any other information : NIL

Sameer Nayak
(Authorised Signatory)

VCSPL/21/R-6146 20/10/2021

STACK EMISSION MONITORING REPORT FOR OCTOBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 13.10.2021
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 : 14.10.2021 TO 16.10.2021

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)	-	106.0
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)	-	116840.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	739.6
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	13.4
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	360.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	82.7
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.40
Total Fluoride as F	mg/Nm^3	Calculation	-	0.55
Fluoride Emission	Kg/T	Calculation	-	0.0015
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: BDL: Below Detection Limit.

For Visiontek Consultancy Services Pvt. Ltd.

VCSPL/21/R-6147 30/10/2021

STACK EMISSION MONITORING REPORT FOR OCTOBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 13.10.2021
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 : 14.10.2021 TO 16.10.2021

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)	-	108.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	11.8
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	67004.5
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.9
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	-	306.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	82.4
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.41
Total Fluoride as F	mg/Nm^3	Calculation	-	0.53
Fluoride Emission	Kg/T	Calculation	-	0.0009
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note:BDL- Below Detection Limit.

For Visiontek Consultancy Services Pvt. Ltd.

Ref : Envlab/21/R- 7721 **Date : 01.12.2021**

STACK EMISSION MONITORING REPORT FOR NOVEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 10.11.2021
3. Sampling Location : **ST-7: Stack attached to ABF-1 - FTC-1**
4. Name of sampling Instrument : Vayubodhan Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 11.11.2021 TO 13.11.2021

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 (RA 2008)	**-**	101.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	**-**	12.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	118272.5
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	740.7
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	12.0
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	**-**	356.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	**-**	73.7
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.13
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.39
Total Fluoride as F	mg/Nm^3	Calculation	-	0.52
Fluoride Emission	Kg/T	Calculation	**-**	0.0015
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: ND: Not Detected

Reviewed By

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 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 : Envlab/21/R- 7722 **Date : 01.12.2021**

STACK EMISSION MONITORING REPORT FOR NOVEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 10.11.2021
3. Sampling Location : **ST-8: Stack attached to ABF-2 - FTC-2**
4. Name of sampling Instrument : Vayubodhan Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 11.11.2021 TO 13.11.2021

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	^{0}C	IS 11255: Part 3 :1985 (RA 2008)	-	90.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	12.2
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	70550.4
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	740.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	9.8
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	-	318.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	71.6
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	-	0.0009
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: ND: Not Detected.

Reviewed By

Approved By

Ref : Envlab/21/R- 9382 **Date : 29.12.2021**

STACK EMISSION MONITORING REPORT FOR DECEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.12.2021
3. Sampling Location : **ST-7: Stack attached to ABF-1 - FTC-1**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 1
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysi : 16.12.2021 TO 18.12.2021

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 (RA 2008)	**-**	93.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	**-**	12.8
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	122018.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.3
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	9.4
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	**-**	373.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	**-**	75.7
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.40
Total Fluoride as F	mg/Nm^3	Calculation	-	0.52
Fluoride Emission	Kg/T	Calculation	**-**	0.0015
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: ND: Not Detected

Reviewed By

Approved By

Ref : Envlab/21/R- 9383 **Date : 29.12.2021**

STACK EMISSION MONITORING REPORT FOR DECEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.12.2021
3. Sampling Location : **ST-8: Stack attached to ABF-2 - FTC-2**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 1
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 16.12.2021 TO 18.12.2021

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	^{0}C	IS 11255: Part 3 :1985 (RA 2008)	-	88.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	11.9
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	69444.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	743.9
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	13.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	-	329.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	72.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	-	0.0008
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: ND: Not Detected.

Reviewed By

Approved By

Ref : Envlab/21/R-0711 Date :31.01.2022

STACK EMISSION MONITORING REPORT FOR JANUARY-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 19.01.2022
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 : 20.01.2022 TO 24.01.2022

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	^{0}C	IS 11255: Part 3 :1985 (Reaff 2008)	-	98.0
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)	-	121930.0
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**	18.8
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	377.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	74.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.13
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.41
Total Fluoride as F	mg/Nm^3	Calculation	-	0.54
Fluoride Emission	Kg/T	Calculation	-	0.0016
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	µg/Nm^3	Gas Chromatography	-	BDL

Note: BDL: Below Detection Limit.

Reviewed By *Approved By*

Ref : Envlab/21/R-0712 Date :31.01.2022

STACK EMISSION MONITORING REPORT FOR JANUARY-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 19.01.2022
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 : 20.01.2022 TO 24.01.2022

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	^{0}C	IS 11255: Part 3 :1985 (Reaff 2008)	-	76.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	11.6
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	69534.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	739.4
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	10.3
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	337.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	74.0
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.11
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.49
Fluoride Emission	Kg/T	Calculation	-	0.0008
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	µg/Nm^3	Gas Chromatography		BDL

Note:BDL: Below Detection Limit.

Reviewed By *Approved By*

Ref : Envlab/21/R- 1936 **Date : 28.02.2022**

STACK EMISSION MONITORING REPORT FOR FEBRUARY 2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.02.2022
3. Sampling Location : **ST-7: Stack attached to ABF-1 - FTC-1**
4. Name of sampling Instrument : Vayubodhan Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 16.02.2022 TO 18.02.2022

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 (RA 2008)	**-**	93.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	**-**	12.8
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	122305.7
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.3
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	7.9
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	**-**	369.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	**-**	77.5
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	**-**	0.0015
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: ND: Not Detected

Reviewed By

Approved By

Ref : Envlab/21/R- 1937 **Date : 28.02.2022**

STACK EMISSION MONITORING REPORT FOR FEBRUARY 2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.02.2022
3. Sampling Location : **ST-8: Stack attached to ABF-2 - FTC-2**
4. Name of sampling Instrument : Vayubodhan Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 16.02.2022 TO 18.02.2022

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	^{0}C	IS 11255: Part 3 :1985 (RA 2008)	-	92.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	12.1
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	69946.1
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	743.8
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	7.5
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	-	326.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	73.5
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	-	0.0008
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: ND: Not Detected.

Reviewed By

Approved By

Ref : Envlab/21/R-5307 **Date : 01.04.2022**

STACK EMISSION MONITORING REPORT FOR MARCH-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 14.03.2022
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 : 15.03.2022 TO 17.03.2022

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)	-	101.0
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)	-	121311.5
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	742.2
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	8.7
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	383.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	75.9
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	-	0.0014
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: BDL: Below Detection Limit.

Reviewed By *Approved By*

Ref : Envlab/21/R-5308 **Date : 01.04.2022**

STACK EMISSION MONITORING REPORT FOR MARCH-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 14.03.2022
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 : 15.03.2022 TO 17.03.2022

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	^{0}C	IS 11255: Part 3 :1985 (Reaff 2008)	-	94.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.0
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	68728.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	741.6
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	10.3
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	338.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	77.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	-	0.0008
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: BDL: Below Detection Limit.

Reviewed By *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

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- Waste Management Services

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

Ref. no - VCSPL/21/R-0148 30/10/2021

STACK EMISSION MONITORING REPORT FOR OCTOBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 20.10.2021
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 : 21.10.2021 TO 23.10.2021

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)	-	107.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2071671.2
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.8
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	3.0
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	81.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	52.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.44
Total Fluoride	mg/Nm^3	Calculation	-	0.56
Fluoride Emission	Kg/T	Calculation	-	0.056

For Visiontek Consultancy Services Pvt. Ltd.

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Ref. No - VCSPL/21/R-6149 Dt:-30/10/2021

STACK EMISSION MONITORING REPORT FOR OCTOBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 22.10.2021
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 : 23.10.2021 TO 25.10.2021

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)	-	102.0
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)	-	2055814.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	740.5
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.4
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	85.5
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	64.2
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.43
Total Fluoride	mg/Nm3	Calculation	-	0.57
Fluoride Emission	Kg/T	Calculation	-	0.056

For Visiontek Consultancy Services Pvt. Ltd.

Ref : Envlab/21/R- 7723 **Date : 01.12.2021**

STACK EMISSION MONITORING REPORT FOR NOVEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 11.11.2021
3. Sampling Location : **ST-9: Stack attached to GTC-1 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 12.11.2021 TO 13.11.2021

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	Permissible Limit	Results
				ST-9
Stack Temperature	^0C	IS 11255: Part 3 :1985 (RA 2008)	-	102.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.2
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1937513.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	739.3
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	2.3
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C:2017	-	84.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	53.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode Method	-	0.11
Gaseous Fluoride	mg/Nm^3	Ion Electrode Method	-	0.42
Total Fluoride	mg/Nm^3	Calculation	-	0.53
Fluoride Emission	Kg/T	Calculation	-	0.049

Reviewed By

Approved By

Ref : Envlab/21/R- 7724 **Date : 01.12.2021**

STACK EMISSION MONITORING REPORT FOR NOVEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 10.11.2021
3. Sampling Location : **ST-10: Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 11.11.2021 TO 13.11.2021

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	^{0}C	IS 11255: Part 3 :1985 (RA 2008)	**-**	105.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	**-**	8.0
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1866831.2
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	736.9
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	3.9
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	**-**	82.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	**-**	58.8
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	mg/Nm^3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	**-**	0.045

Reviewed By

Approved By

Ref : Envlab/21/R- 9384 **Date : 29.12.2021**

STACK EMISSION MONITORING REPORT FOR DECEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.12.2021
3. Sampling Location : **ST-9: Stack attached to GTC-1 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 1
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 16.12.2021 TO 18.12.2021

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	Permissible Limit	Results
				ST-9
Stack Temperature	^0C	IS 11255: Part 3 :1985 (RA 2008)	-	98.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.9
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2117175.9
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	739.3
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	2.9
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C:2017	-	82.3
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	51.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode Method	-	0.11
Gaseous Fluoride	mg/Nm^3	Ion Electrode Method	-	0.43
Total Fluoride	mg/Nm^3	Calculation	-	0.54
Fluoride Emission	Kg/T	Calculation	-	0.055

Reviewed By

Approved By

Ref : Envlab/21/R- 9385 **Date : 29.12.2021**

STACK EMISSION MONITORING REPORT FOR DECEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 17.12.2021
3. Sampling Location : **ST-10: Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 1
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 18.12.2021 TO 20.12.2021

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 (RA 2008)	**-**	91.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	**-**	8.1
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1991912.4
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	743.2
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	4.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	**-**	78.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	**-**	56.9
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	mg/Nm^3	Calculation	-	0.51
Fluoride Emission	Kg/T	Calculation	**-**	0.049

Reviewed By

Approved By

Ref : Envlab/21/R-0713 Date :31.01.2022

STACK EMISSION MONITORING REPORT FOR JANUARY-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 21.01.2022
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 : 22.01.2022 TO 24.01.2022

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)	-	8.4
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2018708.1
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	735.9
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	3.3
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	80.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	53.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
Total Fluoride	mg/Nm^3	Calculation	-	0.54
Fluoride Emission	Kg/T	Calculation	-	0.052

Reviewed By *Approved By*

Ref : Envlab/21/R-0714 Date :31.01.2022

STACK EMISSION MONITORING REPORT FOR JANUARY-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 19.01.2022
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 : 20.01.2022 TO 24.01.2022

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)	-	90.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.3
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	2039041.2
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	740.5
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	4.0
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	75.4
Oxides of Nitrogen as NOx	mg/Nm^3	EPA Method 7E	-	58.1
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
Total Fluoride	mg/Nm^3	Calculation	-	0.54
Fluoride Emission	Kg/T	Calculation	-	0.053

Reviewed By *Approved By*

Ref : Envlab/21/R- 1938 **Date : 28.02.2022**

STACK EMISSION MONITORING REPORT FOR FEBRUARY 2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 17.02.2022
3. Sampling Location : **ST-9: Stack attached to GTC-1 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 18.02.2022 TO 21.02.2022

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	Permissible Limit	Results
				ST-9
Stack Temperature	^0C	IS 11255: Part 3 :1985 (RA 2008)	-	97.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2075261.4
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	736.4
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	2.5
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C:2017	-	78.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	48.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode Method	-	0.11
Gaseous Fluoride	mg/Nm^3	Ion Electrode Method	-	0.42
Total Fluoride	mg/Nm^3	Calculation	-	0.53
Fluoride Emission	Kg/T	Calculation	-	0.053

Reviewed By

Approved By

Ref : Envlab/21/R- 1939 **Date : 28.02.2022**

STACK EMISSION MONITORING REPORT FOR FEBRUARY 2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 18.02.2022
3. Sampling Location : **ST-10: Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 19.02.2022 TO 21.02.2022

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 (RA 2008)	**-**	91.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	**-**	8.3
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2014175.7
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	738.8
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	2.1
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	**-**	76.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	**-**	55.3
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.10
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
Total Fluoride	mg/Nm^3	Calculation	-	0.52
Fluoride Emission	Kg/T	Calculation	**-**	0.050

Reviewed By

Approved By

Ref : Envlab/21/R-5309 **Date : 01.04.2022**

STACK EMISSION MONITORING REPORT FOR MARCH-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 14.03.2022
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 : 15.03.2022 TO 17.03.2022

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)	-	110.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.5
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1960329.8
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**	2.9
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	74.7
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	45.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.43
Total Fluoride	mg/Nm^3	Calculation	-	0.55
Fluoride Emission	Kg/T	Calculation	-	0.052

Ref : Envlab/21/R-5310 **Date : 01.04.2022**

STACK EMISSION MONITORING REPORT FOR MARCH-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.03.2022
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 : 16.03.2022 TO 18.03.2022

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	^{0}C	IS 11255: Part 3 :1985 (Reaff 2008)	-	111.0
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)	-	1981180.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	738.1
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	2.3
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	79.0
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	57.5
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.09
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.42
Total Fluoride	mg/Nm3	Calculation	-	0.51
Fluoride Emission	Kg/T	Calculation	-	0.048

Reviewed By

Approved By

Annexure-3

POTROOM ONLINE FUGITIVE MONITORING(HF) REPORT October '21 TO March'22

Oct-21		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 PPM
		01-10-21	02-10-21	03-10-21	04-10-21	05-10-21	06-10-21	07-10-21	08-10-21	09-10-21	10-10-21	11-10-21	12-10-21	13-10-21	14-10-21	15-10-21	16-10-21	17-10-21	18-10-21	19-10-21	20-10-21	21-10-21	22-10-21	23-10-21	24-10-21	25-10-21	26-10-21	27-10-21	28-10-21	29-10-21	30-10-21	31-10-21	
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.422	0.038	0.068	0.053	0.034	0.055	0.055	0.039	0.053	0.064	0.063	0.054	0.069	0.066	0.102	0.058	0.074	0.028	0.034	0.051	0.045	0.027	0.071	0.032	0.049	0.029	0.049	0.023	0.049	0.052	0.035	0.063
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.094	0.113	0.18	0.17	0.095	0.237	0.131	0.202	0.105	0.288	0.219	0.264	0.201	0.134	0.242	0.207	0.128	0.196	0.091	0.152	0.105	0.135	0.122	0.091	0.138	0.171	0.142	0.124	0.096	0.175	0.066	0.155
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.211	0.23	0.411	0.34	0.46	0.422	0.566	0.478	0.381	0.431	0.545	0.469	0.475	0.462	0.515	0.455	0.579	0.545	0.582	0.425	0.4	0.327	0.42	0.4	0.439	0.414	0.507	0.551	0.504	0.444	0.594	0.451
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.302	0.171	0.253	0.323	0.185	0.265	0.526	0.323	0.187	0.202	0.285	0.125	0.219	0.15	0.381	0.192	0.308	0.169	0.407	0.143	0.211	0.141	0.199	0.163	0.237	0.184	0.274	0.133	0.297	0.194	0.24	0.238
																														Monthly Average(ppm)			0.227
																														Monthly Average (mg/M3)			0.189

Nov-21		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 PPM
		01-11-21	02-11-21	03-11-21	04-11-21	05-11-21	06-11-21	07-11-21	08-11-21	09-11-21	10-11-21	11-11-21	12-11-21	13-11-21	14-11-21	15-11-21	16-11-21	17-11-21	18-11-21	19-11-21	20-11-21	21-11-21	22-11-21	23-11-21	24-11-21	25-11-21	26-11-21	27-11-21	28-11-21	29-11-21	30-11-21		
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.028	0.037	0.027	0.028	0.015	0.043	0.018	0.032	0.013	0.02	0.011	0.023	0.008	0.008	0.001	0.008	0.009	0.0134	0.008	0.031	0.026	0.057	0.068	0.085	0.046	0.077	0.03	0.055	0.007	0.027		0.029
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.168	0.138	0.201	0.12	0.087	0.074	0.011	0.108	0.011	0.071	0.13	0.095	0.091	0.094	0.111	0.096	0.191	0.094	0.158	0.122	0.188	0.114	0.193	0.177	0.186	0.136	0.102	0.097	0.096	0.032		0.116
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.497	0.524	0.483	0.046	0.414	0.37	0.185	0.219	0.221	0.213	0.305	0.486	0.404	0.555	0.355	0.438	0.501	0.408	0.347	0.465	0.483	0.538	0.403	0.509	0.321	0.375	0.268	0.315	0.169	0.209		0.368
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.187	0.254	0.182	0.24	0.137	0.178	0.138	0.125	0.096	0.129	0.237	0.407	0.147	0.13	0.034	0.209	0.235	0.25	0.249	0.286	0.292	0.412	0.181	0.291	0.211	0.204	0.161	0.158	0.11	0.134		0.200
																														Monthly Average(ppm)			0.178
																														Monthly Average (mg/M3)			0.148

Dec-21		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	Friday	Avg. in PPM
		01-12-21	02-12-21	03-12-21	04-12-21	05-12-21	06-12-21	07-12-21	08-12-21	09-12-21	10-12-21	11-12-21	12-12-21	13-12-21	14-12-21	15-12-21	16-12-21	17-12-21	18-12-21	19-12-21	20-12-21	21-12-21	22-12-21	23-12-21	24-12-21	25-12-21	26-12-21	27-12-21	28-12-21	29-12-21	30-12-21	31-12-21	
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.003	0.006	0.03	0.045	0.001	0.007	0.009	0.008	0.002	0.007	0.007	0.007	0.004	0.012	0.002	0.002	0.001	0.005	0.001	0.004	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.055	0.0004	0.002	0.007
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.079	0.076	0.144	0.117	0.057	0.085	0.165	0.08	0.08	0.056	0.059	0.059	0.067	0.06	0.05	0.019	0.042	0.024	0.042	0.021	0.036	0.015	0.029	0.025	0.033	0.047	0.056	0.046	0.037	0.022	0.144	0.060
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.188	0.219	0.285	0.414	0.312	0.495	0.409	0.391	0.143	0.139	0.134	0.173	0.098	0.129	0.049	0.04	0.059	0.065	0.059	0.032	0.052	0.041	0.037	0.115	0.072	0.139	0.086	0.157	0.002	0.088	0.333	0.160
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.121	0.142	0.17	0.142	0.001	0.202	0.167	0.239	0.116	0.074	0.147	0.087	0.042	0.052	0.084	0.039	0.059	0.036	0.059	0.002	0.006	0.014	0.04	0.054	0.059	0.065	0.085	0.043	0.003	0.0023	0.357	0.087
																														Monthly Average(ppm)			0.079
																														Monthly Average (mg/M3)			0.066

Jan-22		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	Monday	Avg. in PPM
		01-01-22	02-01-22	03-01-22	04-01-22	05-01-22	06-01-22	07-01-22	08-01-22	09-01-22	10-01-22	11-01-22	12-01-22	13-01-22	14-01-22	15-01-22	16-01-22	17-01-22	18-01-22	19-01-22	20-01-22	21-01-22	22-01-22	23-01-22	24-01-22	25-01-22	26-01-22	27-01-22	28-01-22	29-01-22	30-01-22	31-01-22	
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.008	0.001	0.001	0.001	0.002	0.028	0.074	0.078	0.139	0.368	0.121	0.534	0.359	0.431	0.444	0.525	0.334	0.391	0.308	0.439	0.378	0.371	0.429	0.439	0.647	0.411	0.318	0.0493	0.356	0.26	0.28	0.275
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.047	0.038	0.031	0.042	0.024	0.044	0.076	0.085	0.138	0.354	0.644	0.555	0.739	0.584	0.664	0.604	0.635	0.486	0.642	0.532	0.791	0.568	0.758	0.564	0.552	0.59	0.61	0.55	0.582	0.54	0.558	0.440
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.134	0.09	0.076	0.075	0.138	0.103	0.256	0.268	0.296	0.885	0.556	0.625	0.443	0.595	0.522	0.722	0.584	0.701	0.658	0.593	0.292	0.717	0.577	0.737	0.73	0.693	0.548	0.7537	0.473	0.595	0.533	0.483
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.243	0.162	0.217	0.156	0.208	0.203	0.473	0.204	0.415	0.396	0.392	0.306	0.567	0.486	0.625	0.321	0.46	0.253	0.399	0.292	0.611	0.393	0.625	0.387	0.379	0.366	0.564	0.3674	0.365	0.303	0.414	0.373
																														Monthly Average(ppm)			0.393
																														Monthly Average (mg/M3)			0.327

Feb-22		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				Avg. in PPM
		01-02-22	02-02-22	03-02-22	04-02-22	05-02-22	06-02-22	07-02-22	08-02-22	09-02-22	10-02-22	11-02-22	12-02-22	13-02-22	14-02-22	15-02-22	16-02-22	17-02-22	18-02-22	19-02-22	20-02-22	21-02-22	22-02-22	23-02-22	24-02-22	25-02-22	26-02-22	27-02-22	28-02-22				
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.421	0.275	0.387	0.365	0.448	0.312	0.301	0.252	0.287	0.282	0.512	0.321	0.449	0.216	0.362	0.255	0.314	0.298	0.376	0.409	0.377	0.274	0.345	0.285	0.351	0.24	0.341	0.321				0.335
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.563	0.632	0.522	0.739	0.616	0.687	0.558	0.709	0.621	0.686	0.619	0.696	0.549	0.623	0.637	0.771	0.623	0.632	0.597	0.831	0.597	0.678	0.653	0.688	0.589	0.689	0.652	0.603				0.645
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.635	0.544	0.659	0.478	0.666	0.523	0.601	0.433	0.671	0.541	0.656	0.544	0.815	0.621	0.744	0.684	0.696	0.53	0.839	0.757	0.839	0.73	0.751	0.554	0.684	0.418	0.741	0.676				0.644
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.308	0.312	0.313	0.605	0.448	0.377	0.305	0.379	0.304	0.438	0.396	0.469	0.259	0.296	0.334	0.415	0.583	0.415	0.311	0.438	0.311	0.384	0.277	0.283	0.301	0.302	0.185	0.344				0.360
																														Monthly Average(ppm)			0.496
																														Monthly Average (mg/M3)			0.413

Mar-22		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	Thursday	Avg. in PPM
		01-03-22	02-03-22	03-03-22	04-03-22	05-03-22	06-03-22	07-03-22	08-03-22	09-03-22	10-03-22	11-03-22	12-03-22	13-03-22	14-03-22	15-03-22	16-03-22	17-03-22	18-03-22	19-03-22	20-03-22	21-03-22	22-03-22	23-03-22	24-03-22	25-03-22	26-03-22	27-03-22	28-03-22	29-03-22	30-03-22	31-03-22	
FUGITIVE EMISSION CH#1 (B001-B090) HF	PPM	0.362	0.319	0.29	0.241	0.303	0.289	0.416	0.301	0.341	0.282	0.541	0.281	0.324	0.207	0.295	0.238	0.332	0.269	0.385	0.218	0.266	0.170	0.199	0.258	0.162	0.214	0.234	0.168	0.142	0.128	0.111	0.267
FUGITIVE EMISSION CH#2 (B091-B180) HF	PPM	0.641	0.743	0.584	0.651	0.607	0.692	0.486	0.759	0.616	0.748	0.666	0.686	0.63	0.596	0.517	0.497	0.479	0.524	0.423	0.308	0.437	0.449	0.522	0.348	0.4	0.285	0.315	0.379	0.379	0.349	0.325	0.517
FUGITIVE EMISSION CH#3 (A091-A180) HF	PPM	0.717	0.515	0.61	0.444	0.679	0.566	0.647	0.623	0.686	0.402	0.673	0.476	0.604	0.344	0.533	0.392	0.521	0.382	0.556	0.337	0.432	0.293	0.414	0.331	0.545	0.377	0.416	0.319	0.342	0.369	0.357	0.481
FUGITIVE EMISSION CH#4 (A001-A090) HF	PPM	0.091	0.162	0.122	0.215	0.153	0.169	0.154	0.198	0.08	0.191	0.069	0.152	0.097	0.195	0.275	0.319	0.328	0.291	0.403	0.371	0.279	0.335	0.233	0.306	0.341	0.319	0.209	0.293	0.296	0.225	0.257	0.230
																														Monthly Average(ppm)			0.374
																														Monthly Average (mg/M3)			0.311

ANNEXURE-4

NAME OF THE INDUSTRY:- ADITYA ALUMINIUM

STATUS OF UTILIZATION OF COAL ASH (FLY ASH AND BOTTOM ASH), From :- Oct-21 to Mar-2022

Sl. No.	Month	Year	Coal Consumption (MT)	Power Installed Capacity (MW)	Power Generated (MW)	Qunatity of Fly Ash generated (MT)	Quantity of Bottom Ash Generated (MT)	Total Ash Generated (MT)	Disposal Method	Brick Manufacturing (MT)	Supplied to cement industries (M/s UTCL, M/s ACC Ltd & M/s DBCL) in (MT)	Mine Void Filling (MT)	Utilization in Embankment/ Dyke Raising (MT)	Road Making (MT)	Low Lying area filling/land development (MT)	Aggregates (MT)	Agriculture/Horticulture Sector (MT)	Sent to Ash Pond through HCSD & stock in Ash Silo	Ash Utilized from Previous Stock in Ash Pond (MT)	Ash Utilized from Current Month generation (MT) (Col. 20=Sum of col. 10 to 17)	Total Ash Utilized (MT) (Col. 21=Col. 19+ Col.20)	% of ash Utilization (Col. 22=Col. 21/ Col.8*100)	Remarks
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Oct	2021	357327.54	900	641.34	135067	4925.00	139992.0	Dry ash is being supplied to Cement Plants, fly ash Brick units and in low lying area development and remaining ash is being send through HCSD system to ash pond.	5450.01	129141	0	0	0	4925.02	0	0	476.35	10033.65	139515.7	149549.3	106.83	**Total 10033.45 MT** pond ash supplied to Brick Plant(2242.20 MT) and Dalmia Cement (7791.45 MT),Rajganpur.
2	Nov	2021	332162.99	900	639.18	123588	5235.25	128823.0		3746.16	115218	0	0	0	5235.25	0	0	4624.07	18449.80	124198.9	142648.7	110.73	**Total 18449.80 MT** pond ash supplied to Brick Plant (7096.82 MT) and Dalmia Cement (11352.98 MT),Rajganpur.
3	Dec	2021	342668.65	900	638.95	129501	5737.01	135238		3918.35	129370	0	0	0	5737.09	0	0	-3787.22	20386.77	139025.1	159411.9	117.88	**Total 20386.77 MT** pond ash supplied to Brick Plant (8096.66 MT) and Dalmia Cement (12290.11 MT),Rajganpur.
4	Jan	2022	341624.82	900	638.30	126198	5821.89	132020		4694.67	123619	0	0	0	5821.89	0	0	-2115.71	41835.09	134135.7	175970.8	133.29	**Total 41835.09 MT** pond ash supplied to (Brick Plant 8216.36 MT),Dalmia Cement (14141.73 MT),Rajganpur and Road Making (19477 MT).
5	Feb	2022	301240.22	900	638.21	107647	6277.59	113925		3108.50	107310	0	0	0	6277.59	0	0	-2770.67	57284.18	116695.7	173979.9	152.71	**Total 57284.18 MT** pond ash supplied to (Brick Plant 4468.56 MT),Dalmia Cement (8565.62 MT),Rajganpur and Road Making (44250 MT).
6	Mar	2022	336907.7	900	638.75	124580	6343.69	130924		1397.84	123683	0	0	0	6343.69	0	0	-500.53	33072.56	131424.5	164497.1	125.64	**Total 33072.56 MT** pond ash supplied to (Brick Plant 464.37 MT),Dalmia Cement (18568.19 MT),Rajganpur and Road Making (14040 MT).
	Total		2011931.9			746581.5	34340.4	780921.9		22315.5	728339.6	0.0	0.0	0.0	34340.5	0.0	0.0	-4073.7	181062.1	784995.6	966057.7	123.71	

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- Waste Management Services

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

Ref: Envlab/21/R-3048 Date: 06/01/22

FLY ASH ANALYSIS REPORT-DECEMBER 2021

1. Name of Industry : **M/s Hindalco Industries Limited (Unit- Aditya Aluminium), Lapanga.**
2. Sampling Location : **FA-01:** CPP Fly Ash Silo
3. Date of Sampling : 20.12.2021
4. Date of Analysis : 21.12.2021 TO 27.12.2021
5. 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	%	0.21	mg/kg	2200
2	MgO	%	0.92	mg/kg	9100
3	Al_2O_3	%	21.2	mg/kg	216000
4	SiO_2	%	50.8	mg/kg	512000
5	P_2O_5	%	0.024	mg/kg	210
6	SO_3	%	2.1	mg/kg	24000
7	K_2O	%	0.82	mg/kg	8300
8	CaO	%	4.2	mg/kg	45000
9	TiO_2	%	--	mg/kg	---
10	MnO	%	0.21	mg/kg	2200
11	Fe_2O_3	%	9.2	mg/kg	94000
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	%	0.014	mg/kg	153
4	Chromium as Cr	%	< 0.002	mg/kg	< 0.002
5	Vanadium as V	%	<0.001	mg/kg	<0.001
6	Iron as Fe	%	5.2	mg/kg	54000
7	Cobalt as Co	%	<0.001	mg/kg	<0.001
8	Copper as Cu	%	0.059	mg/kg	620
9	Nickel as Ni	%	0.089	mg/kg	930
10	Zinc as Zn	%	0.051	mg/kg	524
11	Strontium as Sr	%	--	mg/kg	--
12	Barium as Ba	%	<0.001	mg/kg	<0.001

Visiontek Consultancy Services Pvt. Ltd. Prepared 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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- Agricultural Development
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- 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: Envlab/21/R-3049 Date: 05/01/22

BOTTOM ASH ANALYSIS REPORT-DECEMBER 2021

1. Name of Industry : **M/s Hindalco Industries Limited (Unit- Aditya Aluminium), Lapanga.**
2. Sampling Location : **BA-01:** CPP Bottom Ash Silo
3. Date of Sampling : 20.12.2021
4. Date of Analysis : 21.12.2021 TO 27.12.2021
5. Sample Collected By : VCSPL Representative in presence of Aditya Aluminium Representative.

Sl. No.	Parameters	Unit	Analysis Results BA-01	Unit	Analysis Results BA-01
Chemical Analysis					
1	Na_2O	%	0.28	mg/kg	2600
2	MgO	%	2.6	mg/kg	28000
3	Al_2O_3	%	28.1	mg/kg	268000
4	SiO_2	%	59.4	mg/kg	591000
5	P_2O_5	%	0.026	mg/kg	220
6	SO_3	%	1.21	mg/kg	118000
7	K_2O	%	0.96	mg/kg	9200
8	CaO	%	3.24	mg/kg	329000
9	TiO_2	%	--	mg/kg	--
10	MnO	%	0.29	mg/kg	3300
11	Fe_2O_3	%	6.8	mg/kg	70000
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	%	0.014	mg/kg	148
4	Chromium as Cr	%	< 0.002	mg/kg	< 0.002
5	Vanadium as V	%	<0.001	mg/kg	<0.001
6	Iron as Fe	%	6.8	mg/kg	69000
7	Cobalt as Co	%	<0.001	mg/kg	<0.001
8	Copper as Cu	%	0.026	mg/kg	220
9	Nickel as Ni	%	0.096	mg/kg	940
10	Zinc as Zn	%	0.068	mg/kg	660
11	Strontium as Sr	%	--	mg/kg	--
12	Barium as Ba	%	<0.001	mg/kg	<0.001

Visiontek Consultancy Services

Prepare by

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Verified 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/702
Date : 11.01.2022
Sample No. : MSKGL/ED/2020-21/12/02276
Sample Description : Ground Water
Sampling Location : Piezometric Borewell-1 (Near Ash Pond)
Date of Sampling : 22.12.2021

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	7.1
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	1.2
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	169.0
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	12.0
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	BDL(DL:0.2)
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.21
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	6.0
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 Rffm: 2014	1.4
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	13.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	80.0
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.	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	21.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	260.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	3.9
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	98.0

Report Prepared by:

MITRA S.K. PRIVATE LIMITED BBSR

Mitra S. K. Private Limited

Authorized Signatory

Mitra S. K. Private Limited

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[CIN: U51909WB1956PTC023037]

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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/703
Date : 11.01.2022
Sample No. : MSKGL/ED/2020-21/12/02277
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-2 (Near Proposed Ash Pond)
Date of Sampling : 22.12.2021

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	6.93
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	1.0
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	70.0
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	9.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	10.0
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	BDL(DL:0.2)
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	3.0
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 Rffm: 2014	4.6
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	BDL(DL:1.0)
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	34.0
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	4.4
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	110.0
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 Rffm: 2009	30.0

Report Prepared by:

MITRA S.K. PRIVATE LIMITED BBSR

Mitra S. K. Private Limited

Authorized Signatory

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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/704
Date : 11.01.2022
Sample No. : MSKGL/ED/2020-21/12/02278
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-3 (Near RR Colony)
Date of Sampling : 22.12.2021

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	7.3
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	1.1
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	350.0
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	62.0
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	BDL(DL:0.2)
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.15
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	6.0
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 Rffm: 2014	BDL(DL:0.4)
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	22.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	146.0
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	25.0
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	6.3
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	138.0

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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/705
Date : 11.01.2022
Sample No. : MSKGL/ED/2020-21/12/02279
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-4 (Bomaloi Village)
Date of Sampling : 22.12.2021

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	7.61
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	1.3
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	140.0
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	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	BDL(DL:0.2)
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.25
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 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 Rffm: 2014	BDL(DL:0.04)
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	30.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	82.0
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	9.1
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	230.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	2.3
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/902
Date : 11.04.2022
Sample No. : MSKGL/ED/2020-21/03/01351
Sample Description : Ground Water
Sampling Location : Piezometer Borewell-1 (Near Ash Pond)
Date of Sampling : 18.03.2022

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	7.04
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	162.0
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	22.4
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	0.28
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.21
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	6.8
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	0.7
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	6.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	84.0
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.	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	20.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	242.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	4.3
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	102.0

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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/903
Date : 11.04.2022
Sample No. : MSKGL/ED/2020-21/03/01352
Sample Description : Ground Water
Sampling Location : Piezometer Borewell-2 (Near Proposed Ash Pond)
Date of Sampling : 18.03.2022

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	6.98
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	44.0
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	8.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	10.0
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	BDL(DL:0.2)
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	3.2
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	4.6
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	BDL(DL:1.0)
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	32.0
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	69.0
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	24.0

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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/904
Date : 11.04.2022
Sample No. : MSKGL/ED/2020-21/03/01353
Sample Description : Ground Water
Sampling Location : Piezometer Borewell-3 (Near RR Colony)
Date of Sampling : 18.03.2022

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	7.05
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	356.0
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	45.4
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	55.0
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	0.22
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	7.1
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	BDL(DL:0.4)
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	28.0
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	33.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	520.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	5.7
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	122.0

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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/905
Date : 11.04.2022
Sample No. : MSKGL/ED/2020-21/03/01354
Sample Description : Ground Water
Sampling Location : Piezometer Borewell-4 (Bomaloi Village)
Date of Sampling : 18.03.2022

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	7.27
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	163.0
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	24.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	32.7
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	0.28
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	6.8
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	BDL(DL:0.04)
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	29.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	88.0
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	34.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	263.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	5.2
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 Rffm: 2009	58.0

Report Prepared by:

Mitra S. K. Private Limited
Authorized Signatory

Annexure-07

Compliance Status from October 21 to March 22

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 21 to March 22 is 0.13 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 ’21 to March ’22 is 7.46 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 Aluminium fluoride should be explored.	The Carbon part of SPL is being supplied to M/s Green Energy Limited, Sambalpur for reprocessing/detoxification and in this way the carbon part is completely recycled. M/s Ramky Enviro Pvt. Ltd has established the facility for detoxification and disposal as per the protocol given by CPCB in its CHW-TSDF at kanchichuhan, Dist- Jajpur site. M/s Ramky has started lifting the refractory part of SPL for the trial run, permission given by OSPCB. Around 13333 MT SPL Refractory part and 1740 MT Carbon part is in stock till end of March - 2022 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users. We are awaiting permission for disposal of SPL in TSDF to M/S Ramky Enviro Pvt Ltd for regular lifting of SPL Refractory materials to their CHW-TSDF. Besides, we are also exploring
6	The SPL should be disposed in secured landfill.	

		the option of co-processing in cement plants for which, we have applied for Consent to Establish (CTE) for SPL Crushing & Screening Unit at Aditya Aluminium. The crushed SPL will be supplied to authorized Cement Plants for co-processing 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 21 to March 22

		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 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-circulation system depending upon site specific environmental situation.	Complied

Annexure-07

Compliance Status from October 21 to March 22

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

ADITYA BIRLA
HINDALCO

HINDALCO MANAGEMENT FRAMEWORK
excellence by design

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.

SATISH PAI
MANAGING DIRECTOR

Date : 30 June 2020

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 ITI studies in Polytechnic Rengali. Students are trained 2 year ITI course. Vocational training like Beautician, Mobile repairing, Micro irrigation and Tailoring has been instituted last months.
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 6,51,800 saplings inside the factory premises till March 2022. Also, the industry has started plantation in the vacant spaces of the surrounding R.R. Colony and have distributed 13500 nos of saplings to the villagers in the plant surrounding villages.
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. Solar Street light installed in 6 villages, New Road construction, Pond Excavation, School Boundary wall, High school 5T transformation, Boundary wall construct for schools and Guard wall for Dhorropani Katta and Playground development.
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 RWSS, BDO and Sarpanch of every Gram Panchayats in peak summer.
7	The industry should make necessary arrangement to provide round the clock	The industry has been very actively contributing the greater causes of Health Opened up Eye

	doctors for better medical service in the Lapanga area.	Healthcare Unit at Rengali, COVID restoration and awareness program at all villages. Conducted Pulse Polio facilitation in coordination with CHC Laida for children, Adolescent healthcare and Nutrition programs conducted in the villages. First Aid centre has facility to local areas for free treatment by reputed doctors is on. Provided free treatment facility to more than 1245 no's of local people with free treatment, medicine and consultation.
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 to meets the 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 such as Spice units, Oil Processing units and paper cup making units, Vegetable farming, Phenol making, Hand wash making, Duckery, Egg Production, Tailoring, avenue Plantation & various social/health awareness programs, saving programs, to the 200 no's of SHGs comprising of 2125 no's of women and 7 Farmers Group adopted by Industry. CSR has mobilised 91 Lakh for SHG entrepreneurship program.
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 festival to the villagers. We have already constructed four football ground at Bomaloi. We conduct football tournaments at different villages every year as a part of promotion of Rural sports. The football grounds are maintained every year by industry.
11	The industry should provide community toilets at the surrounding affected villages. Special care to be taken for physical handicapped persons in the affected areas	We have already provided Toilets to each house in village Pitapali & community toilets in village Bomaloi & Tileimal. Physically challenged people are continuously supported by the company. Gayatri Sahu one blind graduate working with CSR team since two years and all programs are conducted regarding physically challenged persons have been conducted in Block level every year.

Annexure - 10

Expense incurred under Enterprise Social Commitment till Mar- 2022:

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	CSR expenses in & around Aditya Aluminium including Hirakud areas in FY17	7.61	
5	Sponsorship for Asian Athletic Championship 2017	0.50	
6	CSR expenses in & around Aditya Aluminium including Hirakud areas during April 18 to March 19	4.65	
7	CSR expenses in & around Aditya Aluminium including Hirakud areas during April 2019 to March 2020	0.62	
8	CSR expenses in & around Aditya Aluminium including Hirakud areas during April 2020 to Mar 2021	5.31	
9	CSR expenses in & around Aditya Aluminium including Hirakud areas during April 2021 to Mar 2022	8.81	
Total Expense		61.35	

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.

CSR Presentation

FY 2021-22

Aditya Aluminium Lapanga

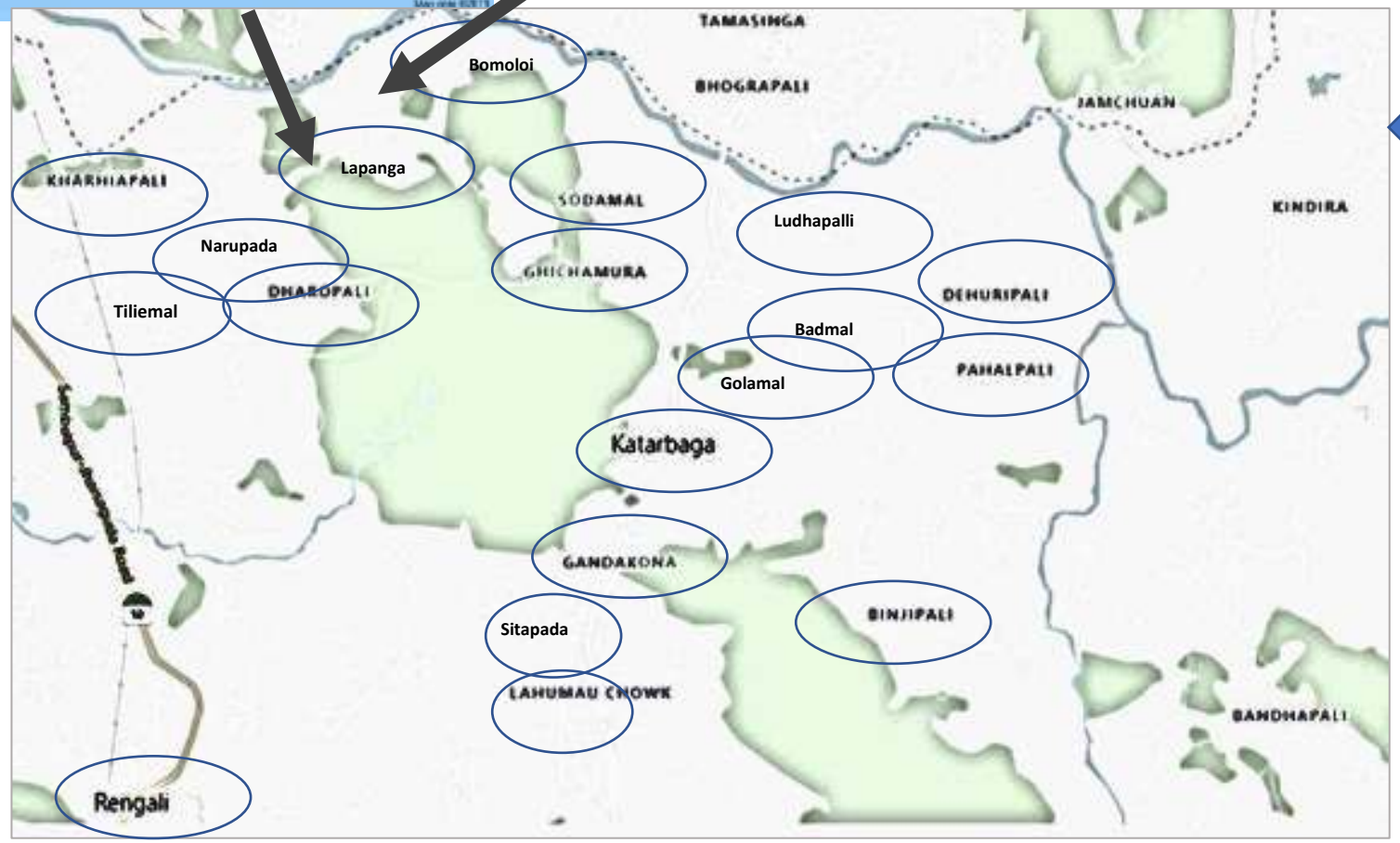
CSR VISION

"To actively contribute to the social and economic development of the underserved communities, lifting the burden of poverty, and helping bring in inclusive growth in sink with the UN Sustainable Development Goals. In so doing, build a better, sustainable way of life for the weaker sections of society and raise the country's Human Development Index".

Mrs. Rajashree Birla

Our Presence

Block : Rengāli
Geographical Location: Sambalpur, Orissa, India, Asia
Geographical Coordinates: 21° 38' 0" North, 84° 3' 0" East



Rengali Block	
No. of GPs	15
No. of Villages	69
Population	25000
No. of Core GPs	6
No. of Core Villages	12
Population of Core Villages	4800
No. of periphery villages	25
Population of Periphery villages	10000

OUR FOCUS AREAS ALIGNED TO SDGS

EDUCATION

ALIGNED WITH SDG 4

HEALTH AND SANITATION

ALIGNED WITH SDG 3 & 6

SUSTAINABLE LIVELIHOOD

ALIGNED WITH SDG 1, 2, 7 & 8

INFRASTRUCTURE DEVELOPMENT

ALIGNED WITH SDG 9

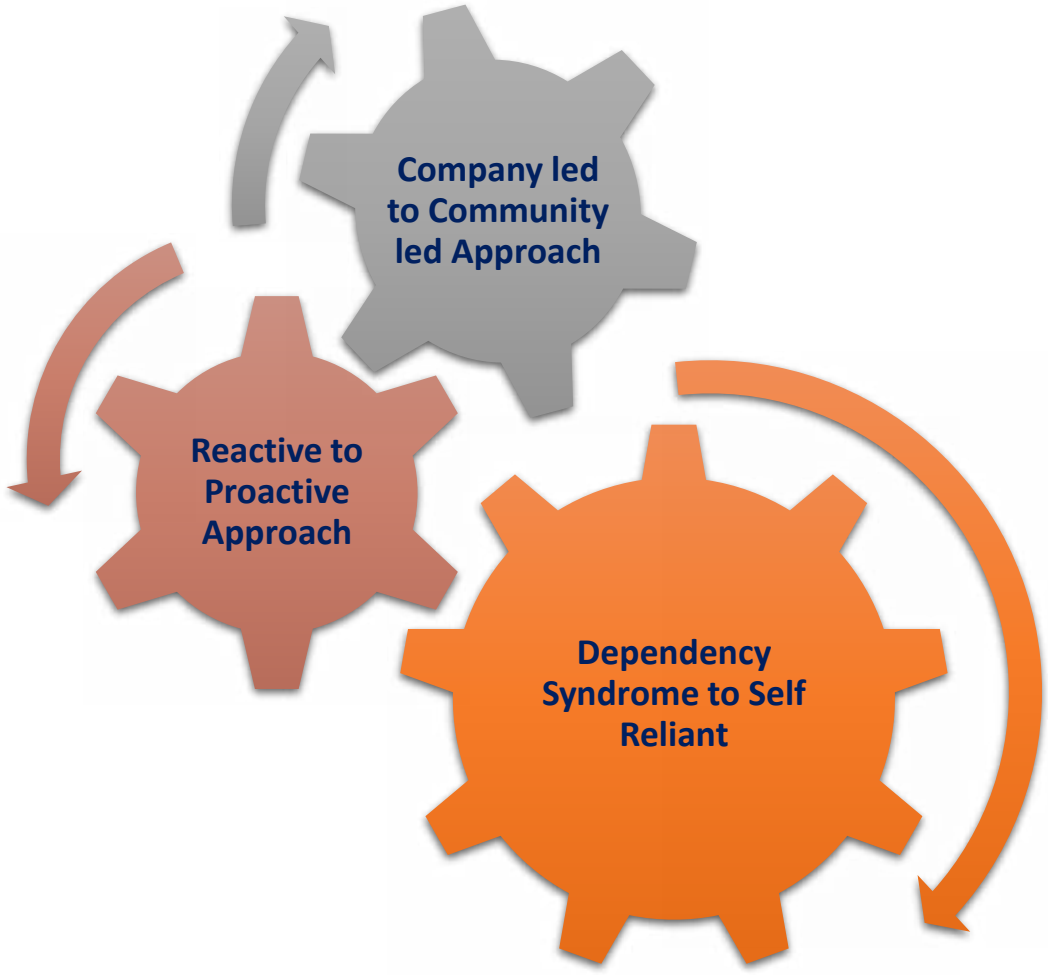
SOCIAL ISSUES

ALIGNED WITH SDG 5 & 10

We comply to CSR Guideline of Companies Act 2013 Schedule VII Section 135

OUR STRATEGY

Our 360◦ Approach



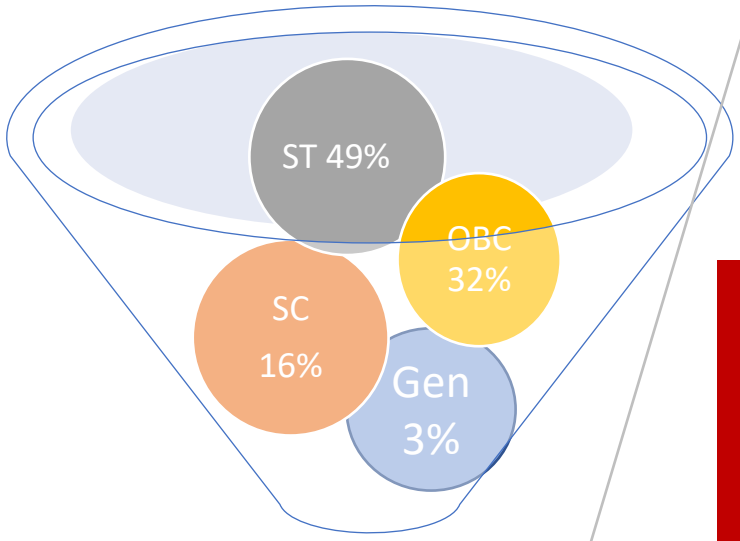
ADITYA BASELINE SURVEY

Conducted by Sattva Media & Consultancy Pvt Ltd, Hyderabad in 2021 -22

3000 samples

Coverage 39 Villages

Methodology
Interview
FGD
Desk Research



Demography

FINDINGS

- Need for better infrastructure and adequate teacher staff to enhance quality learning at school
- 35% children do not go to school with high drop out in higher education. There is lack of good teachers and infrastructure
- Need for economic support for girl child's education to increase enrolment of girls at school
- 39% population is aware of Health Schemes and 85% seek information from AWW and ASHA. 98% have easy access to ASHA Worker.
- 83% of population do not have easy access to diagnostic services and 65% aspire to have access to hospital nearby
- Need to improve infrastructure of existing healthcare system to enhance the quality of healthcare services
- 72% workforce is dependent on non-skilled labor due to unavailability of vocational training facility
- 100% artisan perceive that the market linkage is not at par with the products
- 72% Perceive that green cover has decreased over 10 years
- 63% use unsafe water for drinking , 50% are unaware of the water borne diseases, 40% defecate in Open

RECOMMENDATIONS

- Need for better infrastructure, teacher to enhance quality learning
- Need for economic support for girl child's education to increase enrolment of girls
- Need to improve infrastructure of existing healthcare system
- Enhance accessibility of CHCs & PHCs & healthcare technologies and create awareness on Government health schemes
- Need to enhance water availability through proper management of nearby sources
- Activate SHGs and Operationalize FPO to facilitate better Livelihood Opportunities
- Need for skill training Centre to enhance employability.
- Improve agriculture by enhancing irrigation
- Need for better waste management and disposal of same

VISION CENTRE : ADITYA : FY 2020 - 2023

State of the Art One Stop Digitalized Solution for Eye Care

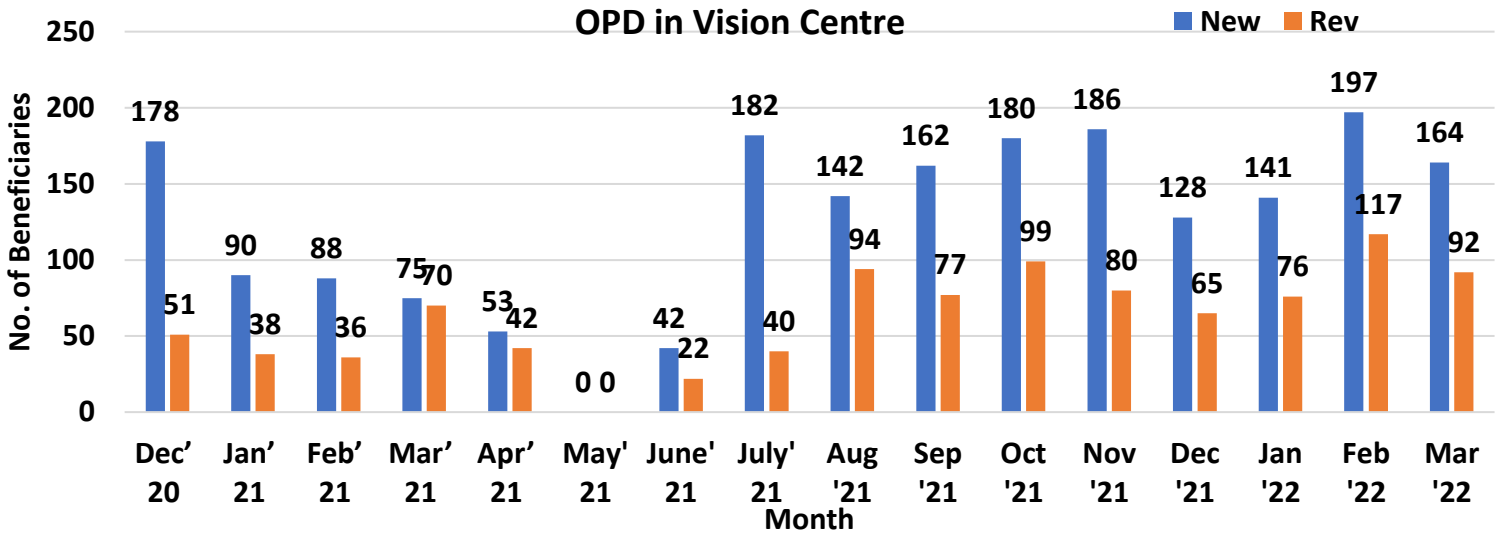
Vision Foundation Sambalpur

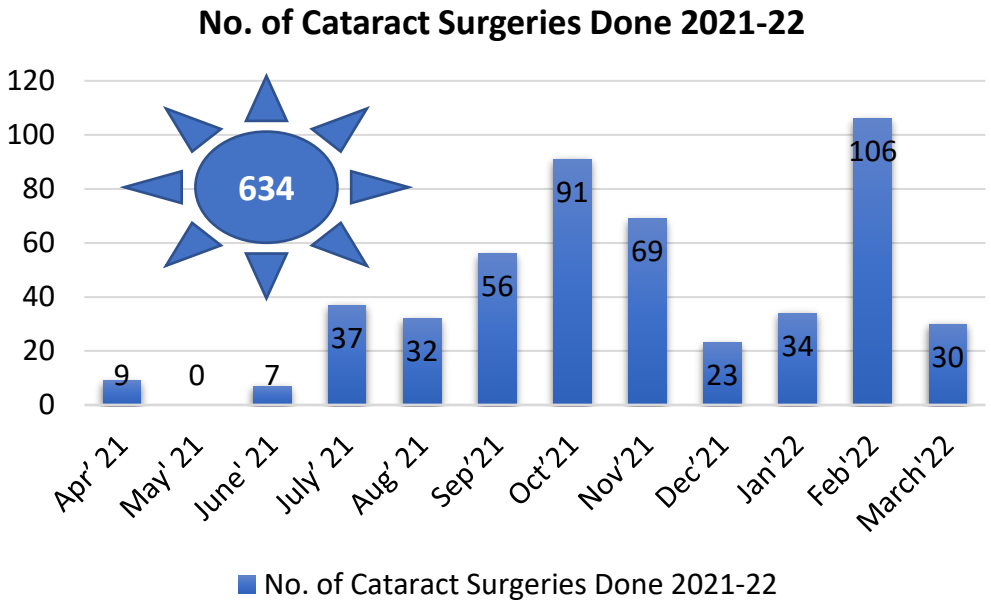
Project Cost
Aditya INR 39 Lakhs
Govt. INR 12.68 Lakhs annually
Beneficiaries INR 2.56 Lakhs

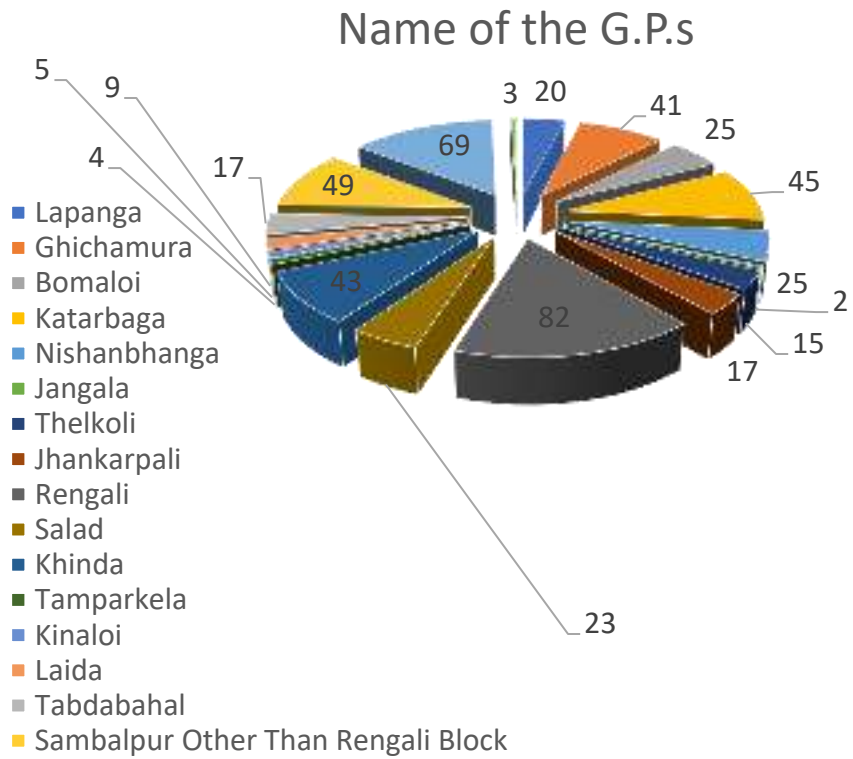
HIGHLIGHTS

- First Hub & Spoke Model
- Sustainable, Revenue Generation Model
- So far 634 Free Cataract Surgeries, 15 Glaucoma Cases
- 2381 beneficiaries, 356 spectacles provided

VISION CENTRE Aditya's Eye Healthcare Initiative







SOME GLIMPSES OF PROJECT VISION CENTRE

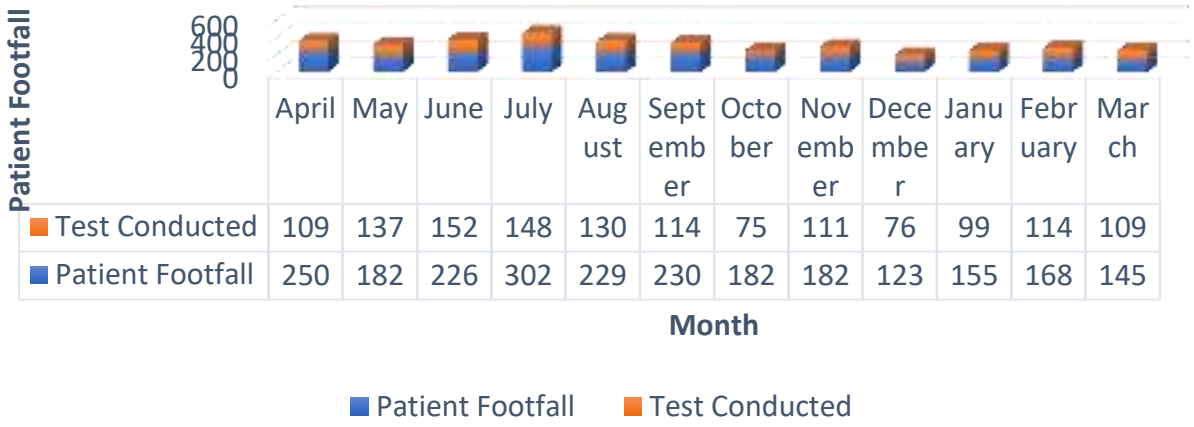
A Bi partite MoU signed for 3 years

Fully computerized IT enabled Eyecare facility

Free Cataract Surgeries

Community Awareness

FAC FY 2021-22



	April	May	June	July	August	September	October	November	December	January	February	March
Test Conducted	109	137	152	148	130	114	75	111	76	99	114	109
Patient Footfall	250	182	226	302	229	230	182	182	123	155	168	145

JAL VAHINI

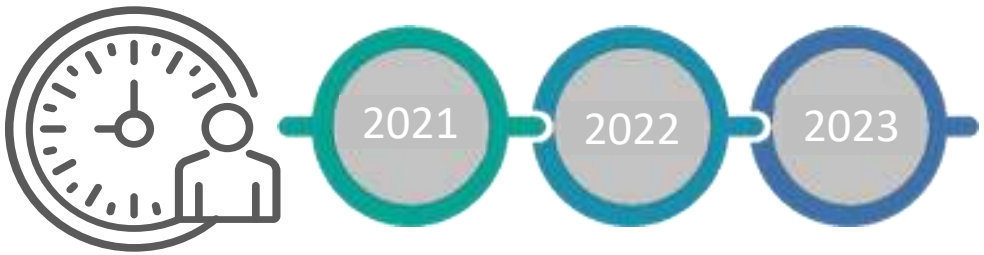
WATER SUPPLY STATISTICS	
GP	6
VILLAGE/HAMET	16/76
TOTAL VENDORS ENGAGED	25
NO OF TRIP PER DAY	67
TOTAL HHs	2500
TOTAL BENEFICIARIES	15000

Monitoring & Feedback

ADITYA BIRLA
HINDALCO

What's App Real Time Monitoring

PROJECT SUPOSHAN: **Eating Right**



IMPACT 4 NUTRITION
NRC Sambalpur

ADITYA BIRLA
HINDALCO

Awareness Camps

- Behavioral Change Communication
- Awareness on Healthy lifestyle – diet exercise yoga, breastfeeding
- Healthy cooking Demonstration
- Distribution of IEC material

Health Camp

- Anemia Check up
- Anti-natal post natal check up
- General check up
- Adolescent Health Care Camps

Supplementary Nutrition

- Nutrition kit
- Iron Folic Vitamin Tablets
- Deworming
- Mo Bagicha

Institutional Involvement

AWC
ANM
ASHA
NRC
Wats app communication

PROJECT SUPOSHAN: **Eating Right**

- ✓ **Baseline Data Collection Completed**
- ✓ **4 Adolescent Health Camps**
- ✓ **Events- Breast Feeding Week, Nutrition week, World Food Day**
- ✓ **NRC Visit and collaboration**
- ✓ **Behavioral Change Communication Camps**

Nutrition Week: Eating Smart Right From Start

- Launch of Suposhan Officially on 6th September '21
- Aim to Reduce Anemia and Malnutrition in Children , Adoloscent Girls, Women in all age groups, Lactating mothers and Pregnant Women.
- Working closely with 21 anganwadi Children in Red Zone. Attended by Doctors, ASHA Worker, Lady Supervisor ICDS, Director Mission Shakti
- Felicitated Anganwadi Worker ASHA ANM with Sapling to promote Nuti Garden
- Nutrition Food demonstration, Healthy Baby Show
- Celebrated in all 6 GPs and main event in Jangala GP

Iron Deficiency Awareness Day

- Observed on 26th November at Dhorchuan village in Bomoloi Gram
- Highlights: Nutrition table food exhibition, awareness speech, Suposhan bagicha discussion and way forward. Iron tablets and green leafy vegetables along with balanced diet is important, easy and economical way of increasing hemoglobin level.
- awareness and sensitize the stakeholders on the issues like Anemia, Breastfeeding, Balanced Diet, Adolescent Health etc.

World Food Day : *Our Actions are our future, Better production, better nutrition, better environment and a better life".*

- Organized on 21st October 2021 at Chandamal village of Jangala GP.
- 165 no of SHG members, villagers, Youths and children
- Nutrious Food prepared by the SHG members and demonstrated. Drawing competition also organized among children and prize also distributed

World Breast Feeding Week

- Organized at 6 villages quiz contest, interactive session Q&A and audio-visual presentation disseminating message on Breastfeeding.
- Resource Person : Doctors from Aditya, ASHA did, ANM didi, Ananwadi didi in each GP/ village
- The malnourished children, anemic girls and women are most vulnerable group of our intervention villages were identified
- 75 nutrition kit has been given to the participants.

- Malaria Dengue Diahorrea Awareness Program
- Fire Safety Awareness in Pondoloi RR
- Health Check up Camp in Pondoloi and Ludhapalli RR
- Tuberculosis Awareness Camp at Pondoloi
- 2 Blood Donation Camps
- World AIDS DAY observed under Project ELM. Awareness Camp organized at Gumkarma village. More than 30 women participated in the camp. Pamphlet, Condoms etc., distributed through HLFPPT, our ELM Partner
- International Day for People with Disability PROJECT SAMARTHA Observed at Block Office. Games organized and children participation

GLOBAL HAND WASHING DAY

Launch of Project Samadhaan , Installation of Sanitary napkin incinerators for safe disposal of sanitary waste and awareness on menstrual hygiene

Swachta Mah Launch on Gandji Jayanti

- Awareness Session organized for students
- Dustbins distributed to schools, Panchayts and Temple
- Cleaning and Sanitation done in villages
- The program was launched at Lapanga High School in presence of school Children.
- During the program more than 120 participants attended

- Global Hand Washing Day observed in Ludhapalli with 65 kids, adolescent girls and SHG members
- The day is an annual global advocacy day dedicated to advocating for hand washing with soap as an easy, effective, and affordable way to prevent diseases and save lives.

PROJECT SAKSHAM

Project Saksham - Empowering Women

Objective

- To adopt Self Help Group (SHGs)
- To facilitate loan linkage for income generation activities (IGA)
- To ensure capacity building for book keeping and financial literacy
- To provide training for IGA
- To facilitate backward forward linkage
- To create awareness on Government Schemes
- To develop into a self sustaining institution

Coverage

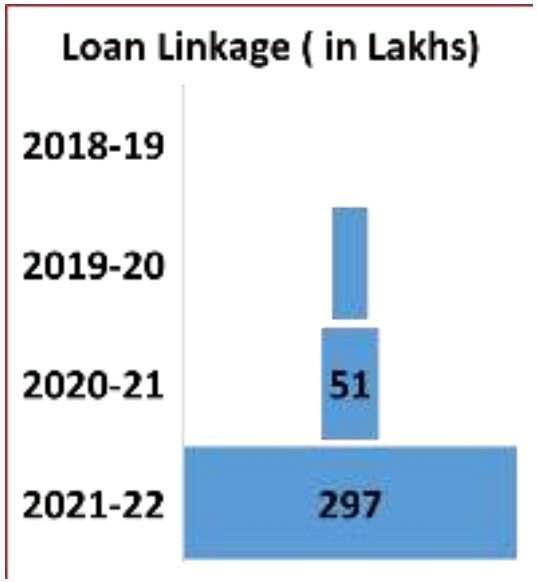
- 24 villages

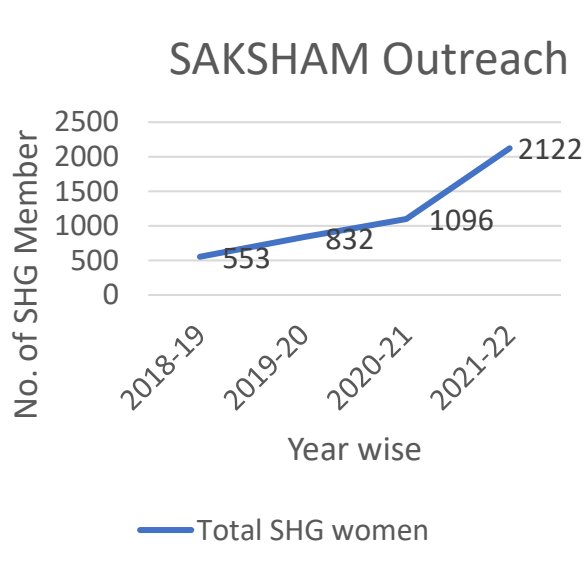
Stakeholders

- Women
- Government – CDPO,OLM, DIC, RIC, DRDA, ORMAS
- PRI – Sarpanch, Samiti Member

To socially & economically empower 80% of SHG women to have sustainable income with dignity.

Project Cost	Income Generation Activities	Capacity Building & IGA Training	Financial Inclusion	Fund Mobilization
• 10 Lakhs pa	• 50 SHGs • 600 Women • 20 IGA • SHG income ↑₹5000/- to ₹10000/- pm	• 2 CBT • 12 IGA Training	• 100% bank linkage • 80% Loan Linkage	• Govt: INR 2.97 CR • SHG Contribution – INR 150K • Donated 51 K





GLIMPSES OF PROJECT SAKSHAM

SHG Members received Register

Spice Unit Naikpada

SHG Workshop

Women Exposure Visit to SAHI Export Training Centre Kuchinda

SHG Members Capacity Building Training

SAMRIDHI : Promising Prosperity
Horticulture & Agriculture Activities

Objective

- To create awareness on Best Agriculture Practices
- To facilitate technical know-how on agriculture
- To promote organic farming
- To enhance per capita agri-income
- To create awareness on Government Schemes

Stakeholders

- Farmers- Men &Women
- Government – Agriculture , Irrigation, Crop Insurance, OLM, Horticulture, Veterinary
- PRI – Sarpanch, Samiti Member

Envisaged Impact

- Increase in productivity by 10%
- Increase in income by 25%
- Less usage of fertilizer by 50%
- 10% increase in access to Government Schemes

Aim

Livelihood enhancement through cash crop like Oilseeds, fruits and vegetable cultivation under Agriculture and Horticulture

Strategy:

- Farmer Institution Building (Producer Company, Farmer's Club)
- Capacity Building of farmers
- Support Backward and forward linkages

Journey So far:

- 525 farmers reached
- 12 farmers clubs formed
- 10 acres of vegetable cultivation
- 0.75 acres Sweetcorn
- 2.30 acres of Mango Orchard plantation
- Water Positivity 352 acres irrigated 178 farmers benefitted

Project Cost and earnings:

Aditya spending in FY 2021-22: Rs. 89.55 lacs

Income per farmer:

Samriddhi: Rs. 11602/-

Details of VDC/ FC & Agriculture input details									
No of VDC/ FC formed	No of village	No of Members	No of VDC Account	No of farmers in concerned villages	No of Farmers in Paddy cultivation	No of Farmers engaged in Vegetable Cultivation	Support of Agriculture inputs	No of Exposure visit	No of Participant
12	10	525	7	2355	1965	497	497	3	77

PROJECT SAMRIDHI: Promising Prosperity

Commercial Vegetable Cultivation by Farmers

Awareness on Organic farming and Vermi Compost at Phulchanger

Sensitisation Program for Farmers on Crop Insurance Scheme

PROJECT SWAWLAMBH

Project Swawlambh - Skilling Youths

Objective

- To facilitate Skilling opportunity to the youths from underprivileged community
- Engagement / Employment/Enterprise/ Livelihood opportunity to trained youths
- To facilitate backward forward linkage with skill centres for setting up enterprises
- To create awareness on Government Schemes
- To develop into a confident employable/enterprising youth

Target

- To train 1000 youths

Stakeholders

- Women & Men in age group 18 years to 35 years
- Government – CDPO,OLM, DIC, RIC, DRDA, ORMAS
- PRI – Sarpanch, Samiti Member

Impact

- Gradual improvement in family income
- Improved affordability and quality of life
- Long term impact on socio –economic status of each family

Partners

- SBISRET
- Inguz Beauty Parlour
- Trilochan Netralaya
- Aditya Birla Skill Centre

Trained & Placed

- Counselled 266
- 64 trained
- 40 placed / engaged
- Earning INR 5K – 8K pm
- Received 3000/- each for training as stipend. 11 of them bought own sewing machine.

Fund Mobilization

- INR 5 Lakhs
- Beneficiaries Contribution – INR 60K

Cost

- INR 20 Lakhs for 3 years

GLIMPSES OF PROJECT SWAWLAMBH

PROJECT MO SCHOOL ABHIYAN

A Government of **Odisha** Initiative under **School** & Mass Education Department

- **Objective** — revamping school education by promoting volunteerism and collaboration through an innovative citizen-government partnership
- **Coverage** — Support to 80 High Schools under 5T in Odisha (Sambalpur Cluster
- **Investment** — INR 300 Lakhs
- **Fund Leverage** — 600 Lakhs (Govt contribution 1:2)
- **SDGs 4** — Quality Education
- **Outcome** — Plugged in infrastructure gaps in 80 High Schools

  Schools equipped with smart class, e-library, Computer lab, garden, Washrooms, Drinking water

  Increase in Student Attendance and improved performance






S No	Infrastructure Work	Contractor
1	Construction of Bitumen road at Khadiapali	Tikesh Behera
2	Construction of Bitumen road at Lapanga	Tikesh Behera
3	Construction of Bendujhore Nalla	Satyanarayan Agarwal
4	Renovation of Golamal pond	Rajendra Behera
5	Renovation Orampada pond	ABPP
6	Excavation of Orampada (Gichamura) pond	Mishra Enterprise
7	Renovation of Narupada Pond	Veer Surendra sai Condtruction
8	Construction of Katarbaga Temple road	Chinta Bag
9	Excavation of 2 Nos Ponds at Bomaloi G.P	ABBP Ent

S No	Infrastructure Work RR	Contractor
1	Renovation of RR colony Ludhapali pond	Jaya Oram
2	Excavation of RR colony Pandloi ponds	Sanjit kisan
3	Construction of Bitumen road and Drain construction at RR colony Pandloi	Manish Agrawal
4	Community centre tiling Work in Pondoloi	Sumanta Bargati
5	Roof Reparing at RR colony Pandloi	Vivek Agarwal
6	Construction of temple at RR colony	Bhagaban Kishan
7	Construction of Bitumen road at RR colony Ludhapali	Chinta Bag
8	Construction of Temple at RR colony Ludhapali	Chinta Bag

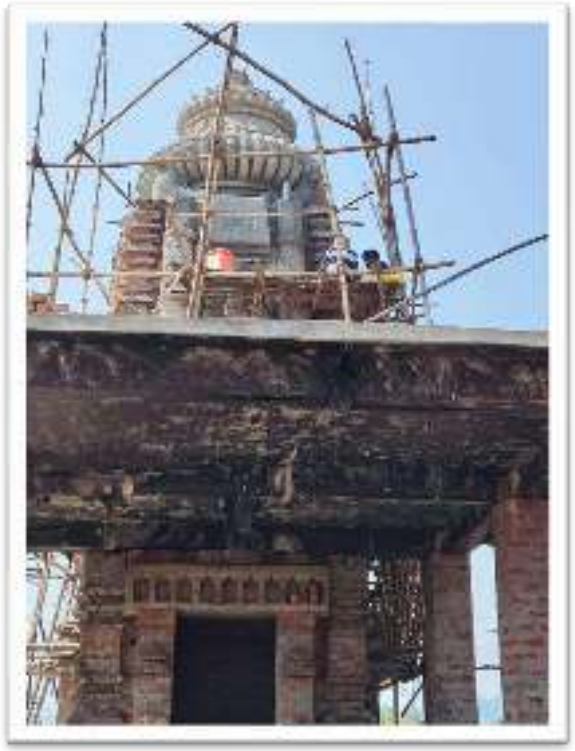
ADITYA BIRLA

Temple – Ludhapalli

Temple – Pondoloi

Road in in Pondoloi and Ludhapali

Training centre – Ludhapalli



Community Centre Inauguration After Renovation Pondoloi

Football Tournament- Ludhapalli

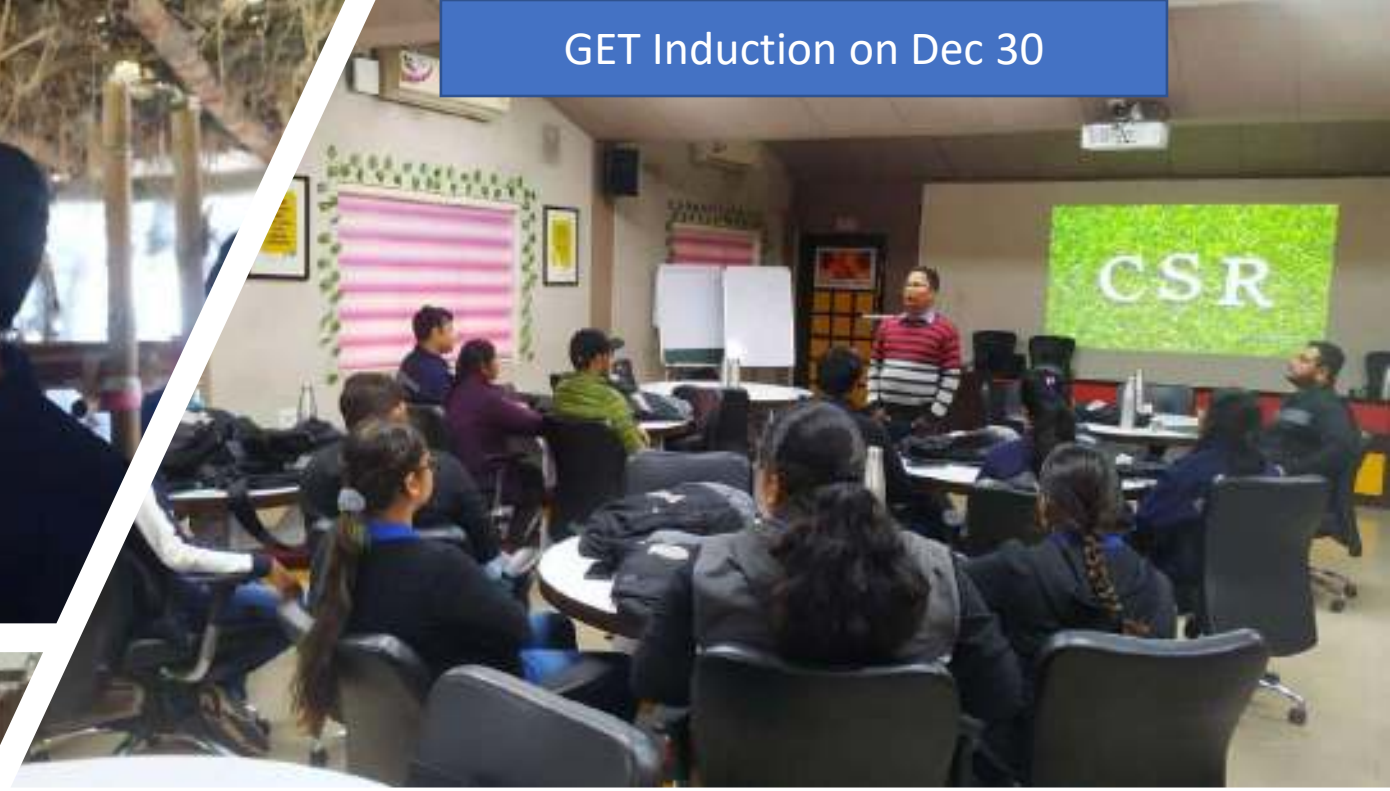
- 8 team participated
- Friendly match between Aditya & Ludhapalli Team
- The event was concluded in the presence of PRI members, eminent opinion makers, political leaders and representatives of Aditya Aluminium

Sardhapali Cricket Tournament

- First Time Ever Block Level Cricket Tournament organised at Lapanga
- 16 teams participated in 5 days long sports event
- Positive youth engagement
- Friendly match between Aditya team and Shradhapalli Team
- Senior Management Involvement in the Event
- Employee Volunteerism in the Event
- BDO Rengali inaugurated the event along with Dr. Vivekanand Mishra Head HR Aditya
- Sidhartha Das District BJD President present with Mr. Ghanshayam Parida Head CPP for Closing Ceremony

Cluster CSR HEAD Dr. Lopamudra Priyadarshini's Visit

GET Induction on Dec 30



Stakeholder Sensitization

Objective
To build amicable relationship with stakeholders and provide a platform for strategic engagement

Impact
- Transparency & Involvement in need prioritization for smooth execution of CSR plan and uninterrupted Plant operations
- Increased Awareness of Company and CSR Program
- Interaction with management provides opportunity for KYC and receive feedback
- Enhanced Goodwill

1st SE in 2019

2nd SE in 2019

3rd SE in 2019

Social Change

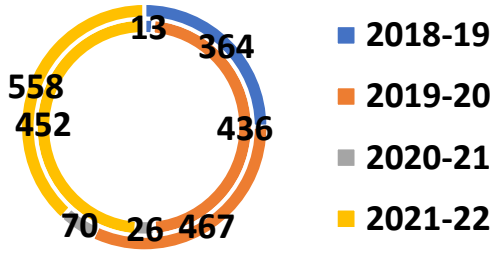
Nuakhai Bhetghat Celebrated with Medical Fraternity of Rengali Block Laida , Khunda, Rengali CHC PHC and Aditya Medical team

All Odisha Football Tournament- Orampada

- 16 team were participated
- Football team of Sambalpur was awarded as champion & Jayajaban Club of Jharsuguda was runners up.
- The event witnessed more than 5000 spectators
- The event was concluded in the presence of PRI members, eminent opinion makers, political leaders and representatives of Aditya Aluminium

Employee Volunteerism

YOY Employee Volunteerism



No. of Activity	No. of Employees	No. of Manhours	Total No. of Manhours
15	452	41	558

Aditya Veer Monthly Reward System @ Aditya

Outcome

- Increased Engagement
- Enhanced Goodwill
- Increased Awareness of CSR Program
- Cash and Kind Contribution by Employees

CSR BUDGET V/S EXPENDITURE

ADITYA FOCUS AREA WISE SPENDS SUMMARY, 2021-22 (RS. IN LAKHS)		
FOCUS AREAS	**BUDGET in Lakhs**	**SPEND in Lakhs**
EDUCATION	46	52.4085
HEALTH CARE	95	47.79006
SUSTAINABLE LIVELIHOOD	78.12	403.68056
INFRASTRUCTURE	90	238.01518
SOCIAL ISSUES	40.88	14.71509
TOTAL	**350**	**756.60939**

Note : Rs 2,53,43,130/--- Fly ash subsidy added in Livelihood.

Govt. Fund Mobilization INR 1124.01 Lakhs

AWARDS AND RECOGNITIONS : FY 21-22

- **Fame Excellence Platinum Award 2021** for Excellence in Best Practices under Women Empowerment Project SAKSHAM
- Appreciation from CDMO District Administration Jharsuguda for COVID Support
- Appreciation from DSWO Sambalpur for Project SAKSHAM on Women SHG donation of 51K to Beggar Free Sambalpur Campaign
- Appreciation Letter from Collector Sambalpur for Project SAKSHAM on Women SHG donation of 51K to Beggar Free Sambalpur Campaign

OFFICE OF THE COLLECTOR & DISTRICT MAGISTRATE, SAMBALPUR.

LETTER OF APPRECIATION

It is a great pleasure to receive a sum of Rs.52,001/-(Rupees Fifty One Thousand One) only, donated by the collective efforts of Women SHGs under project SAKSHAM supported by Aditya Alumina, Lapanga, Sambalpur, to strengthen the Beggar Free Campaign executed by District Administration, Sambalpur.

Such Co-operation from different sectors to District Administration for such type of noble works and efforts made by Women SHGs is highly appreciated. It sets an example of inspiration for others.

My best wishes to such noble endeavours.

Dist. Magistrate & Collector,

OFFICE OF THE CHIEF DISTRICT MEDICAL & PUBLIC HEALTH OFFICER, JHARSUGUDA, ODISHA.

Highlights of 2021-22

Media Presence – News clippings

Inauguration of the Water Force by Aditya Aluminum

Pure drinking water supply with 25 tanks

(A.O. Bureau) Rengali, Apr 14: Aditya Aluminum has inaugurated the Water Tank (Tanker Water Service) to supply safe drinking water with 25 tanks at Rengali Block Tileimal Sports Ground. In many parts of the country, severe water shortages have caused severe water shortages, leaving many people without access to safe drinking water. Dr. Vivekananda Mishra, Human Resources Chief, Aditya Aluminum, Satya Prakash Das, Employment Relations Department, Bhavani Mohapatra, Human Resource Manager, Sheshdev Pradhan, Bomalei Sarpanch, Shweta Upadhyay, Department of Environmental Development were the chief guests at the event.

नवभारत

ग्रामीणों को रोजगार देने आदित्य एलुमिनियम ने शुरू की परियोजना 'सक्षम'

Indian Era: 24th May 21

नवभारत

Odisha Patrika - 30 Jul 2021 - 30bsrp3

आदित्य एल्युमिनियम ने किया विभिन्न विकास कार्यों का शुभारंभ

संबलपुर, लपंगा स्थित आदित्य एल्युमिनियम परियोजना की ओर से पंडलोई स्थित आर.एंड आर. कॉलोनी में विभिन्न विकास कार्यक्रमों का शुभारंभ किया गया है. मुख्य मार्ग से कॉलोनी की ओर जाने वाली सभी सड़कों को कांक्रीट करने, महिलाओं के आर्थिक विकास हेतु स्वामी सिलाई केन्द्र निर्माण एवं अत्याधुनिक समूह केन्द्र निर्माण कार्य का शुभारंभ किया गया है. इस अवसर पर आयोजित कार्यक्रम में मानव संसाधन विभाग मुख्य डॉ. विवेकानंद मिश्र, एसबीआई आत्मनिर्भर संस्थान के मुख्य सौरभ राय एवं पूर्व सरपंच उपाध्यक्ष किरन बेहेरा उपस्थित थे.

Aditya Aluminium's Project Swabalamb making people self-reliant

Bhubaneswar: At Sambalpur's Lapanga village, Hindalco's Aditya Aluminium, backed by the Government, are helping people to become self-reliant through the Project "Swabalamb". The aim of this project is to boost the skills of the rural youngsters through training them in vocational skills. The end goal is to make them employable. Since its commencement in Oct 2020 through the PPP mode, over 27...

Among the trainees, two beneficiaries Sevati (19) & Rajashree (18) of Lapanga village have seen a major transformation in their lives. Their zest for work is amazing. They were trained in ophthalmologist paramedical services, placed in Trilochan Netralaya and today take home Rs 10000 - every month. Their family now lives a life of dignity. Leading the initiative, Mr Subrat Roy, the Director of SBI Regional Self Employ-... who fully backs the project, says, "This project is crucial to develop confidence amongst the youth through according them training in different skill building domains and enabling them to earn and look after themselves and their families. Partnering with the Govt. is a boon. We are much encouraged by our iconic Chairperson, Mrs Rajashree Birla, Chairperson, Aditya Birla Centre for Community Initia-... ing is one of our key areas, given its manifold impact which extends beyond the family to the nation as well".

Dr. Vivekanand Misra, HR Head of Aditya Aluminium says, that our company will accelerate this process of skill development of youth through vocational courses; and ensure the self-sufficiency of the youth of the region.

Aditya Birla Group works in 212 villages in the six dis-...

Aditya Aluminium's State-Of-The-Art Eye Care Centre

Bhubaneswar: To add to the eye care facility in the Sambalpur district, the Aditya Birla Group company Aditya Aluminium has set up a modern eye care centre at Rengali. Regrettably among the marginalized communities, eye care has never been a priority area, hence neglected. To address this issue, we have set up the Vision care centre in partnership with the Sambalpur based renowned Trilochan Netralaya, states Mr Sameer Nayak, the Unit Head of Aditya Aluminium.

Eye related issues are on the rise because of lifestyle and screen time, coupled with the problems of ageing among senior citizens. Project Vision Centre – Affordable Quality Eye Healthcare, inaugurated in Dec-2020, provides a range of services. Among these feature real time video conferencing, highly digitized eye check-ups, quality and affordable spectacles, medicines, referral to patients in need and free cataract surgery, all under one roof. This initiative by the company is in line with Digital India concept equipped with fully digitized instruments driven by cloud service.

In villages, again there are no exclusive eye care centres. Aditya Aluminium thus fulfils a felt need. This Vision centre revolves round the hub and spoke model, the first of its kind in Western Odisha.

Furthermore, Cataract is a recurring problem in Sambalpur. Aditya Aluminium offers cataract surgery as part of its social responsibility here. The company wants to stem vision loss due to glaucoma, cancer, diabetes to cite a few. Aditya Aluminium will soon launch an educative campaign focussing on the criticality of caring for the eyes. Its tagline "Ankhon ki Roshni Hai Anmol," is sought.

Nayak adds: "Our aim is to reach out to more than 15,000 people in these blocks. Through our medical camps, reaching out to schools, and of course the poor."

Dr Vivekanand Mishra, VP, HR of Aditya Aluminium says, "We are happy to offer affordable and quality eye healthcare through the Vision Centre because nothing is more important than eyesight. The Vision Centre is providing services at the patient's doorstep," he says.

Vision care is a mandate given by Mrs Rajashree Birla, Chairperson, Aditya Birla Centre for Community Initiatives and Rural Development. The Group works in 7000 villages and conducts 5000 medical camps annually and eye care is a priority.

Aditya Aluminium extends support to Jharsuguda Distt. Admin.

Bhubaneswar: In its continuous efforts to fight against Covid 19, the Aditya Birla Group company, Aditya Aluminium has extended support to Jharsuguda Distt. Admin. The company has donated 10 oxygen concentrators, 200 N95 masks, 200PPE Kits, 100 double layered Sambalpuri cotton masks (stitched by the SHGs supported by the company), to the District Administration very recently. The Unit Head of Aditya Aluminium, Mr Sameer Nayak handed over the same to the Distt. Collector Shri Saroj Kumar Samal. Among others Dr. Vivekanand Mishra Head HR Aditya Aluminium, Mr. Satya Das Head ER, Ms. Sweta Upadhayay Head CSR, Mr. Bijaya Kumar [illegible] Manager HR, Manoranjan Behera Asst Manager CSR and other members of CSR team were present. This gesture was appreciated and acknowledged by the Collector Jharsuguda and the Chief Medical Officer Jharsuguda. Collector Mr. Saroj Samal said that "this is much needed in the midst of rising cases during second wave of Pandemic".

Highlights of 2021-22

Media Presence – News clippings

Aditya aluminum organises cleanliness drive

Sambalpur (Ramakanta Biswal, TCT) On the auspicious birth anniversary of the Mahatma Gandhi and Lal Ba- hadur ... Aditya ... launch ... the loc... At the ... wreath ... tograp... endary ... Naik ... school ... of Sa... were ... and sh... phies of Mahatma Gandhi and Lal Bahadur Shastri. On the occasion, CSR Chief Mrs. Shweta Upadhyay ad- ... to make Mahatma Gandhi's dream a reality and make the Prime Minister Shri Narendra Modi's Swachh bharat campaign a success. The company provided five dustbins for school and temple cleanliness. 25 students and 20 teachers, as well as community activists cleaned up the Lapang main road from the school. Co-ordinator Manoranjan Behera said the clean-up program would be strengthened in the coming days by involving self-help groups and youth organiza- ...s in 15 villages. The event ... attended by members of school committee, mem- ... of the self-help group and ...hers of Saraswati Shishu ...dir, committee members ...njali Sahu, Asit Sahu, ...bers of the Eco Warrior ...ya Mahila Club and CSR ... The program was suc- ...fully implemented in com- ...nce with the government's ...id guidelines.

ଆଦିତ୍ୟ ଆଲୁମିନିୟମ ଦ୍ୱାରା ଦକ୍ଷତା ବୃଦ୍ଧି ତାଲିମ ଶିବିର

Aditya Aluminium organizes Mega Celebration on Women's Day

Bhubaneswar: Every year, March 8 is celebrated as International Women's Day since 1911. The Theme for Women's Day 2022 is "Gender Equality Today for Sustainable Tomorrow" # Break the Bias. This year, the goal is to create a gender-equal world. It is about celebrating a woman's success and raising awareness against bias. Women and girls are effective and powerful leaders and change-makers. They are involved in sustainability initiatives around the world, and their participation and leadership results in more effective action. Continuing to ... block participated in the Felicitation and cultural event organized by the Aditya Aluminium at Lapanga in Sambalpur district where the SHGs have got the appreciation Letter from District Social Welfare Officer to SHGs for Donation of 51K to Beggar Free Sambalpur Campaign and 600 mini vegetable kit were provided to SHG women from Horticulture Department.

Guests in their Speech appreciated the Women for their philanthropic act of Donating Rs.51000/- for Beggar Free ...

...nar, Mr. Subrat Mohanty ...anager SBI Lapanga, Ms. ... Nag CDPO, Rengali, Ms. ...ika Srichandan Senior ...st KGVK, Mr. Rabi ...thy DSSRO, Mr. ...arayan Agarwal ...an Rengali Block, Mr. ... Joshi Head WCM, Mr. ...i Mahapatra DH HR ...Mr. Satya Das DH ER, ...ta Upadhayay DH CSR ...R, Mr. Rajendra Bhoi ...i Kumar Department of ... adorned and attended by Government officials from Mission Shakti, Odisha Livelihood Mission, Block Development Officer, NGO partners Swadheen Ekta Sangathan, Senior Management from Aditya Aluminium, Aditya Employees attended the event as part of Employee Engagement and Volunteerism initiative. Aditya Aluminium is thankful to MBKs, CRPs under ICDS for support in making the

नवभारत

Odisha Patrika - 24 Nov 2021 - 24bsrp4

आदित्य एलुमिनियम द्वारा शौचालय दिवस पर कार्यक्रम

शुभारंभ मुख्य अतिथि श्वेता उपाध्याय (सहायक महाप्रबंधक सीएसआर और आरआर) और अन्य गणमान्य व्यक्तियों के साथ दिलीप पटेल

संबलपुर. लपंगा स्थित आदित्य एलुमिनियम की ओर से 19 नवंबर विश्व शौचालय दिवस पर कार्यक्रम का आयोजन किया गया. इस अवसर पर शौचालय का महत्व पर चर्चा की गई. आदित्य एलुमिनियम की ओर से हर साल अलग-अलग थीम के साथ इस दिन को मनाया जाता है. इस वर्ष शौचालय का मूल्यांकन अभियान का विषय शौचालय और इन लोगों के लिए जागरूकता बढ़ाना है जो सुरक्षित रूप से प्रबंधित स्वच्छता तक पहुंच के बिना रह रहे ...

... शौचालय दिवस मनाया. कार्यक्रम का ... सम्मानित किया गया.

ଆଦିତ୍ୟ ଆଲୁମିନିୟମ୍‌ରେ ୧୯୭ ଜଣ ରକ୍ତ ଦେଲେ

CSR WAY FORWARD FY 2022-23

Permanent Commitment – 85 Lakhs

- First aid Centre
- Jal Vahini
- Manpower

Ongoing Projects -88 Lakhs

- Saksham
- Swawlambh
- Vision Centre
- TB Elimination Program
- Samadhaan (WASH)
- Awareness
- Suposhan
- Mo School

Planned for FY 2022-23 – 460 cr

- Telemedicine
- Integrated Health
- Water Positivity
- Make India Capable
- Solid Waste Management
- Udyamee
- Dairy Cluster development
- Infrastructure
- Observation days and Events including Women's Day

Thank You

Visiontek Consultancy Services Pvt. Ltd.

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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: Envlab/21/K-2022

METEOROLOGICAL ANALYSIS REPORT DECEMBER-2021

Date: 06/01/22

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 m/sec		Wind	Rain fall
	Max	Min	Max	Min	Max	Min	Direction	(mm)
1/12/2021	29.1	14.2	78	52	3.2	1.4	SW	0
2/12/2021	30.9	14.2	81	50	3.2	0.3	SSW	0
3/12/2021	29.6	15.2	84	52	4.3	4.3	WSW	0
4/12/2021	29.8	16.4	80	51	4.8	4.8	SSW	0
5/12/2021	25.9	15.4	72	48	5.4	1.5	SSW	1
6/12/2021	27.9	17.6	81	43	3.2	1.5	SSW	5
7/12/2021	32.2	17.4	76	46	3.1	3.1	SW	0
8/12/2021	31.2	18.5	82	44	3.4	3.4	SW	0
9/12/2021	22.7	18.5	94	48	2.9	0.7	NW	0
10/12/2021	29.8	18.6	56	36	2.3	0.2	SW	0
11/12/2021	32.8	19.6	77	51	1.8	0.2	E	0
12/12/2021	31.1	18.5	82	59	2.6	0.2	NE	0
13/12/2021	31.2	16.3	86	56	2.3	0.2	SE	0
14/12/2021	30.9	15.7	80	59	1.5	0.1	E	0
15/12/2021	29.8	14.9	84	54	2.0	0.3	WSW	0
16/12/2021	29.8	14.6	92	58	3.2	0.7	WSW	0
17/12/2021	26.4	13.2	86	55	2.3	0.8	SSW	0
18/12/2021	30.5	14.8	79	53	2.7	0.1	SW	0
19/12/2021	28.4	13.8	89	57	3.1	0.7	SW	0
20/12/2021	28.3	13.8	85	55	3.1	0.8	SW	0
21/12/2021	27.3	9.58	85	54	2.0	0.1	SSW	0
22/12/2021	27.3	10.7	88	47	1.7	0.2	SSW	0
23/12/2021	28.7	10.5	86	60	1.5	0.8	SW	0
24/12/2021	29.7	12.6	79	51	6.2	0.7	SW	0
25/12/2021	29.8	13.8	78	52	1.7	0.2	SW	0
26/12/2021	30.9	14.2	81	53	3.0	0.7	SE	0
27/12/2021	30.5	15.2	81	52	1.8	1.2	SW	0
28/12/2021	31.5	15.2	82	47	2.8	1.1	SW	0
29/12/2021	30.5	14.6	88	54	5.1	0.1	SW	28
30/12/2021	23.8	17.6	81	45	1.9	0.1	SSW	30
31/12/2021	24.6	16.2	76	41	2.9	0.2	SSW	2

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Ref : Envlab/20/R-5095 **Date : 02.04.2022**

METEROLOGICAL DATA MARCH 2022

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

Date	Temperature(^{0}C)		Relative Humidity (%)		Wind Speed m/sec		Wind	Rain fall
	Max	Min	Max	Min	Max	Min	Direction	(mm)
1-Mar-22	29.8	14.5	86.0	57.0	4.7	0.3	N	0.0
2-Mar-22	30.9	15.2	81.0	60.0	2.2	1.4	WSW	0.0
3-Mar-22	30.5	15.4	89.0	62.0	4.4	0.8	ENE	0.0
4-Mar-22	25.7	16.8	85.0	55.0	5.5	1.4	N	0.0
5-Mar-22	26.8	13.5	88.0	61.0	5.0	1.7	N	0.0
6-Mar-22	25.9	12.2	76.0	54.0	2.5	0.6	N	0.0
7-Mar-22	29.4	13.7	80.0	58.0	2.8	0.3	N	0.0
8-Mar-22	30.8	14.5	82.0	66.0	2.5	0.3	N	0.0
9-Mar-22	29.4	15.1	88.0	52.0	4.2	0.8	N	0.0
10-Mar-22	28.7	17.4	88.0	45.0	4.7	1.4	NW	0.2
11-Mar-22	27.1	15.6	75.0	46.0	2.8	0.3	NW	0.0
12-Mar-22	29.6	14.2	80.0	58.0	3.3	1.7	NW	0.0
13-Mar-22	29.7	13.5	79.0	45.0	3.3	1.1	NW	0.0
14-Mar-22	30.1	14.9	84.0	55.0	1.9	0.8	WNW	0.0
15-Mar-22	31.4	15.1	82.0	58.0	3.0	0.3	NNW	0.0
16-Mar-22	32.5	16.7	76.0	52.0	2.8	0.3	ESE	0.0
17-Mar-22	30.4	16.2	81.0	55.0	3.3	0.3	ENE	0.0
18-Mar-22	31.7	17.2	54.0	62.0	3.9	0.3	NW	0.0
19-Mar-22	29.8	19.4	78.0	50.0	4.4	1.7	N	0.0
20-Mar-22	29.1	19.3	80.0	49.0	4.4	0.8	SSW	0.0
21-Mar-22	33.2	16.9	83.0	52.0	4.4	1.9	SW	0.0
22-Mar-22	32.1	15.7	80.0	57.0	2.8	1.7	WSW	0.0
23-Mar-22	33.4	17.5	86.0	52.0	4.2	0.8	NW	0.0
24-Mar-22	36.2	18.2	80.0	51.0	4.2	1.7	NW	0.0
25-Mar-22	34.8	18.8	79.0	55.0	3.9	0.8	NW	0.0
26-Mar-22	32.7	19.5	87.0	62.0	5.0	0.3	NW	0.0
27-Mar-22	35.1	18.7	83.0	56.0	4.4	0.8	NW	0.0
28-Mar-22	36.4	19.4	77.0	52.0	4.4	1.1	N	0.0
29-Mar-22	34.6	18.9	78.0	53.0	4.6	1.2	SSW	0.0
30-Mar-22	31.8	17.8	82.0	54.2	4.2	0.9	N	0.0
31-Mar-22	33.2	18.1	81.0	53.8	3.8	1.1	N	0.0

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

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

Ref: Envlab/21/R-3033 Date: 06/01/22

AMBIENT AIR QUALITY MONITORING REPORT

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 ($\mu g/m^3$)
04.10.2021	54.9	31.4	14.6	19.4	< 4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.10.2021	51.6	28.6	14.8	19.5	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.10.2021	48.5	28.1	15.6	19.8	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.10.2021	52.6	30.5	15.8	18.8	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.10.2021	53.8	31.3	16.2	18.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.10.2021	57.2	33.8	16.8	18.2	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.10.2021	55.2	33.1	17.4	17.8	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.10.2021	61.4	36.1	17.6	18.4	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.11.2021	58.3	34.6	18.1	18.6	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.11.2021	57.9	33.1	18.4	19.4	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.11.2021	63.8	35.4	18.2	19.6	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.11.2021	71.1	38.5	17.6	19.8	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.11.2021	74.0	41.2	17.8	19.2	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.11.2021	72.6	38.1	16.6	18.8	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.11.2021	77.8	42.6	16.8	18.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.11.2021	72.1	36.7	16.2	19.3	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.12.2021	65.7	34.9	15.8	19.2	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2021	59.2	33.3	15.6	18.8	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.12.2021	61.8	34.8	15.1	18.6	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2021	64.2	35.5	16.6	17.8	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.12.2021	58.9	32.9	16.8	17.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2021	62.2	34.1	16.3	18.4	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.12.2021	56.4	32.1	17.4	18.8	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2021	58.3	35.8	17.8	19.6	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.12.2021	53.8	31.3	18.2	19.2	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
31.12.2021	57.8	32.3	18.6	19.4	<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	60.8	34.2	16.8	18.9	<4	0.24	<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	AAS method after sampling	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

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Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref: Envlab/21/R-3034 Date: 06/01/22

AMBIENT AIR QUALITY MONITORING REPORT

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 ($\mu g/m^3$)
04.10.2021	49.6	31.6	9.4	10.8	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.10.2021	51.8	31.7	9.6	10.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.10.2021	50.2	31.9	9.8	11.4	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.10.2021	47.1	31.9	9.2	11.6	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.10.2021	45.6	31	9.4	12.2	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.10.2021	58.8	31.1	9.3	12.8	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.10.2021	52.2	31.3	9.2	13.1	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.10.2021	54.8	31.7	9.1	12.4	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.11.2021	48.6	32.8	9.2	12.6	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.11.2021	53.2	31.9	9.8	11.8	<4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.11.2021	49.5	32.3	9.4	11.6	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.11.2021	52.6	31.6	9.6	12.1	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.11.2021	56.8	31.1	9.2	12.4	<4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.11.2021	51.2	30.7	9.5	12.2	<4.0	0.35	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.11.2021	63.6	30.4	9.2	11.6	<4.0	0.38	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.11.2021	58.2	30.1	9.1	11.8	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.12.2021	54.4	30.8	9.4	11.4	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2021	51.2	30.7	9.2	11.2	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.12.2021	48.8	31.1	9.8	10.8	<4.0	0.38	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2021	46.2	31.3	9.2	10.6	<4.0	0.39	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.12.2021	52.6	31.6	9.6	10.2	<4.0	0.44	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2021	51.6	31	9.2	10.4	<4.0	0.46	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.12.2021	47.9	30.7	9.4	11.6	<4.0	0.42	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2021	49.1	30.7	9.6	11.8	<4.0	0.41	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.12.2021	53.6	30.4	9.8	11.2	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
31.12.2021	50.2	30.1	9.2	10.6	<4.0	0.36	<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	–
Quarterly Average	51.9	31.2	9.4	11.6	<4	0.34	<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	AAS method after sampling	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

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- 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: Envlab/21/R-3035 Date: 06/01/22

AMBIENT AIR QUALITY MONITORING REPORT

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 ($\mu g/m^3$)
04.10.2021	46.8	27.4	10.2	14.2	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.10.2021	48.5	28.2	9.6	14.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.10.2021	47.8	28.7	9.5	14.8	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.10.2021	52.3	28.5	11.6	14.9	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.10.2021	50.8	27.8	10.8	14.2	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.10.2021	48.9	27	10.1	14.6	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.10.2021	51.8	29.1	12.7	15.2	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.10.2021	52.2	30.3	13.2	15.8	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.11.2021	52.6	31.6	12.1	15.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.11.2021	55.8	32	13.1	15.2	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.11.2021	53.8	32.3	11.5	16.6	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.11.2021	51.4	31.6	12.2	16.8	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.11.2021	57.2	33.3	14.9	16.1	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.11.2021	63	34.7	14.6	16.4	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.11.2021	67.4	36.3	16.8	16.2	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.11.2021	56.6	32.4	13.8	17.2	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.12.2021	61.2	37.7	15.2	17.6	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2021	55.8	32.5	12.6	17.8	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.12.2021	52.2	32.4	12.4	17.2	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2021	48.9	28.9	10.2	16.6	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.12.2021	53	30.5	11.6	16.1	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2021	50.8	28.5	11.2	16.2	<4.0	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.12.2021	51.6	30.6	11.4	15.4	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2021	52.2	31.3	11.1	15.6	<4.0	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.12.2021	50.6	32.2	12.2	15.8	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
31.12.2021	53.8	32.3	12.8	15.2	<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	53.3	31.1	12.2	15.8	<4	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	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	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$\mu g/m^3$ C <0.1 mg/m^3

Verified

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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 : Envlab/21/R-3036 Date: 06/01/22

AMBIENT AIR QUALITY MONITORING REPORT

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} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	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 ($\mu g/m^3$)
04.10.2021	55.8	31.7	16.8	21.6	<4	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.10.2021	56.6	34	16.6	22.8	<4	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.10.2021	51.2	32.2	17.4	22.6	<4	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.10.2021	58.8	33.5	17.4	22.8	<4	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.10.2021	63.2	35.1	17.2	22.4	5.3	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.10.2021	57.6	32.8	18.2	22.4	5.2	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.10.2021	54.8	32.1	18.6	22.6	5.1	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.10.2021	55.6	32.2	18.8	25.8	5.2	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.11.2021	59.8	30.3	18.2	26.6	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.11.2021	52.6	31.6	17.8	26.2	5.4	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.11.2021	57.2	32.5	17.6	25.8	5.6	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.11.2021	62.4	34.4	17.2	25.4	5.2	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.11.2021	58.6	32	18.8	25.2	<4.0	0.36	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.11.2021	66.2	36.7	18.4	24.8	<4.0	0.38	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.11.2021	71.8	39.1	18.6	24.6	5.1	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.11.2021	67.2	37.3	19.4	22.6	5.2	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.12.2021	80.6	42.6	19.6	22.8	5.3	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2021	83.8	44.3	19.2	23.6	5.2	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.12.2021	68.4	37.8	18.8	23.8	5.4	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2021	73.2	40.9	18.6	24.6	<4	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.12.2021	65.4	37.2	18.2	25.6	<4	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2021	58.2	35.1	17.8	25.2	<4	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.12.2021	57.6	33.8	17.6	25.8	<4	0.34	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2021	55.8	36.9	17.2	22.6	<4	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.12.2021	67.2	35.1	17.1	22.1	<4	0.33	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
31.12.2021	62.8	33.7	18.2	24.2	<4	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	62.6	35.2	18.1	24.1	5.3	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	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	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:

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
E-mail: visiontek@vcspl.org, visiontekin@gmail.com
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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: Envlab/21/R-3037

Date: 06/01/22

AMBIENT AIR QUALITY MONITORING REPORT

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} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	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 ($\mu g/m^3$)
04.10.2021	50.6	30.4	15.6	22.8	< 4.0	0.12	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.10.2021	50.8	30.5	15.8	22.6	< 4.0	0.13	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.10.2021	51.6	31.3	16.6	23.8	< 4.0	0.14	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.10.2021	51.4	30.8	16.2	24.6	< 4.0	<0.10	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.10.2021	51.2	30.7	16.4	24.8	< 4.0	0.11	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.10.2021	52.2	31.3	16.8	25.2	< 4.0	0.12	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.10.2021	52.4	31.4	17.6	25.6	< 4.0	0.13	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.10.2021	52.6	31.6	17.8	26.6	< 4.0	0.14	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.11.2021	53.8	32.3	18.4	26.8	< 4.0	0.12	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.11.2021	54.6	32.8	18.6	27.4	< 4.0	0.11	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.11.2021	54.2	32.5	19.5	28.8	< 4.0	0.12	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.11.2021	55.8	33.5	19.6	28.6	< 4.0	0.13	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.11.2021	55.6	33.4	18.8	28.2	< 4.0	0.14	<20.0	<4	<0.5	< 2.5	<0.02	<1	<0.01
18.11.2021	55.2	33.1	18.4	29.4	< 4.0	0.12	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.11.2021	54.6	32.8	18.6	25.8	< 4.0	0.11	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.11.2021	54.4	32.6	20.6	26.6	< 4.0	0.14	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.12.2021	54.2	32.5	20.8	26.4	< 4.0	0.15	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2021	53.6	32.2	21.6	27.8	< 4.0	0.16	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.12.2021	53.8	32.3	21.8	27.6	< 4.0	0.12	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2021	53.2	31.9	22.4	28.4	< 4.0	0.11	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.12.2021	53.3	32.2	22.6	28.6	< 4.0	0.11	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2021	53.2	31.9	23.2	28.8	< 4.0	<0.10	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.12.2021	52.6	31.6	23.8	29.6	< 4.0	<0.10	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2021	52.8	31.7	23.4	28.2	< 4.0	<0.10	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.12.2021	51.6	31	24.6	29.4	< 4.0	<0.10	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
31.12.2021	51.2	30.7	24.2	29.2	< 4.0	<0.10	<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	53.2	31.9	19.6	26.9	<4	0.13	<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	AAS method after sampling	AAS method after sampling	Zirconium SPADNS Method

BDL Values: SO_2< 4 µg/m^3, NO_x< 9 µg/m^3, O_3<4 µg/m^3, Ni<0.01 ng/m^3, As< 0.001 ng/m^3, C_6H_6<0.001 µg/m^3, BaP<0.002 ng/m^3, Pb<0.008 µg/m^3, F<0.01µg/m^3 CO-<0.1 mg/m^3

Prepared by: BBSR

Verified by:

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
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- 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: Envlab/21/R-3038 Date: 06/01/22

AMBIENT AIR QUALITY MONITORING REPORT

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)
04.10.2021	58.6	32.2	17.4	21.2	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.10.2021	55.2	31.9	17.6	21.8	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.10.2021	54.6	32.8	18.2	22.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.10.2021	54.8	32.9	18.6	23.4	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.10.2021	55.2	33.1	18.1	23.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.10.2021	55.4	33.2	17.6	24.6	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.10.2021	56.6	34.6	17.2	25.8	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.10.2021	56.8	34.1	17.4	25.6	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.11.2021	57.2	34.3	17.8	26.9	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.11.2021	57.8	34.7	18.4	26.6	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.11.2021	56.6	34.2	18.6	26.2	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.11.2021	56.2	33.7	19.4	25.8	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.11.2021	55.4	33.2	19.2	25.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.11.2021	55.8	33.5	19.1	24.8	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.11.2021	56.6	34.3	19.4	24.6	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.11.2021	56.2	33.7	19.2	23.8	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.12.2021	57.4	34.4	18.8	23.6	<4.0	0.19	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2021	57.8	34.7	18.6	23.4	<4.0	0.18	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.12.2021	56.8	34.1	18.2	22.2	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2021	55.4	33.2	17.8	22.8	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.12.2021	55.6	33.4	17.6	23.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2021	56.8	34.1	16.6	23.8	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.12.2021	57.2	34.3	16.2	23.9	<4.0	0.27	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2021	57.8	34.7	16.4	24.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.12.2021	56.6	34	15.8	24.2	<4	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
31.12.2021	55.2	33.1	16.2	25.8	<4	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	56.1	33.7	17.9	24.2	<4	0.24	<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 Chromatograp hy analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling	Zirconium SPADNS Method

BDL Value: 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: BBSR

Visiontek Consultancy Services Pvt. Ltd.

Verified by: BBSR

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

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

Ref: Envlab/21/R-3039 Date: 06/01/22

AMBIENT AIR QUALITY MONITORING REPORT

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)
04.10.2021	58.8	32.2	11.6	22.4	<4.0	0.18	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
07.10.2021	59.6	34.6	11.8	22.8	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.10.2021	52.2	30.4	12.2	23.6	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
14.10.2021	55.2	32.8	12.6	23.8	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.10.2021	53.8	30.6	12.8	24.6	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
21.10.2021	50.8	28.9	13.4	24.8	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.10.2021	52.6	28.4	13.6	25.4	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
28.10.2021	55.8	30.8	13.2	25.6	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.11.2021	53.6	29.6	13.8	26.6	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.11.2021	50.5	28.2	14.6	26.8	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.11.2021	56.2	30.4	14.2	27.4	<4.0	0.23	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.11.2021	60.6	33.6	14.1	27.6	<4.0	0.21	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.11.2021	61.4	34.8	13.6	28.2	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.11.2021	68.2	40.6	13.2	29.4	<4.0	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.11.2021	64.6	38.2	13.1	29.6	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.11.2021	67.8	40.1	12.6	29.2	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
01.12.2021	61.6	35.4	12.8	26.8	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2021	66.6	38.2	13.4	26.6	<4.0	0.29	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
08.12.2021	69.8	37.8	13.2	26.4	<4.0	0.31	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2021	57.6	32.2	13.1	26.2	<4.0	0.32	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
15.12.2021	64.8	34.8	12.6	25.8	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2021	59.2	31.2	12.4	25.6	<4.0	0.28	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
22.12.2021	52.6	28.8	11.8	25.4	<4.0	0.26	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2021	60.2	33.4	11.6	23.8	<4.0	0.22	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
29.12.2021	57.8	31.6	11.2	23.6	<4.0	0.24	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
31.12.2021	60.2	32.8	10.8	22.8	<4.0	0.22	<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	58.7	33.1	12.8	25.8	<4	0.25	<20.0	<4	<0.5	<2.5	<0.02	<1	<0.01
Testing method	Gravimetric	Gravimetric	Improved West and Gaake 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	AAS method after sampling	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<0.01 µg/m³, F<0.01µg/m³ CO<0.1 mg/m³

Prepared by:

Checked/Verified by:

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- 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: Envlab/21/R-3040 Date: 06/01/22

AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium): Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-8 : Thelkolai**
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)
04.10.2021	58.8	33.4	19.4	22.6	7.8	0.32	22.6	<4	<0.5	<2.5	<0.02	<1	<0.01
07.10.2021	56.6	33.7	19.6	23.8	8.4	0.36	22.8	<4	<0.5	<2.5	<0.02	<1	<0.01
11.10.2021	56.2	33.1	19.8	23.6	8.6	0.38	23.6	<4	<0.5	<2.5	<0.02	<1	<0.01
14.10.2021	59.6	33.5	20.6	24.6	8.2	0.32	23.8	<4	<0.5	<2.5	<0.02	<1	<0.01
18.10.2021	58.8	32.5	20.8	24.8	8.1	0.35	24.6	<4	<0.5	<2.5	<0.02	<1	<0.01
21.10.2021	64.6	34.3	21.6	25.2	9.2	0.36	24.2	<4	<0.5	<2.5	<0.02	<1	<0.01
25.10.2021	59.2	32.1	21.2	25.6	9.4	0.38	24.8	<4	<0.5	<2.5	<0.02	<1	<0.01
28.10.2021	63.8	34.0	20.8	24.8	9.1	0.32	25.2	<4	<0.5	<2.5	<0.02	<1	<0.01
01.11.2021	57.4	31.4	20.6	25.6	8.8	0.34	25.6	<4	<0.5	<2.5	<0.02	<1	<0.01
04.11.2021	66.6	33.5	20.4	24.6	8.9	0.35	26.6	<4	<0.5	<2.5	<0.02	<1	<0.01
08.11.2021	62.8	32.9	20.2	24.2	8.6	0.38	26.2	<4	<0.5	<2.5	<0.02	<1	<0.01
11.11.2021	66.2	36.4	21.6	23.8	8.2	0.32	26.8	<4	<0.5	<2.5	<0.02	<1	<0.01
15.11.2021	73.8	38.1	21.4	23.6	8.2	0.34	25.4	<4	<0.5	<2.5	<0.02	<1	<0.01
18.11.2021	67.4	36.8	21.2	23.8	8.1	0.36	25.6	<4	<0.5	<2.5	<0.02	<1	<0.01
22.11.2021	84.8	42.4	20.8	22.6	8.4	0.32	25.2	<4	<0.5	<2.5	<0.02	<1	<0.01
25.11.2021	83.5	43.6	20.6	22.8	8.2	0.33	26.6	<4	<0.5	<2.5	<0.02	<1	<0.01
01.12.2021	78.6	41.8	20.2	21.6	8.3	0.32	26.8	<4	<0.5	<2.5	<0.02	<1	<0.01
04.12.2021	66.8	37.2	20.6	21.4	8.1	0.31	26.6	<4	<0.5	<2.5	<0.02	<1	<0.01
08.12.2021	57.4	34.0	20.4	20.8	8.2	0.34	26.2	<4	<0.5	<2.5	<0.02	<1	<0.01
11.12.2021	62.6	36.3	21.5	20.6	7.8	0.36	28.2	<4	<0.5	<2.5	<0.02	<1	<0.01
15.12.2021	68.2	37.0	21.6	20.2	7.6	0.32	28.8	<4	<0.5	<2.5	<0.02	<1	<0.01
18.12.2021	58.1	34.5	21.8	21.6	7.7	0.34	28.4	<4	<0.5	<2.5	<0.02	<1	<0.01
22.12.2021	54.4	33.9	22.6	21.2	7.4	0.32	27.2	<4	<0.5	<2.5	<0.02	<1	<0.01
25.12.2021	58.4	33.2	22.8	22.8	7.7	0.33	27.6	<4	<0.5	<2.5	<0.02	<1	<0.01
29.12.2021	53.6	32.6	23.6	23.2	7.4	0.32	26.6	<4	<0.5	<2.5	<0.02	<1	<0.01
31.12.2021	58.1	33.7	23.2	23.6	7.2	0.31	26.8	<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	63.7	35.2	21.1	23.2	8.2	0.34	25.9	<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	AAS method after sampling	AAS method after sampling	Zirconium SPADNS Method

BDL Values: SO_2< 4 µg/m^3, NO_x< 9 µg/m^3, O_3<4 µg/m^3, Ni<0.01 ng/m^3, As< 0.001 ng/m^3, C_6H_6<0.001 µg/m^3, BaP<0.002 ng/m^3, Pb<0.001 µg/m^3, F<0.01µg/m^3 CO-<0.1 mg/m^3

Visiontek Consultancy Services Pvt. Ltd.

Prepared by:

Visiontek Consultancy Services Pvt. Ltd.

Verified by:

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- Information Technology
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- 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: Envlab/21/R-3045 Date: 06/01/22

SURFACE WATER QUALITY ANALYSIS REPORTDECEMBER-2021

1. Name of Industry : **M/sHindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling location : **SW-1:** HirakudReservoir; **SW-2:** Lapanga Pond; **SW-3:** Matwadinadi U/S, **SW-4:**Bamloi Pond; **SW-5:** Bhedan river
3. Date of sampling : 15.12.2021
4. Date of analysis : 16.12.2021 TO 21.12.2021
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	7.28	7.34	7.44	7.4	7.44
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	–	3.9	4.3	4.4	4.2	4.1
6	Total Dissolved Solids	APHA 2540 C	mg/l	1500	92	136	87	128	88
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	–	66	74	56	82	60
8	Total Alkalinity	APHA 2320 B	mg/l	–	46	50	52	54	48
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	–	20.6	23.2	17.6	25.6	19.2
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	–	3.6	4	3.1	4.5	3
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	–	ND	ND	ND	ND	ND
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	28	24	26	28	34
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	400	10.8	38.2	12.6	46.4	9.8
15	Fluoride (as F)	APHA 4500F C	mg/l	1.5	0.24	0.23	0.18	0.24	0.21
16	Nitrate (as NO_3)	APHA 4500 NO_3 E	mg/l	50	1.38	1.42	1.36	1.36	1.34
17	Sodium as Na	APHA3500-Na	mg/l	–	8.9	9.4	9.6	9.2	9.3
18	Potassium as K	APHA 3500-K	mg/l	–	2.1	2.4	2.8	2.1	2.4
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	ND	ND	ND	ND	ND
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	0.05	0.12	0.04	0.14	0.05
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	220	310	280	320	310

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

Prepared by

Verified by:

Plot No. 22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel: 0674-3511721

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

Ref: [illegible] Date: 06/01/22

SURFACE WATER QUALITY ANALYSIS REPORT DECEMBER-2021

1. Name of Industry : **M/sHindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling location : **SW-6:** Bhedan River Near Katikela;**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 : 15.12.2021
4. Date of analysis : 16.12.2021 TO 21.12.2021
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	7.49	7.32	7.31	7.44	7.38
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	--	2.8	3.4	3.2	3.6	3.2
7	Total Dissolved Solids	APHA 2540 C	mg/l	1500	82	140	156	142	156
8	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	--	54	64	60	68	74
9	Total Alkalinity	APHA 2320 B	mg/l	--	48	56	60	64	66
10	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	17.6	20.3	20	20.8	24
11	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	2.5	3.1	2.4	4	3.5
12	Residual, free Chlorine	APHA 4500Cl, B	mg/l	--	ND	ND	ND	ND	ND
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	34	36	32	26	34
15	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	400	8.4	18.2	8.4	27.8	16.2
16	Fluoride (as F)	APHA 4500F⁻ C	mg/l	1.5	0.26	0.34	0.38	0.34	0.32
17	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	50	3.2	2.8	2.6	3.6	3.1
18	Sodium as Na	APHA 3500-K	mg/l	--	9.2	9.4	9.2	9.4	9.2
19	Potassium as K	APHA3500-Na	mg/l	--	3.2	2.8	2.6	2.2	3.2
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	ND	ND	ND	ND	ND
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	0.04	0.06	0.06	0.11	0.13
29	Chromium (as Cr^{+6})	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 Coliforms	APHA9221-B	MPN/100 ml	5000	310	[illegible]	420	460	530

[illegible] less, AL: Agreeable, U/O: Unobjectionable, ND: Not detected.

Prepared by

Verified by

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Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Envlab/21/R-3041 Date : 06/01/22

GROUND WATER QUALITY ANALYSIS REPORT DECEMBER-2021

1. Name of Industry : **M/sHindalco 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 : 13.12.2021
4. Date of analysis : 14.12.2021 TO 21.12.2021
5. Sample collected by : VCSPL Representative

Sl. No.	Parameter	Testing Methods	Unit	Standard as per IS-10500:2012 Amended on 2015 & 2018		Analysis Result			
				Permissible Limit	Permissible Limit	GW-1	GW-2	GW-3	GW-4
1	pH Value at 25°C	APHA 4500H+ B	–	6.5-8.5	No Relaxation	7.12	7.34	7.64	7.24
2	Colour	APHA 2120 B, C	Hazen	5	15	CL	CL	CL	CL
3	Taste	APHA 2160 C	–	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	–	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	1	5	<1.0	<1.0	<1.0	<1.0
6	Total Dissolved Solids	APHA 2540 C	mg/l	500	2000	232	210	198	196
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	200	600	92	84	82	80
8	Total Alkalinity	APHA 2320 B	mg/l	200	600	92	86	96	88
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	24.8	23.2	25.4	22.8
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	7.4	6.9	8.6	7.6
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	ND	ND	ND	ND
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	24.6	25.8	28.1	24.6
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	200	400	3.4	3.8	5.4	4.1
15	Fluoride (as F)	APHA 4500F C	mg/l	1.0	1.5	0.26	0.21	0.38	0.32
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	45	No Relaxation	3.4	3.6	3.2	3.2
17	Sodium as Na	APHA3500-Na	mg/l	--	--	14.8	13.6	14.2	12.8
18	Potassium as K	APHA 3500-K	mg/l	--	--	3.6	3.8	4.4	4.6
19	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.05	<0.001	<0.001	<0.001
20	Cyanide (as CN)	APHA 4500 CN C,D	mg/l	0.05	No Relaxation	<0.01	ND	ND	ND
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	0.13	0.12	0.16	0.12
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	APHA9221-B	MPN/ 100 ml	Shall not be detectable in any 100 ml sample	--	<1.1	<1.1	<1.1	<1.1

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

Prepared By

Verified By

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Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Envlab/21/R-3042 Date : 06/01/22

GROUND WATER QUALITY ANALYSIS REPORT DECEMBER-2021

1. Name of Industry : **M/sHindalco 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 : 13.12.2021
4. Date of analysis : 14.12.2021 TO 21.12.2021
5. Sample collected by : VCSPL Representative

SL No.	Parameter	Testing Methods	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Result			
				Permissible 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	7.38	7.21	7.31	7.16
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	APHA2150-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	212	190	208	182
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	200	600	84	78	72	84
8	Total Alkalinity	APHA 2320 B	mg/l	200	600	81	90	88	88
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	200	22.1	26	22	23.2
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	100	6.3	6.1	8.1	7.4
11	Residual free Chlorine	APHA 4500Cl, B	mg/l	0.2	1	ND	ND	ND	ND
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	23.2	28.2	27.4	26.6
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	200	400	6.2	4.6	6.4	5.2
15	Fluoride (as F)	APHA 4500F C	mg/l	1.0	1.5	0.33	0.24	0.34	0.32
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	45	No Relaxation	3.1	3.4	3.3	7.2
17	Sodium as Na	APHA3500-Na	mg/l	--	--	13.8	10.9	12.4	12.8
18	Potassium as K	APHA 3500-K	mg/l	--	--	4.4	5.6	5.2	5.3
19	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	0.001	0.002	<0.001	<0.05	<0.001	<0.001
20	Cyanide (as CN)	APHA 4500 CN^- C,D	mg/l	0.05	No Relaxation	ND	<0.01	ND	ND
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	0.1	0.11	0.14	0.16
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.

Visiontek Consultancy Services Pvt. Ltd. Prepared BBSR

Visiontek Consultancy Services Pvt. Ltd. BBSR Verified

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

Ref: Envlab/21/R-3043 Date: 06/01/22

GROUND WATER QUALITY ANALYSIS REPORTDECEMBER-2021

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 : 14.12.2021
4. Date of Analysis : 15.12.2021 TO 21.12.2021
5. Sample CollectedBy : VCSPL Representative

Sl. No.	Parameter	Testing Method	Unit	Standard as per IS -10500:2012 Amended on 2015 & 2018		Analysis Results			
				Permissible Limit	Permissible Limit	GW-1	GW-2	GW-3	GW-4
1.	pH Value	APHA 4500 H^+ B	--	6.5-8.5	No Relaxation	7.21	7.08	7.11	7.18
2.	Turbidity	APHA 2130B	NTU	1	5	1.12	1.03	1.1	<1
3.	Total Hardness(as $CaCO_3$)	APHA 2340 C	mg/l	200	600	72	40	128	68
4.	Iron (as Fe)	APHA 3500 Fe B	mg/l	1.0	No Relaxation	0.22	0.1	0.16	0.26
5.	Chloride (as Cl)	APHA 4500 Cl^- B	mg/l	250	1000	17	14	54	24
6.	Dissolved Solids	APHA 2540 C	mg/l	500	2000	154	77	232	126
7.	Calcium (as Ca)	APHA 3500 Ca B	mg/l	75	200	21.6	12.8	37.6	19.2
8.	Magnesium (as Mg)	APHA 3500 Mg B	mg/l	30	100	4.4	2	8.3	5.1
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	--	--	14.4	8.2	17.6	11.8
11.	Potassium (as K)	APHA 3500 K B	mg/l	--	--	3.8	3.4	5.6	3.2
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	9.4	4.8	16.4	12.4
14	Nitrate (as NO_3)	APHA 4500 NO_3^- B	mg/l	45	No Relaxation	0.88	0.46	0.6	0.39
15.	Fluoride (as F)	APHA 4500 F^- D	mg/l	1.0	1.5	0.32	0.24	0.22	0.28
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	72	48	126	58
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 DetectionLimit

Prepared By

Verified By

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
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Microbiology Lab

Report No: Envlab/22/R-0784 **Date :04.01.2022**

GROUND WATER LEVEL MONITORING REPORT DECEMBER – 2021

1. Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga.
2. Locations : Piezometer Bore wells Around Ash Pond
3. Water Level Measured by: VCSPL Representative

Sl. No.	Date of Monitoring	Name of Locations	Bore Well ID	UOM	Water Level
1.	20.12.2021	Near Ash Pond	GW-1	Mt/bgl	1.24
2.	20.12.2021	Near Proposed Ash Pond	GW-2	Mt/bgl	5.91
3.	20.12.2021	Near RR Colony	GW-3	Mt/bgl	1.69
4.	20.12.2021	Near Bamloi Village	GW-4	Mt/bgl	6.26

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Reviewed by

Puja Mohanty

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

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Microbiology Lab

Ref: Envlab/21/R-3046 Date: 06/01/22

SOIL QUALITY ANALYSIS REPORTDECEMBER 2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.12.2021
3. Sampling Location : **S-1:** Project Site; **S-2:** Thelkoloi; **S-3:** Ghichamura; **S-4:** Lapanga; **S-5:** Bamloi
4. Date of Analysis : 16.12.2021 T0 22.12.2022
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	--	6.88	7.12	7.16	7.02	7.18
2	Conductivity	--	129.6	121.4	116.2	142.6	128.2
3	Soil Texture	--	Sandy Loamy	Clay Loamy	Clay Loamy	Sandy Loamy	Sandy Loamy
4	Sand	%	40.8	26.6	32.8	41.2	41.6
5	Silt	%	14.8	24.6	21.8	21.2	18.8
6	Clay	%	46.6	53.8	46.2	49.6	44.2
7	Bulk Density	gm/cc	1.62	1.44	1.52	1.56	1.58
8	Exchangeable Calcium as Ca	%	38.8	34.6	41.2	35.2	44.6
9	Exchangeable Magnesium as Mg	%	52.6	53.8	54.6	52.2	53.4
10	Available Sodium as Na	%	0.019	0.024	0.022	0.032	0.028
11	Available Potassium as K	%	0.061	0.052	0.052	0.046	0.052
12	Available phosphorous as P	%	0.026	0.028	0.026	0.023	0.032
13	Available Nitrogen as N	%	0.31	0.33	0.28	0.31	0.32
14	Organic Matter	%	3.6	3.8	4.1	3.2	4.1
15	Organic Carbon as OC	%	2.1	1.48	1.66	1.71	1.61
16	Water soluble Chlorides as Cl	%	0.31	0.34	0.22	0.25	0.31
17	Water soluble Sulphates as SO_4	%	0.19	0.14	0.26	0.32	0.28
18	Sodium Absorption Ratio	%	0.19	0.16	0.14	0.12	0.12
19	Aluminium as Al	%	0.00011	0.00016	0.00014	0.00018	0.00012
20	Total Iron as Fe	%	0.088	0.046	0.048	0.082	0.077
21	Manganese as Mn	%	0.0022	0.0026	0.0024	0.0036	0.0028
22	Boron as B	%	0.00016	0.00024	0.00031	0.00032	0.00026
23	Zinc as Zn	%	0.00032	0.00036	0.00031	0.00026	0.00024
24	Silica as SiO_2	%	6.8	6.6	7.1	6.4	7.2
25	Ferric Oxide as Fe_2O_3	%	0.054	0.061	0.046	0.042	0.036
26	Calcium Oxide as CaO	%	31.6	32.8	30.8	26.6	28.4
27	Magnesium Oxide as MgO	%	26.6	25.2	24.6	23.6	21.8
28	Aluminium Oxide as Al_2O_3	%	0.00006	0.00011	0.00022	0.00024	0.00021
29	Iron Oxide as FeO	%	0.044	0.024	0.062	0.033	0.036
30	Manganese Oxide as MnO	%	0.0056	0.0028	0.0018	0.0029	0.0046
31	Potassium Oxide as K_2O	%	0.0514	0.0448	0.0431	0.0516	0.0523
32	Phosphorus Oxide as P_2O_5	%	0.0094	0.0088	0.0083	0.0077	0.0096
33	Fluoride as F	%	0.00061	0.00031	0.00036	0.00041	0.0006

Prepared by: Verified

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&
Microbiology Lab

Ref: Eqwlab/21/R-3047 Date: 06/01/22

SOIL QUALITY ANALYSIS REPORT DECEMBER 2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.12.2021
3. Sampling Location : **S-6:** Tileimal; **S-7:** Jangala; **S-8:** Gurupali; **S-9:** Gumkarama; **S-10:** Bhadarpali.
4. Date of Analysis : 16.12.2021 TO 22.12.2021
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	--	7.26	7.18	7.11	7.20	6.94
2	Conductivity	--	133.8	128.2	122.4	118.2	112.2
3	Soil Texture	--	Clay Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Clay Loamy
4	Sand	%	25.4	30.8	34.6	42.8	28.8
5	Silt	%	13.8	13.6	21.4	20.6	20.8
6	Clay	%	66.8	59.6	51.2	41.6	53.6
7	Bulk Density	gm/cc	1.55	1.52	1.42	1.44	1.56
8	Exchangeable Calcium as Ca	%	44.6	42.8	44.6	44.8	43.6
9	Exchangeable Magnesium as Mg	%	53.6	57.2	58.8	61.9	61.6
10	Available Sodium as Na	%	0.026	0.022	0.032	0.031	0.026
11	Available Potassium as K	%	0.044	0.046	0.041	0.043	0.051
12	Available phosphorous as P	%	0.024	0.022	0.026	0.029	0.031
13	Available Nitrogen as N	%	0.33	0.34	0.32	0.24	0.21
14	Organic Matter	%	4.6	4.4	4.3	4.1	4.1
15	Organic Carbon as OC	%	1.62	1.88	1.89	1.83	1.94
16	Water soluble Chlorides as Cl	%	0.29	0.23	0.24	0.28	0.29
17	Water soluble Sulphates as SO_4	%	0.21	0.23	0.18	0.19	0.12
18	Sodium Absorption Ratio	%	0.19	0.16	0.19	0.15	0.18
19	Aluminium as Al	%	0.00016	0.00019	0.00024	0.00022	0.00016
20	Total Iron as Fe	%	0.059	0.061	0.052	0.044	0.048
21	Manganese as Mn	%	0.0028	0.0032	0.0031	0.0024	0.0033
22	Boron as B	%	0.00028	0.00026	0.00033	0.00039	0.00029
23	Zinc as Zn	%	0.00022	0.00024	0.00022	0.00016	0.00021
24	Silica as SiO_2	%	7.7	6.9	6.4	7.3	7.1
25	Ferric Oxide as Fe_2O_3	%	0.029	0.032	0.034	0.042	0.039
26	Calcium Oxide as CaO	%	28.8	32.8	30.06	36.6	34.2
27	Magnesium Oxide as MgO	%	23.6	31.4	31.9	32.2	30.8
28	Aluminium Oxide as Al_2O_3	%	0.00042	0.00036	0.00026	0.00024	0.00029
29	Iron Oxide as FeO	%	0.0188	0.0182	0.0199	0.0211	0.0214
30	Manganese Oxide as MnO	%	0.0028	0.0021	0.0023	0.0016	0.0024
31	Potassium Oxide as K_2O	%	0.0418	0.0422	0.0512	0.0422	0.0492
32	Phosphorus Oxide as P_2O_5	%	0.0089	0.0092	0.0[illegible]	0.0092	0.0089
33	Fluoride as F	%	0.00044	0.00032	0.00026	0.00032	0.00026

Verified by

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Ref : Envlab/22/R-1936 **Date :06.01.2022**

NOISE MONITORING REPORTDECEMBER 2021

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))

TIME (6.00AM to 9.00PM)	N1:Gumkarma (07.12.2021)	N2:Ghichamura (07.12.2021)	N3:Bomaloi (14.12.2021)	N4:Tileimal (14.12.2021)	N5:Thelkoli (21.12.2021)	N6:Khadiapali (21.12.2021)	N7:Kapilas (28.12.2021)	N8:Phulchanghal (28.12.2021)
06.00am	46.6	49.6	43.6	46.8	48.8	54.6	44.6	45.2
07.00am	44.2	49.8	48.8	47.2	48.9	54.8	44.8	45.8
08.00am	49.4	50.2	51.6	47.8	54.8	53.6	45.6	46.6
09.00am	51.8	50.8	53.9	48.6	55.2	51.6	45.8	46.9
10.00am	53.9	51.4	52.1	48.8	54.4	51.2	46.6	47.8
11.00am	48.6	51.6	54.2	48.9	51.2	50.6	46.9	48.6
12.00 noon	45.2	52.2	48.4	46.8	48.8	50.8	47.2	48.9
01.00pm	47.6	52.6	52.1	46.6	53.6	50.2	47.8	49.6
02.00pm	51.8	52.8	54.8	45.4	54.4	50.4	48.6	49.2
03.00pm	46.2	53.6	51.6	45.6	50.2	49.6	48.2	50.2
04.00pm	50.6	53.9	53.9	48.6	49.6	49.85	48.6	50.6
05.00pm	50.1	52.1	52.8	49.8	54.2	50.6	49.6	51.4
06.00pm	53.4	54.4	53.6	50.6	55.6	50.8	48.8	51.2
07.00pm	47.6	51.6	50.6	50.8	51.8	51.4	48.2	53.6
08.00pm	50.8	53.6	53.8	51.6	52.9	51.2	46.6	53.2
09.00pm	51.6	49.2	54.6	52.8	53.8	51.1	46.9	52.2
Average	**49.3**	**51.8**	**51.9**	**48.5**	**52.4**	**51.4**	**47.2**	**49.4**
Standard as per CPCB	55							

Night time Noise monitoring results (Noise Level in dB (A))

TIME (10.00PM to 5.00AM)	N1:Gumkarma (07.12.2021)	N2:Ghichamura (07.12.2021)	N3:Bomaloi (14.12.2021)	N4:Tileimal (14.12.2021)	N5:Thelkoli (21.12.2021)	N6:Khadiapali (21.12.2021)	N7:Kapilas (28.12.2021)	N8:Phulchanghal (28.12.2021)
10.00pm	44.1	42.6	43.6	44.8	42.6	44.8	39.6	43.1
11.00pm	43.6	42.8	43.2	44.2	43.2	44.1	39.2	43
12.00 Midnight	43.2	43.1	42.8	43.6	41.8	43.6	38.8	42.6
01.00am	42.8	41.6	42.6	41.6	42.6	42.9	38.6	41.6
02.00am	41.9	41.9	41.6	41.1	42.8	42.6	39.6	40.8
03.00am	42.6	43.6	40.5	40.8	42.6	43.6	39.2	40.6
04.00am	42.2	44.2	42.9	43.6	43.2	44.2	38.9	41.9
05.00am	44.1	42.6	43.6	44.8	44.6	44.8	39.6	43.1
Average	**43.1**	**42.8**	**42.6**	**43.1**	**42.9**	**43.8**	**39.2**	**42.1**
Standard as per CPCB	45							

Prepared By *Verified By*

Ref : Envlab/22/R-1937 **Date :06.01.2022**

FORAGE FLUORIDE ANALYSIS REPORT DECEMBER 2021

1	Name of Industry	:	**M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga**
2	Date of Sampling	:	13.12.2021 & 14.12.2021
3	Date of Analysis	:	15.12.2021 TO 18.12.2021
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)
13.12.2021	Bomaloi	Bela Tree, Rice Plant	*Aegle marmelo, Oryza Sativa*	AOAC 975.04	1.94
13.12.2021	Gurupali	DubaGhasa, Neem Tree	*Cynodondactylo, AzadirachtaIndica*	AOAC 975.04	1.68
13.12.2021	Plant Site	Sisu Tree, DubaGhasa	*Dalbergiasissoo, Cynodondactylon*	AOAC 975.04	2.4
13.12.2021	Thelkolai	Karanj Tree, DubaGhasa	*Pongame oil tree, Cynodondactylon*	AOAC 975.04	1.8
13.12.2021	Gumukarma	Bamboo Tree, Rice Plant	*Bambusoideae, Oryza Sativa*	AOAC 975.04	1.84
14.12.2021	Ghichamura	Baulakoli Tree, Rice Plant	*Mimusopselengi, Oryza Sativa*	AOAC 975.04	1.16
14.12.2021	Tileimal	Rice Plant	*Oryza Sativa*	AOAC 975.04	1.20
14.12.2021	Lapanga	Neem tree, Rice Plant	*Azadirachtaindica, Oryza Sativa*	AOAC 975.04	1.98
14.12.2021	Jangala	DubaGhasa , Sisu Tree, Rice Plant	*Cynodondactylon, DalbergiaSisso, Oryza Sativa*	AOAC 975.04	0.88
14.12.2021	Bhadrapali	Karanj Tree, Duba Grass	*Pongame oil tree, Cynodondactylon*	AOAC 975.04	1.34

Prepared by: **Verified by:**

Ref : Envlab/20/R- 5094 **Date : 29.03.2022**

FORAGE FLOURIDE ANALYSIS REPORT MARCH 2022

1	Name of Industry	:	**M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga**
2	Date of Sampling	:	15.03.2022 & 16.03.2022
3	Date of Analysis	:	17.03.2022 to 22.03.2022
4	Name of the Sample	:	Vegetation Sample
5	Sampling Location	:	Bomaloi, Guripalli, Plant Gate, Thelkolai, Gumukarma, Ghichamura , Tileimal, Lapanga, Jangala, Bhadrapali
6	Sample Collected By	:	VCSPL Representative in presence of Clients representative

Date of Samplin	Name of the Location	Type of Species	Scientific Name	Method of Analysis	Result (PPM)
15.03.2022	Bomaloi	Rice Plant, Curry Tree leaf	*Oryza Sativa, Murraya Koenigii*	AOAC 975.04	1.41
15.03.2022	Gurupali	Bela Tree , Duba Grass	*Aegle marmelos Cynodon dactylon*	AOAC 975.04	1.24
15.03.2022	Plant Site	Sisoo Tree, Karanja Tree	*Dalbergia Sissoo Roxb Pongame oil tree*	AOAC 975.04	1.72
15.03.2022	Thelkolai	Duba Grass, Jammu Tree	*Cynodon dactylon Syzygium cumini*	AOAC 975.04	1.18
15.03.2022	Gumukarma	Bamboo Tree, Duba Grass	*Bambusoideade Cynodon dactylon*	AOAC 975.04	1.34
16.03.2022	Ghichamura	Baulakoli Tree, badhial Tree	*Mimusops elengi*	AOAC 975.04	0.74
16.03.2022	Tileimal	Bela tree, Duba Tree	*Aegle marmelos Cynodon dactylon*	AOAC 975.04	0.82
16.03.2022	Lapanga	Neem tree, Rice Plant	*Azadirachta Indica Oryza Sativa*	AOAC 975.04	1.41
16.03.2022	Jangala	Rice Plant, Brinjal Leaf	*Oryza Sativa, Solanum*	AOAC 975.04	1.18
16.03.2022	Bhadrupali	DubaGrass,Tomato Leaf	*Cynodon dactylon, Solanumlycopersicum*	AOAC 975.04	1.42

Note: ND: Not Detected.

Reviewed By BSR

Approved By BSR

Ref : Envlab/21/R- 9382 **Date : 29.12.2021**

STACK EMISSION MONITORING REPORT FOR DECEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.12.2021
3. Sampling Location : **ST-7: Stack attached to ABF-1 - FTC-1**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 1
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysi : 16.12.2021 TO 18.12.2021

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 (RA 2008)	**-**	93.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	**-**	12.8
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	122018.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.3
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	9.4
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	**-**	373.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	**-**	75.7
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.40
Total Fluoride as F	mg/Nm^3	Calculation	-	0.52
Fluoride Emission	Kg/T	Calculation	**-**	0.0015
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: ND: Not Detected

Reviewed By

Approved By

Ref : Envlab/21/R- 9383 **Date : 29.12.2021**

STACK EMISSION MONITORING REPORT FOR DECEMBER-2021

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.12.2021
3. Sampling Location : **ST-8: Stack attached to ABF-2 - FTC-2**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 1
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 16.12.2021 TO 18.12.2021

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	^{0}C	IS 11255: Part 3 :1985 (RA 2008)	-	88.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	11.9
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	69444.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	743.9
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	13.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	-	329.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	72.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	-	0.0008
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: ND: Not Detected.

Reviewed By

Approved By

Ref : Envlab/21/R-5307 **Date : 01.04.2022**

STACK EMISSION MONITORING REPORT FOR MARCH-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 14.03.2022
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 : 15.03.2022 TO 17.03.2022

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)	-	101.0
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)	-	121311.5
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	742.2
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	8.7
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	383.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	75.9
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	-	0.0014
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: BDL: Below Detection Limit.

Reviewed By *Approved By*

Ref : Envlab/21/R-5308 **Date : 01.04.2022**

STACK EMISSION MONITORING REPORT FOR MARCH-2022

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 14.03.2022
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 : 15.03.2022 TO 17.03.2022

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	^{0}C	IS 11255: Part 3 :1985 (Reaff 2008)	-	94.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	12.0
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	68728.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	741.6
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	10.3
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	338.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	77.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.12
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.38
Total Fluoride as F	mg/Nm^3	Calculation	-	0.50
Fluoride Emission	Kg/T	Calculation	-	0.0008
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	BDL
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	BDL

Note: BDL: Below Detection Limit.

Reviewed By *Approved By*

Visiontek Consultancy Services Pvt. Ltd.

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

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

Ref: Envlab/21/R-3048 Date: 06/01/22

FLY ASH ANALYSIS REPORT-DECEMBER 2021

1. Name of Industry : **M/s Hindalco Industries Limited (Unit- Aditya Aluminium), Lapanga.**
2. Sampling Location : **FA-01:** CPP Fly Ash Silo
3. Date of Sampling : 20.12.2021
4. Date of Analysis : 21.12.2021 TO 27.12.2021
5. 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	%	0.21	mg/kg	2200
2	MgO	%	0.92	mg/kg	9100
3	Al_2O_3	%	21.2	mg/kg	216000
4	SiO_2	%	50.8	mg/kg	512000
5	P_2O_5	%	0.024	mg/kg	210
6	SO_3	%	2.1	mg/kg	24000
7	K_2O	%	0.82	mg/kg	8300
8	CaO	%	4.2	mg/kg	45000
9	TiO_2	%	--	mg/kg	---
10	MnO	%	0.21	mg/kg	2200
11	Fe_2O_3	%	9.2	mg/kg	94000
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	%	0.014	mg/kg	153
4	Chromium as Cr	%	< 0.002	mg/kg	< 0.002
5	Vanadium as V	%	<0.001	mg/kg	<0.001
6	Iron as Fe	%	5.2	mg/kg	54000
7	Cobalt as Co	%	<0.001	mg/kg	<0.001
8	Copper as Cu	%	0.059	mg/kg	620
9	Nickel as Ni	%	0.089	mg/kg	930
10	Zinc as Zn	%	0.051	mg/kg	524
11	Strontium as Sr	%	--	mg/kg	--
12	Barium as Ba	%	<0.001	mg/kg	<0.001

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- 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: Envlab/21/R-3049 Date: 05/01/22

BOTTOM ASH ANALYSIS REPORT-DECEMBER 2021

1. Name of Industry : **M/s Hindalco Industries Limited (Unit- Aditya Aluminium), Lapanga.**
2. Sampling Location : **BA-01:** CPP Bottom Ash Silo
3. Date of Sampling : 20.12.2021
4. Date of Analysis : 21.12.2021 TO 27.12.2021
5. Sample Collected By : VCSPL Representative in presence of Aditya Aluminium Representative.

Sl. No.	Parameters	Unit	Analysis Results BA-01	Unit	Analysis Results BA-01
Chemical Analysis					
1	Na_2O	%	0.28	mg/kg	2600
2	MgO	%	2.6	mg/kg	28000
3	Al_2O_3	%	28.1	mg/kg	268000
4	SiO_2	%	59.4	mg/kg	591000
5	P_2O_5	%	0.026	mg/kg	220
6	SO_3	%	1.21	mg/kg	118000
7	K_2O	%	0.96	mg/kg	9200
8	CaO	%	3.24	mg/kg	329000
9	TiO_2	%	--	mg/kg	--
10	MnO	%	0.29	mg/kg	3300
11	Fe_2O_3	%	6.8	mg/kg	70000
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	%	0.014	mg/kg	148
4	Chromium as Cr	%	< 0.002	mg/kg	< 0.002
5	Vanadium as V	%	<0.001	mg/kg	<0.001
6	Iron as Fe	%	6.8	mg/kg	69000
7	Cobalt as Co	%	<0.001	mg/kg	<0.001
8	Copper as Cu	%	0.026	mg/kg	220
9	Nickel as Ni	%	0.096	mg/kg	940
10	Zinc as Zn	%	0.068	mg/kg	660
11	Strontium as Sr	%	--	mg/kg	--
12	Barium as Ba	%	<0.001	mg/kg	<0.001

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