ADITYA BIRLA

HINDALCO

Letter No: AAP/E&S/EC/2020/633

Date: 25/11/2020

To

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

Sub: Submission of Six Monthly Compliance from April' 20 to Sep' 20.

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.

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 April 2020 to September 2020.

Kindly acknowledge receipt of the reports.

Thanking You

Yours faithfully
For Aditya Aluminium

(K. N. Pandey)
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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STATUS OF IMPLEMENTATION OF CONDITIONS STIPULATED IN ENVIRONMENTAL CLEARANCE FOR 7,20,000 TPA ALUMINIUM SMELTER & 1650 MW CAPTIVE POWER PLANT FOR ADITYA ALUMINIUM BY M/S HINDALCO INDUSTRIES AT LAPANGA, SAMBALPUR, ORISSA.

Ref: Environmental Clearance Letter No: J-11011/136/2009-IA.I(1), Dated 29th November 2012, EC amendment dated 14 June 2013,14 Aug 2018 & 20July 2020 from MOEF&CC, GOI.

Sr. No.	Specific Conditions	Compliance
i)	The streams passing through the project site shall not be disturbed w.r.t their quantity and quality of flow	The streams passing through the project site is not being disturbed.
ii)	Alumina shall be obtained from those refineries, which have been accorded environmental clearance by the Ministry of Environment and Forests.	Alumina is being obtained from refineries which have been accorded environmental clearance. At Present, the Alumina is being obtained from Utkal Alumina International Limited (UAIL), Rayagada Distt. and it has been accorded environmental clearance from MoEFCC. We have kept an option of importing Alumina in case of any shortage in supply from the above source.
iii)	The gaseous emissions (PM, SO_2, NOx, PAH, HC, VOCs and Fluoride) from various process units shall confirm to the standards prescribed by the concerned authorities from time to time. The SPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the Industry and its size and location. At no time the emissions level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency. The particulate emissions from the bake oven plant shall not exceed 50 mg/Nm^3.	Online Monitoring equipments have been installed at the outlet of following stacks for monitoring of particulate matter and gaseous emissions. The online data has been connected to the Servers of OSPCB and CPCB. a) Smelter GTC 1 & 2- 2 Nos. b) Smelter FTC 1 & 2 - 2 Nos. c) CPP Unit 1 to 6 - 6 Nos. Particulate matter emission from the bake oven does not exceed the prescribed limit of 50 mg/Nm3. The summarized monitoring report w.r.t. particulate matter emission from April' 20 to Sept' 20 in Anoe baking Furnace stacks of stated below Stack attached to / PM Emission (mg/Nm3) (Min) (Max) (Avg) FTC # 1: 6.3 / 9.2 / 7.75 FTC # 2: 7.4 / 27.6 / 13.37 The monitoring report of Fume treatment Plant

<table>
<tr><td></td><td></td><td>stacks is attached as Annexure-1.</td></tr>
<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 April' 20 to Sept' 20 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>0.13</td><td>0.15</td><td>0.14</td></tr><tr><td>GTC # 2</td><td>0.13</td><td>0.15</td><td>0.14</td></tr></table>
The average fugitive particulate fluoride emission from pot rooms during April' 20 to Sept' 20 is 0.08 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 varies between 0.04 mg/m3 to 0.42 mg/m3 and average is 0.16 mg/m3 during April' 20 to Sept' 20.

Forage fluoride analysis around the smelter is being carriedout on quarterly basis and the concentration of the forage fluoride (analysed</td></tr>
</table>

		in June 2020) are listed below: **Location** / **Species** / **Fluoride (in ppm)** Bomaloi / Duba Grass (Cynodon dactylon) / 1.42 Gurupali / Bela Tree (Aegle marmelos) / 1.14 Plant Gate / Sisoo Tree (Dalbergia Sissoo Roxb), Karanja Tree (Pongame Oil tree) / 1.62 Thelkolai / Krushnachuda Tree (Caesalpini pulcherrima), Jammu Tree (Syzgium cumini) / 1.20 Gumukarma / Bamboo Tree (Bambusoideade), Duba Grass (Cynodon dactylon) / 1.51 Ghichamura / Baulakoli Tree (Mimusops elengi) / 0.78 Tileimal / Bela Tree (Aegle marmelos), Duba Grass (Cynodon dactylon) / 0.94 Lapanga / Neem Tree(Azadirachta indica) / 1.56 Jangala / Brinjal (Solanum Melongena) / 1.28 Bhadrapali / Cucumber(Cucumis Sativus) / 1.32 Dry scrubbing system is being provided as gas treatment centre (GTC) to each of the pots in the pot room to control fugitive emission.
vii)	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.	Electrostatic Precipitators (ESP) of adequate efficiency is installed in Captive Power Plant (CPP) to restrict particulate emissions within 50 mg/Nm^3. Two nos. of Gas Treatment Centre (GTC) provided and connected to each 180 pots. Besides, Bag filters installed in all the material handling & transfer points in Smelter. Fume treatment centre (FTC) provided to each Anode Baking Furnaces to treat the tar fumes, dust, gaseous and particulate fluorides generated during Anode Baking. The standards prescribed by the Ministry/ CPCB/ SPCB is being adhered. The results of the stack emission from the CPP units from April' 20 to Sept' 20 is stated below: CPP Stack / PM Emission (mg/Nm3)

		(Min) (Max) (Avg) CPP 1 40.5 44.2 42.32 CPP 2 41.5 47.4 45.13 CPP 3 42.3 46.3 44.73 CPP 4 41.1 47.5 44.37 CPP 5 41.4 46.6 43.48 CPP 6 39.8 47.7 43.62
viii)	Provision for installation of FGD shall be provided for future use.	Provisional Space has been kept for installation of FGD and will be utilized for the proposed FGD near to the Power plant. CTE for the proposed Semi dry FGD project has been applied to OSPCB.
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 SO2, 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

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<tr><td></td><td></td><td>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.

We have dispatched fly ash thorugh BOXN Wagon in Rakes to various cement manufacturing units. The ash utilization has increased by this effort.

The Status of ash utilization from April' 20 to Sept' 20 is stated below:

<table><tr><th>Apr'20 to Sept'20</th><th>Quantity in MT</th></tr><tr><td>Total ash generated</td><td>741154.6</td></tr><tr><td>Total Ash Utilised</td><td>598344</td></tr><tr><td>Utilization (%)</td><td>80.73 %</td></tr></table>
Details of the ash utilization from April' 20 to Sept' 20 is attached as annexure- 3.

Due to Covid-19 Lockdown, the ash dispatch to cement plants, ash brick manufacturers etc has been impacted, therefore we are not able achieve the target ash utilization in the FY 19-20 & FY 20-21 (till September).</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, Pbetc) 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 Dsipsoal (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-4.

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 April' 20 to Sept' 20 is 7.64 kg/ton of Aluminium produced.</td></tr>
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xiv)	Anode butts generated from the pots shall be cleaned and recycled to the Anode Plant. The spent pot lining generated from the smelter shall be properly treated in spent pot lining treatment plant to remove fluoride and cyanide and disposed-off in secured landfill. The location and design of the land fill site shall be approved by the SPCB as per the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008. Leachate collection facilities shall be provided to the secured land fill facilities (SLF). The dross shall be recycled in the cast house. STP sludge shall be utilized as manure for greenbelt development. All the used oil and batteries shall be sold to the authorized recyclers/ re-processors.	Anode butts generated from the pots is being cleaned and recycled completely for making green anode in green anode plant. 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 given by OSPCB. Quantity 6875 MT SPL Refractory is in stock till end of October 2020 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users. 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 Actual Users/CHW-TSDF for recycling/disposal. 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.
xvi)	Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached. Ash pond water shall be recirculated and reused.	The ash disposal area has been studied and Designed by the Experts of NIT-Rourkela. The ash pond and water decantation system is constructed in line with the design & drawings provided by NIT-Rourkela. The ash pond is provided with HDPE liner and adequate safety measures have been taken to 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.
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-5. 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 will be carried out after establishment of the SLF.
xx)	Total water requirement for the expansion from Hirakud Reservoir shall not exceed 5,200 m3/hr and prior permission for the existing and proposed expansion shall be obtained from the concerned department before commissioning of the plant. All the effluent including from the cooling tower and de-mineralization plant shall be treated in the effluent treatment plant and treated effluent shall be recycled/reutilized in the process in smelter and CPP and also for fire protection, dust suppression, greenbelt development etc. Domestic effluent shall be treated in sewage treatment plant (STP) and treated domestic waste water will be used for greenbelt development.	No additional fresh water will be sourced from Hirakud Reservoir for the proposed expansion. The water requirement estimated for the expansion is within 52.73 cusec, as approved. The Effluent from the cooling towers and de-mineralization plant is being treated in Double Stage RO based effluent treatment plant and is being reused/reutilized in the process of CPP. Separate Sewage Treatment Plant (STP) is installed @ capacity 25 m^3/hr for Smelter & Captive Power Plant, STP of 300 KLD capacity is installed at Township area and the treated water being used for greenbelt development.
xxi)	No effluent shall be discharged outside the premises of smelter during non-monsoon period and shall be discharged during the monsoon period only after treatment and meeting the 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	Aditya Aluminium has developed Greenbelt over 941 acres inside the Core plant & Township areas. Around 5,76,500 saplings

	guidelines having density of 2,000 trees/Ha.	planted till October 2020.
xxiii)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is being done as per the Odisha Factories Act.
xxiv)	The company shall develop rain water structures in the township area for recharge of ground water in consultation with the Central Ground Water Authority/Board.	Rain water recharging arrangement is being made in the township buildings, besides a rain water harvesting pond is being established inside the township area which is being utilised for gardening purposes. 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-6.
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-7.
xxviii	All the commitments made to the public during public hearing /public consultation meeting held on 2nd march 2012 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.	All the commitments made to the public during public hearing/public consultation meeting held on 2nd march 2012 is being complied. (Status of implementation is enclosed as annexure-8).
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 Enterpise Social Commitment (ESC) till September 2020 is Rs 49.66 Crores. The details of the expenditure made under Enterpise Social Commitment (ESC) till September 2020 is attached as annexure-9.
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	The construction activities are completed after the plant is installed & commissioned. However, in case of any construction & maintainance activities from time to time we

	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.	are providing all necessary infrastructure and facilities to the workers as per rules & guidelines.
xxx i)	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	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.

	prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (nighttime).	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-10.
ix)	Requisite fund shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment & Forests as well the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	Requisite fund was allocated and has been spent towards capital cost and recurring cost/annum is also allotted & spent for environment pollution control measures & environmental management in each year.
x)	A copy of the clearance letter shall be send by 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	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

	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.	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. The monitoring data in respect of AAQ, water, soil, noise etc is enclosed as Annexure-11.
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.	The environmental statement for each financial year ending 31st March in Form-V is being submitted to the concerned authorities of SPCB and MoEF.
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.	Carbon part is being supplied to M/s Green Energy Limited, Sambalpur for reprocessing and utilization, in this way the carbon part is completely recycled. The SPL refractory part generated is being stored inside the covered shed in line with the Rule-8 of HW (H,M & TM) Rules, 2016 for disposal to CHW-TSDF. 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 given by OSPCB. Total quantity 6875 MT SPL Refractory is in stock till end of October 2020 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users.
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 units 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 April' 20 to Sept' 20. Started Fly ash dispatched thorugh BOXN Wagon in Rakes to various cement manufacturing units and resulted increase in ash utilization. Due to Covid-19 Lockdown, the ash dispatch to cement plants, ash brick manufacturers etc has been impacted, therefore we are not able achive the target ash utilization in the FY 19-20 & FY 20-21 (till September).
iii)	All the measures proposed during the presentation	We have noted and will be implemented.

	and application shall be implemented.	
iv)	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.	We have noted and accepted.
v)	The project proponent shall develop in-house facilities for treatment of SPL in 2 to 3 years.	We are in the process of exploring suitable technology for treatment and areas of utilization and disposal of SPL. Carbon part is being suppied to M/s Green Energy Resureces for detoxification and reuse as carbon fuel. Refractory part started dispatching to CHW-TSDF of M/s Ramky at Jajpur, Odisha for detoxification and disposal in the SLF.
vi)	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.	It is being Complied.
vii)	The Project Proponent shall take fresh environment clearance in case of any change in the scope of the project.	There is no change in the scope of the project.

Encl: As above

(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, Odisha
3	Address for communication	Aditya Aluminium (A Div. of Hindalco Industries Limited) At/Po- Lapanga, Dist- Sambalpur Pin - 768 212, Odisha
4	Existing vegetation in the area/ region	At present several types of vegetation available in the area, however some of the names mentioned asfollows- Terminalia arjuna; Pongamia pinnata; Gmelina arboria; Anthocephallus cadamba; Dalbergia latifolia; Azadiracta indica;Albizzia Lebbeck; Delonix regia; Ailanthus exelsa, Casseasiamea; Cassia fistula, Butea monosperma, Madhuca indica etc
5	a) Species: (trees/shrubs/grasses/climbers)	Terminalia arjuna; Pongamia pinnata; Gmelina arboria; Anthocephallus cadamba; Dalbergia latifolia; Azadiracta indica; Albizzia Lebbeck; Delonix regia; Ailanthus exelsa, Casseasiamea; Cassia fistula, etc Butea monosperma, Madhuca indica etc trees 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	941 acres covered under greenbelt Oct 2020.
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 941 acres of land has been covered under greenbelt and the remaining area will be completed by next year.				

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	Terminalia arjuna; Pongamia pinnata; Gmelina arboria; Anthocephallus cadamba; Dalbergia latifolia; Azadiracta indica; Albizzia Lebbeck; Delonix regia; Ailanthus exelsa,Cassea siamea; Cassia fistula, etc	2*2	32'-36'	14.7 Ha	Plantation is being done in phased manner.
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	15'-18'	20.0 Ha	
2017-18		2*2	12'-15'	46.8 Ha	
2018-19		2*2	9'-12'	45.0 Ha	
2019-20		2*2	5'- 7'	82.96 Ha	
2020-21		2*2	2'-3'	80.94 Ha	
Total				381 Ha or 941 Acres	

c) Survival of Plantation:

Total Plantation (No.)	5,76,500
Survival (No.)	5,18,850
Survival rate	Approx 90%

9. Agency carrying out plantation and maintenance: NA

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

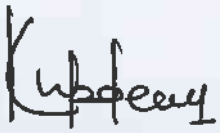
Sl. No.	Year	Fund allocated(Rs)	Expenditure made(Rs)	Average cost of each surviving plant in Rs
1	2010-11	81,62,000	81,62,000.00	245.00
2	2011-12			
3	2012-13	46,21,600	46,21,600.00	121.00
4	2013-14	13,62,500	13,62,500.00	121.00
5	2014-15	18,53,000	18,53,000.00	115.00
6	2015-16	18,65,000	18,65,000	109.00
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	75,00,00	50,00,000	45 (till Sep)

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.



(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 : 68
   b) Employment given so far : 59

6. Rehabilitation & Resettlement details : Total Displaced Persons Numbers - 433

a	No. of families rehabilitated				
i	Name of the Site	Aditya Aluminium			
ii	Families rehabilitated	SC	ST	OTH	Total
		08	387	18	413
b	Families yet to be rehabilitated				
i	Name of the Site(s)	Aditya Aluminium			
ii	No. of families (Total - 433)	SC	ST	OTH	Total
		00	19	1	20

7. Any other information : Nil

(Signature)

Visiontek Consultancy Services Pvt. Ltd.

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ISO 9001 : 2008
ISO 14001: 2015
OHSAS 45001 : 2018

Ref No : Envlab/20/R-027 Date : 02.05.2020

STACK EMISSION MONITORING REPORT – APRIL 2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 29-04-2020
3. Sampling Location : **Stack Attached to FTC-1 (ABF-1)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 30-04-2020 TO 02-05-2020

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

Parameters	UOM	Protocol	Permissible Limit	Results
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)	-	11.0
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	106219.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	738.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	7.8
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	273.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	82.8
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.44
Total Fluoride	mg/Nm^3	Calculation	-	0.58
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	ND

For **Visiontek Consultancy Services Pvt.Ltd.**

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001: 2015
OHSAS 45001 : 2018

Ref No : Envlab/20/R-028 Date : 02.05.2020

STACK EMISSION MONITORING REPORT – APRIL 2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 29-04-2020
3. Sampling Location : **Stack Attached to FTC-2 (ABF-2)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 30-04-2020 TO 02-05-2020

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

Parameters	UOM	Protocol	Permissible Limit	Results
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)	-	9.4
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	54050.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	737.9
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	11.4
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	227.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	94.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.16
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.43
Total Fluoride	mg/Nm^3	Calculation	-	0.59
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	ND

For Visiontek Consultancy Services Pvt.Ltd.

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Visiontek Consultancy Services Pvt. Ltd

(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008
ISO 14001: 2015
OHSAS 45001: 2018

Ref: **Envlab/20/R-0249** *Date:* **30.05.2020**

STACK EMISSION MONITORING REPORT FOR MAY-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 22-05-2020
3. Sampling Location : **Stack attached to FTC-1 (ABF-1)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 23-05-2020 TO 26-05-2020

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	UOM	Protocol	Permissible Limit	Results
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)	-	11.1
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	105281.7
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	738.4
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	6.9
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	258.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	76.4
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.43
Total Fluoride as F	mg/Nm^3	Calculation	-	0.57
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	ND

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ISO 9001 : 2008
ISO 14001 : 2015
OHSAS 45001 : 2018

Ref: **Envlab/20/R-0250** *Date:* **30.05.2020**

STACK EMISSION MONITORING REPORT FOR MAY-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 22-05-2020
3. Sampling Location : **Stack attached to FTC-2 (ABF-2)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 23-05-2020 TO 26-05-2020

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	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^0C	IS 11255: Part 3 :1985 (RA 2008)	-	103.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	10.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	62114.5
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	737.6
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	10.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	240.3
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	93.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.45
Total Fluoride as F	mg/Nm^3	Calculation	-	0.6
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	ND

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ISO 9001: 2008
ISO 14001: 2015
OHSAS 45001: 2018

Ref: Envlab/2020/R-1060 Date: 30.06.2020

STACK EMISSION MONITORING REPORT FOR JUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 19-06-2020
3. Sampling Location : **Stack attached to FTC-1 (ABF-1)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 20-06-2020 TO 23-06-2020

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	UOM	Protocol	Permissible Limit	Results
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)	-	10.9
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	102848.1
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	738.7
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	8.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	243.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	73.9
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.43
Total Fluoride as F	mg/Nm^3	Calculation	-	0.57
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	ND

Note: ND: Not Detected

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Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2008
ISO 14001: 2015
OHSAS 45001: 2018

Ref: Rsmlab/20/R-106 | *Date:* 30-06-2020

STACK EMISSION MONITORING REPORT FOR JUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 19-06-2020
3. Sampling Location : **Stack attached to FTC-2 (ABF-2)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 20-06-2020 TO 23-06-2020

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	UOM	Protocol	Permissible Limit	Results
Stack Temperature	0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	89.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	10.5
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	60835.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	737.6
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	9.3
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	233.5
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	91.6
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.43
Total Fluoride as F	mg/Nm3	Calculation	-	0.57
Tar Fumes	mg/Nm3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	µg/Nm3	Gas Chromatography	-	ND

Note: ND: Not Detected.

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Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1918 **Date : 28.07.2020**

STACK EMISSION MONITORING REPORT FOR JULY-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 16.07.2020
3. Sampling Location : **ST-7: Stack attached to ABF-1 - FTC-1**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 17.07.2020 TO 18.07.2020

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)	-	102.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	10.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	102696.0
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	9.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	266.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	74.3
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.43
Total Fluoride as F	mg/Nm^3	Calculation	-	0.58
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	ND

Note: ND: Not Detected.

Reviewed By

Approved By

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ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1918 **Date : 28.07.2020**

STACK EMISSION MONITORING REPORT FOR JULY-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 16.07.2020
3. Sampling Location : **ST-8: Stack attached to ABF-2 - FTC-2**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 17.07.2020 TO 18.07.2020

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

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-8
Stack Temperature	^0C	IS 11255: Part 3 :1985 (Reaff 2008)	-	96.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	10.5
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	61085.9
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	7.4
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	224.5
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	92.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
Total Fluoride as F	mg/Nm^3	Calculation	-	0.57
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	ND

Note: ND: Not Detected.

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Ref : Envlab/20/R-3318 **Date : 31.08.2020**

STACK EMISSION MONITORING REPORT FOR AUGUST-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 28.08.2020
3. Sampling Location : **ST-7: Stack attached to ABF-1 - FTC-1**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 29.08.2020 TO 31.08.2020

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)	-	99.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	10.6
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	100602.2
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	736
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	7.7
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	-	271.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	66.2
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.42
Total Fluoride as F	mg/Nm3	Calculation	-	0.56
Tar Fumes	mg/Nm3	Extraction followed by Gas Chromatogrphy	-	ND
Poly Aromatic Hydrocarbon as PAHs	µg/Nm3	Gas Chromatography	-	ND

Note: ND: Not Detected.

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ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-3319 **Date : 31.08.2020**

STACK EMISSION MONITORING REPORT FOR AUGUST-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 28.08.2020
3. Sampling Location : **ST-8: Stack attached to ABF-2 - FTC-2**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 29.08.2020 TO 31.08.2020

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)	-	97.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	10.7
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	61121.4
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	733.9
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	14.3
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	-	236.5
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	78.8
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
Total Fluoride as F	mg/Nm^3	Calculation	-	0.57
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatogrphy	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu g/Nm^3$	Gas Chromatography	-	ND

Note: ND: Not Detected.

Prepared By Reviewed By

Ref : Envlab/20/R-3866 **Date : 01.10.2020**

STACK EMISSION MONITORING REPORT FOR SEPTEMBER-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.09.2020
3. Sampling Location : **ST-7: Stack attached to ABF-1 - FTC-1**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 16.09.2020 to 18.09.2020

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 (RA 2008)	-	110.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	13.0
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	121229.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	732.0
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	6.3
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C:2017	-	282.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	61.6
Particulate Fluoride	mg/Nm3	EPA Method 13B :2017 Distillation followed by Ion Electrode method	-	0.13
Gaseous Fluoride	mg/Nm3	EPA Method 13 B :2017 Ion Electrode method	-	0.45
Total Fluoride as F	mg/Nm3	Calculation	-	0.58
Tar Fumes	mg/Nm3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	µg/Nm3	EPA Method 429 : 1997 Gas Chromatography	-	ND

Note: ND: Not Detected.

Reviewed By

Approved By

Ref : Envlab/20/R-3867 **Date : 01.10.2020**

STACK EMISSION MONITORING REPORT FOR SEPTEMBER-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.09.2020
3. Sampling Location : **ST-8: Stack attached to ABF-2 - FTC-2**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 16.09.2020 to 18.09.2020

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)	-	96.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	9.4
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	53792.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	731.2
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	27.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C:2017	-	248.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	64.9
Particulate Fluoride	mg/Nm^3	EPA Method 13B :2017 Distillation followed by Ion Electrode method	-	0.19
Gaseous Fluoride	mg/Nm^3	EPA Method 13 B :2017 Ion Electrode method	-	0.42
Total Fluoride as F	mg/Nm^3	Calculation	-	0.61
Tar Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	µg/Nm^3	EPA Method 429 : 1997 Gas Chromatography	-	ND

Note: ND: Not Detected.

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OHSAS 45001 : 2018

Ref No : Envlab/20/R-025 Date : 02.05.2020

STACK EMISSION MONITORING REPORT – APRIL 2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 03-04-2020
3. Sampling Location : **Stack Attached to GTC-I (Potroom)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 04-04-2020 TO 06-04-2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^0C	IS 11255: Part 3 :1985 (RA 2008)	-	107.0
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)	-	1977372.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	743.7
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	5.8
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	76.3
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	65.1
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
Total Fluoride	mg/Nm^3	Calculation	-	0.56

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Ref No : Envlab/20/R-026 Date : 02.05.2020

STACK EMISSION MONITORING REPORT – APRIL 2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 13-04-2020
3. Sampling Location : **Stack Attached to GTC-2 (Potroom)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 14-04-2020 TO 16-04-2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^0C	IS 11255: Part 3 :1985 (RA 2008)	-	112.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	7.2
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1725018.2
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	741.2
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	6.8
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	72.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	53.8
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.41
Total Fluoride	mg/Nm^3	Calculation	-	0.56

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Ref: **Envlab/20/R-0251** *Date:* **30.05.2020**

STACK EMISSION MONITORING REPORT FOR MAY-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 22-05-2020
3. Sampling Location : **Stack attached to GTC-1 (Potroom)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 23-05-2020 TO 26-05-2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
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)	-	7.9
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1971877.9
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.5
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	-	83.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	77.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.13
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
Total Fluoride	mg/Nm^3	Calculation	-	0.55

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Ref: **Envlab/20/R-0252** *Date:* **30.05.2020**

STACK EMISSION MONITORING REPORT FOR MAY-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 22-05-2020
3. Sampling Location : **Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 23-05-2020 TO 26-05-2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^0C	IS 11255: Part 3 :1985 (RA 2008)	-	106.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	7.3
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1724534.5
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.7
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	4.7
Sulphur dioxide as SO2	mg/Nm^3	EPA Method 6C	-	67.6
Oxides of Nitrogen as NOx	mg/Nm^3	EPA Method 7E	-	58.8
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.41
Total Fluoride	mg/Nm^3	Calculation	-	0.55

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Ref: Envlab/20/R-1058 *Date:* 30.06.2020

STACK EMISSION MONITORING REPORT FOR JUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 16-06-2020
3. Sampling Location : **Stack attached to GTC-1 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 17-06-2020 TO 19-06-2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	°C	IS 11255: Part 3 :1985 (RA 2008)	-	92.0
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)	-	1995622.9
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.8
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	7.7
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	78.3
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	74.9
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.44
Total Fluoride	mg/Nm^3	Calculation	-	0.58

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ISO 9001 : 2008
ISO 14001: 2015
OHSAS 45001: 2018

Ref: Envlab/20/R-1059 Date: 30.06.2020

STACK EMISSION MONITORING REPORT FOR JUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 16-06-2020
3. Sampling Location : **Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 17-06-2020 TO 19-06-2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^0C	IS 11255: Part 3 :1985 (RA 2008)	-	99.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.5
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2041508.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.6
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	3.1
Sulphur dioxide as SO2	mg/Nm^3	EPA Method 6C	-	81.2
Oxides of Nitrogen as NOx	mg/Nm^3	EPA Method 7E	-	63.4
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.13
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.44
Total Fluoride	mg/Nm^3	Calculation	-	0.57

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ISO/IEC 17025:2005

Ref : Envlab/20/R-1916 **Date : 28.07.2020**

STACK EMISSION MONITORING REPORT FOR JULY-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 02.07.2020
3. Sampling Location : **ST-9: Stack attached to GTC-1 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 03.07.2020 TO 04.07.2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
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)	-	7.9
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1971877.9
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.5
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part I :1985 (RA 2003)	50	4.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	83.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	77.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.13
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
Total Fluoride	mg/Nm^3	Calculation	-	0.55

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Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1917 **Date : 28.07.2020**

STACK EMISSION MONITORING REPORT FOR JULY-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 08.07.2020
3. Sampling Location : **ST-10: Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 09.07.2020 TO 10.07.2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	450 TPD
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)	-	112.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	7.3
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1725915.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	735.2
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	**50**	4.1
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	87.8
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	65.6
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.43
Total Fluoride	mg/Nm^3	Calculation	-	0.58

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Committed For Better Environment

Ref : Envlab/20/R-3316 **Date : 31.08.2020**

STACK EMISSION MONITORING REPORT FOR AUGUST-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 10.08.2020
3. Sampling Location : **ST-9: Stack attached to GTC-1 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 11.08.2020 TO 13.08.2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^{0}C	IS 11255: Part 3 :1985 (RA 2008)	-	106.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.6
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2065672.8
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	739.7
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	3.3
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C:2017	-	83.2
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	62.4
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.45
Total Fluoride	mg/Nm^3	Calculation	-	0.6

Prepared By Reviewed By

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-3317 **Date : 31.08.2020**

STACK EMISSION MONITORING REPORT FOR AUGUST-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 13.08.2020
3. Sampling Location : **ST-10: Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 14.08.2020 TO 15.08.2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	450 TPD
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)	-	112.0
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)	-	1915052.2
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	737.8
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	3.7
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C :2017	-	91.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	57.8
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.44
Total Fluoride	mg/Nm^3	Calculation	-	0.58

Prepared By

Reviewed By

Ref : Envlab/20/R-3864 **Date : 01.10.2020**

STACK EMISSION MONITORING REPORT FOR SEPTEMBER-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 01.09.2020
3. Sampling Location : **ST-9: Stack attached to GTC-1 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 03.09.2020 to 07.09.2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	450 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^{0}C	IS 11255: Part 3 :1985 (RA 2008)	-	107.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.6
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2062353.6
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	739.6
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	2.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C:2017	-	86.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	58.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.44
Total Fluoride	mg/Nm^3	Calculation	-	0.58

Reviewed By

Approved By

Ref : Envlab/20/R-3865 **Date : 01.10.2020**

STACK EMISSION MONITORING REPORT FOR SEPTEMBER-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : 02.09.2020
3. Sampling Location : **ST-10: Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 03.09.2020 to 07.09.2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	450 TPD
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)	-	111.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.4
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1976355.3
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	737.2
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	**50**	3.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C:2017	-	92.9
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E :2017	-	53.3
Particulate Fluoride	mg/Nm^3	EPA Method 13B :2017 Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm^3	EPA Method 13 B :2017 Ion Electrode method	-	0.45
Total Fluoride	mg/Nm^3	Calculation	-	0.59

Reviewed By

Approved By

ANNEXURE-3

NAME OF THE INDUSTRY:- ADITYA ALUMINIUM

STATUS OF UTILIZATION OF COAL ASH (FLY ASH AND BOTTOM ASH), For the year: 2020-21

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 Ultratech, M/s ACC & M/s OCL) 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	April	2020	290868.92	900	593.59	102746.1	5407.7	108153.8	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.	492.96	23030.7	0	0	0	7651.28	0	0	76978.9	0	31174.9	31174.9	28.82	Due to Covid-19 Lockdown, the ash dispatch to cement plants, ash brick manufacturers etc has been impacted, therefore we are not able to utilize the 100% ash during this month.
2	May	2020	317518	900	601.17	118224.7	6222.4	124447.0		2932.65	124652.0	0	0	0	4438.64	0	0	-7576.3	10012.81	132023.3	142036.1	114.13	10012.81 MT Pond ash has been supplied to Dalmia Cement, Rajgangpur.
3	June	2020	324561.42	900	618.09	118233.7	6222.8	124456.5		5853.69	94204.6	0	0	0	4674.77	0	0	19723.4	5088.12	104733.1	109821.2	88.24	5088.12 MT pond ash has been supplied to Dalmia Cement, Rajgangpur.
4	July	2020	348874.04	900	627.67	126284.2	5261.8	131546.0		5255.26	118612.0	0	0	0	5192.88	0	0	2485.9	0	129060.1	129060.1	98.11	
5	August	2020	344566.03	900	643.54	125637.63	5234.86	130872.5		5385.81	68108.7	0	0	0	5525.55	0	0	51852.5	0	79020.0	79020.0	60.38	
6	September	2020	320760.95	900	642.87	115655.1	6023.70	121678.8		5495.41	94025.48	0	0	0	4350.78	0	0	17807.2	3360.0	103871.7	107231.67	88.13	3360 MT pond ash has been supplied to Dalmia Cement, Rajgangpur.
			1947149.4			706781.3	34373.3	741154.6		25415.8	522633.4	0	0	0	31833.9	0	0	161271.6	18460.9	579883.1	598344.0	80.7	

Ref : Envlab/20/R-1895 Date :20.07.2020

FLY ASH ANALYSIS REPORT JUNE-2020

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 : 15.06.2020
4. Date of Analysis : 16.06.2020 to 23.06.2020
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	%	0.24	mg/kg	2400.0
2	MgO	%	0.95	mg/kg	9500.0
3	Al_2O_3	%	20.8	mg/kg	208000.0
4	SiO_2	%	50.6	mg/kg	506000.0
5	P_2O_5	%	0.023	mg/kg	230.0
6	SO_3	%	2.2	mg/kg	22000.0
7	K_2O	%	0.84	mg/kg	8400.0
8	CaO	%	4.5	mg/kg	45000.0
9	TiO_2	%	--	mg/kg	---
10	MnO	%	0.23	mg/kg	2300.0
11	Fe_2O_3	%	9.5	mg/kg	95000.0
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	%	0.016	mg/kg	160.0
4	Chromium as Cr	%	< 0.002	mg/kg	< 0.002
5	Vanadium as V	%	<0.001	mg/kg	<0.001
6	Iron as Fe	%	5.0	mg/kg	50000
7	Cobalt as Co	%	<0.001	mg/kg	<0.001
8	Copper as Cu	%	0.061	mg/kg	610.0
9	Nickel as Ni	%	0.092	mg/kg	920.0
10	Zinc as Zn	%	0.054	mg/kg	540.0
11	Strontium as Sr	%	--	mg/kg	--
12	Barium as Ba	%	<0.001	mg/kg	<0.001

Prepare by : **Verified by:**

Ref : Envlab/20/R-1896 Date :20.07.2020

BOTTOM ASH ANALYSIS REPORT-JUNE 2020

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 : 15.06.2020
4. Date of Analysis : 16.06.2020 to 23.06.2020
5. Sample Collected By : VCSPL Representative in presence of Aditya Aluminium Representative.

Sl. No.	Parameters	Unit	Analysis Results	Unit	Analysis Results
			BA-01		BA-01
Chemical Analysis					
1	Na_2O	%	0.23	mg/kg	2300.0
2	MgO	%	2.0	mg/kg	20000.0
3	Al_2O_3	%	27.6	mg/kg	276000.0
4	SiO_2	%	60.0	mg/kg	600000.0
5	P_2O_5	%	0.022	mg/kg	220.0
6	SO_3	%	1.22	mg/kg	12200.0
7	K_2O	%	0.94	mg/kg	9400.0
8	CaO	%	3.25	mg/kg	32500.0
9	TiO_2	%	--	mg/kg	--
10	MnO	%	0.22	mg/kg	2200.0
11	Fe_2O_3	%	7.1	mg/kg	71000.0
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	%	0.016	mg/kg	160.0
4	Chromium as Cr	%	< 0.002	mg/kg	< 0.002
5	Vanadium as V	%	<0.001	mg/kg	<0.001
6	Iron as Fe	%	6.2	mg/kg	62000.0
7	Cobalt as Co	%	<0.001	mg/kg	<0.001
8	Copper as Cu	%	0.024	mg/kg	240.0
9	Nickel as Ni	%	0.090	mg/kg	900.0
10	Zinc as Zn	%	0.066	mg/kg	660.0
11	Strontium as Sr	%	--	mg/kg	--
12	Barium as Ba	%	<0.001	mg/kg	<0.001

Prepare by

Verified by:

Mitra S. K. Private Limited

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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/200
Date : 01.07.2020
Sample No. : MSKGL/ED/2020-21/06/00628
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-1 (Near Ash Pond)
Date of Sampling : 18.06.2020

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	7.38
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	2
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	153
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	<0.01
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	<0.5
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	19
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	14
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	<0.02
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.19
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.17
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	5.2
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	<0.02
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	3.2
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	<0.001
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.005
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	6
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	68
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.001
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	<0.01
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.005
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	<0.005
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.01
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	19
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	228
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	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	78

Report Prepared by:

MITRA S.K. PRIVATE LIMITED

Mitra S. K. Private Limited

Authorized Signatory

Mitra S. K. Private Limited

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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/201
Date : 01.07.2020
Sample No. : MSKGL/ED/2020-21/06/00629
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-2 (Near Proposed Ash Pond)
Date of Sampling : 18.06.2020

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	7.26
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	1.9
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	115
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	<0.01
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	<0.5
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	14
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	12
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	<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	0.57
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	5.7
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	<0.02
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	3.3
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	<0.001
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.005
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	6
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	58
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.001
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	<0.01
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.005
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	<0.005
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.01
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	12
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	172
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	3.1
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	54

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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/202
Date : 01.07.2020
Sample No. : MSKGL/ED/2020-21/06/00630
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-3 (Near RR Colony)
Date of Sampling : 18.06.2020

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	7.22
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	138
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	<0.01
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	<0.5
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	21
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	16
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	<0.02
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.31
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	<0.05
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	6.7
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	<0.02
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	4.2
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	<0.001
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.005
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	8
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	80
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.001
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	<0.01
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.005
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	<0.005
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.01
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	17
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	206
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	1
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	86

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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/202
Date : 01.07.2020
Sample No. : MSKGL/ED/2020-21/06/00630
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-4 (Near Bomaloi Village)
Date of Sampling : 18.06.2020

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	7.07
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	1.6
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	146
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	<0.01
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	<0.5
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	23.6
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	16
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	<0.02
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.12
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.2
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	6.1
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	<0.02
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	6.6
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	<0.001
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.005
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	<1.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	84
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.001
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	<0.01
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.005
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	<0.005
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	<0.01
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	17
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	222
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	2.2
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	70

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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/409
Date : 01.09.2020
Sample No. : MSKGL/ED/2020-21/08/00868
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-1 (Near Ash Pond)
Date of Sampling : 21.08.2020

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	2.1
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	131.0
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	18.4
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	14
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	0.34
10.	Iron as Fe in mg/l	0.3	No Relaxation	IS 3025 (Part 53)-1988 Rffm: 2014	0.09
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	2.9
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	2.4
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	5.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	58.0
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	15.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	209.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	3.0
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	76.0

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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/410
Date : 01.09.2020
Sample No. : MSKGL/ED/2020-21/08/00869
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-2 (Near Proposed Ash Pond)
Date of Sampling : 21.08.2020

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	7.08
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	2.1
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	106.0
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	12.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	17.0
8.	Copper as Cu in mg/l	0.05	1.5	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
9.	Flouride as F in mg/l	1.0	1.5	IS 3025 (Part 60)- 2008 Rffm: 2013	0.45
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	2.9
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	4.1
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	7.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	38.0
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	7.2
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	152.0
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	40.0

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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/411
Date : 01.09.2020
Sample No. : MSKGL/ED/2020-21/08/00870
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-3 (Near RR Colony)
Date of Sampling : 21.08.2020

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	7.14
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	1.8
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	134.0
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	25.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	30.0
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	BDL(DL:0.005)
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	5.7
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	3.4
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	9.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	72.0
18.	Cadmium as Cd in mg/l	0.003	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
19.	Cyanide as CN in mg/l	0.05	No Relaxation	IS 3025 (Part 27)- 1986; Rffm:2003	BDL(DL:0.005)
20.	Lead as Pb in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
21.	Mercury as Hg in mg/l	0.001	No Relaxation	IS 3025(Part 48)-1994	BDL(DL:0.005)
22.	Arsenic as As in mg/l	0.01	0.05	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.001)
23.	Total Chromium as Cr in mg/l	0.05	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
24.	Sodium as Na in mg/l	----	----	APHA 23rd Edition, 3500 Na B	13.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	192.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	2.6
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	54.0

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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/412
Date : 01.09.2020
Sample No. : MSKGL/ED/2020-21/08/00871
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-4 (Bomaloi Village)
Date of Sampling : 21.08.2020

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	7.17
2.	Turbidity in mg/l	1	5	IS 3025 (Part 10)-1984 Rffm: 2012	2.4
3.	Total Dissolved Solids as TDS in mg/l	500	2000	IS 3025 (Part 16)-1984; Rffm:2012	142.0
4.	Aluminium as Al in mg/l	0.03	0.2	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.01)
5.	Boron as B in mg/l	0.5	1.0	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.5)
6.	Calcium as Ca in mg/l	75	200	IS 3025 (Part 40)- 1991 Rffm: 2014	16.0
7.	Chloride as Cl in mg/l	250	1000	IS 3025 (Part 32)-1988 Rffm: 2014	12.5
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	0.21
11.	Magnesium as Mg in mg/l	30	100	IS 3025 (Part 46)-1994 Rffm: 2014	2.9
12.	Manganese as Mn in mg/l	0.1	0.3	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
13.	Nitrate as NO3 in mg/l	45	No Relaxation	IS 3025 (Part 34)-1988 Rffm: 2014	3.8
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	0.002	IS 3025 (Part 43)- 1992; Rffm: 2014	BDL(DL:0.001)
15.	Selenium as Se in mg/l	0.01	No Relaxation	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.005)
16.	Sulphate as SO4 in mg/l	200	400	IS 3025 (Part 24)- 1986 Rffm: 2014	6.0
17.	Total Hardness as CaCO3 in mg/l	200	600	IS 3025 (Part 21)-2013	52.0
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	17.0
25.	Conductivity in us/cm	----	----	APHA 23rd Edition, 2510B	228.0
26.	Potassium as K in mg/l	----	----	APHA 23rd Edition, 3500 K B 2017	1.8
27.	Zinc as Zn in mg/l	5	15	IS 3025 (Part 2) 2004 RA 2014	BDL(DL:0.02)
28.	Total Alkalinity as CaCO3 in mg/l	200	600	IS 3025 (Part 23)- 1986 Rffm: 2009	51.0

S. Kaunga
Report Prepared by:

MITRA S.K. PRIVATE LIMITED

Mitra S. K. Private Limited

P Pradhan
Authorized Signatory

Annexure- 6

Compliance Status from April 20 to Sep 20

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 fluoride emission for the period April 20 to Sep 20 is 0.14 kg/ton of metal produced.
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 April '20 to Sep'20 is 7.64 kg/ton of Aluminium 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.
6	The SPL should be disposed in secured landfill.	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 given by OSPCB. Quantity 6875 MT SPL Refractory is in stock till end of October 2020 and kept inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users.
7	Achieving particulate matter limit of 50 mg/Nm3 in anode baking furnace	It is being Complied with.

Annexure- 6

Compliance Status from April 20 to Sep 20

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 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:	Not Applicable

Annexure- 6

Compliance Status from April 20 to Sep 20

	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	
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
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-8

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 in for ITI studies in KIIT university. Students are trained 2 year diploma course at the cost of company CSR fund.
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 5,76,500 saplings inside the factory premises till October 2020 with an area of 941 acres. Also, the industry has started plantation in the vacant spaces of the surrounding R.R. Colony and have distributed 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.
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 doctors for better medical service in the Lapanga area.	The industry has been very actively contributing the greater causes of Health provided 10 maternity beds and drinking water cooler facility to Rengali PHC, 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 3000 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 Vegetable farming, Phenol making, Hand wash making, Tailoring, avenue Plantation & various social/health awareness programs, saving programs, to the 78 nos of SHGs and 7 Farmers Group adopted by Industry.
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 one football ground at Bomaloi. We conduct football tournaments at different villages every year as a part of promoting 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.

Annexure - 9

Expense incurred under Enterprise Social Commitment till Sep 2020:

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 Sep 2020	**2.43**	
Total Expense		49.66	

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 play ground or mini stadium in Bomaloi village, as stated in the minutes of Public consultation held before environmental clearance.
e) Free distribution of school books & 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 RR UPDATE

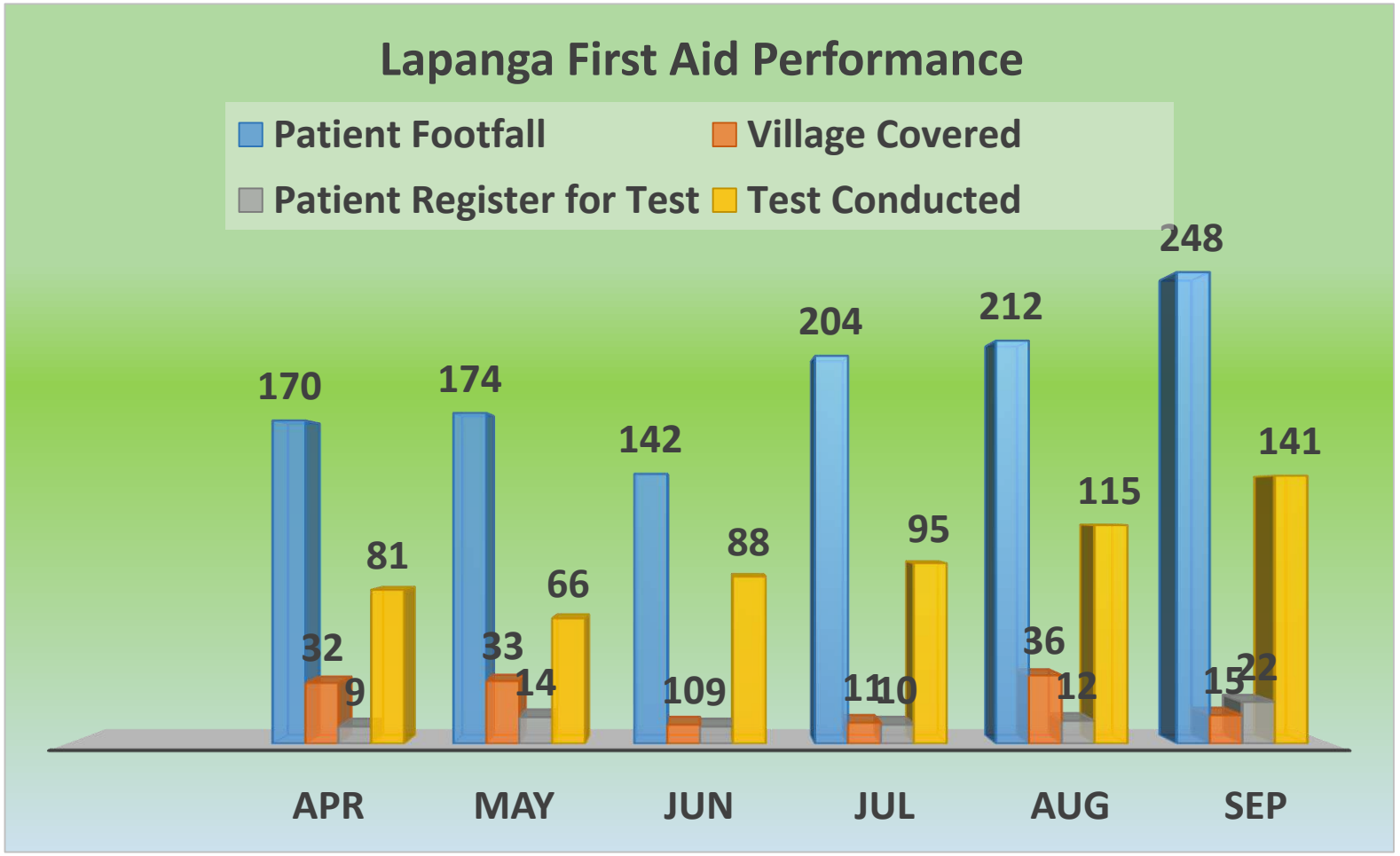
Compliance

COVID ACTIVITIES IN CSR

Activities	Benefitted/ Reached
Masks distribution (Nos)	20582
Masks stitched by SHGs/tailoring centers	24254
Hand wash liquid distribution (litres)	6
Soap distribution (Nos)	8827
Community Spraying with (DDT/Bleaching) (Kgs)	747
Spraying of Sodium Hypochlorite (Liters)	3855
Grocery/Ration Items distributed (No of people)	438
Awareness camps organised (Nos)	127
Leaflets, Posters and Handbills distribution, Wall Painting (Nos)	21

In Convergence with Block Administration	
No of Quarantined Centers Supported (Nos)	7
No of people Quarantined in TMCs	374
No of people Discharged from these centers	374
No of Deaths if any in the area (Adjacent villages)	0
Security Personnel Provided	3
Toiletries Kit to TMC	200
Mattress	100
Bolero	5
Total Expenditure (INR)	34,52,000

HEALTH ACTIVITIES IN CSR



HEALTH ACTIVITIES IN CSR

- **Nutrition Week in Derba with 30 participants in collaboration with ICDS Dept**
- **Breast Feeding Week at Ghichamora with 56 participants in collaboration with ICDS**
- **Data collection for Suposhan Abhiyan Project and Model Village**

LIVELIHOOD ACTIVITIES IN CSR

Project Samridhi : Horticulture & Agriculture Activities

Objective

- Promote Farmers for Organic Farming
- Promote SHGs in Nutrition Garden
- Promote Farmers for Cash Crop
- Promote SHGs and Farmers to adopt kitchen garden

Activities

- 175 nos of beneficiaries has been selected for Vermi Composting and 50 nos of beneficiaries approved and work order will be issued by Block Office.
- 145 no's of SHG members are selected for Mo Bagicha Program under OLM, Documentation in Process with OLM
- 350 farmers provided with Kitchen Garden Kit of seeds to promote Vegetable production
- 1500 Grafted Mango, 1000Guava, 1000 Lemon, 625 Papaya saplings has been distributed among SHG members and villagers of Bomaloi and Ghichamura GP. Total beneficiaries covered 476 (8 saplings on an average to each beneficiary)

LIVELIHOOD INITIATIVE: PROJECT SWAWLAMBH

Training & Employment at Trilochan Netralaya, Sambalpur.

2 Girls got employment with Trilochan Netralaya after 3 months training

1 Girl is under training as Paramedical Ophthalmologist for 3 years . 1 more girl , Ms. Rupashree Kisan of Phulchangar to join in November ‘20

Project : Mushroom Cluster in Bomoloi

- In house training
- Market linkage- Sells like hot cake
- Backward linkage in place
- Women encouraged to invest from SHG fund to ensure ownership
- Development of value chain in process
- Exploring Dry Mushroom Business.

Project Samridhi: Adarsh Kisaan Initiative

- Potential Model Farmer Supported by Aditya.
- Earning 3 Lakhs to 5 Lakhs per annum

10 such farmers identified

- Name- Hurshikesh Bhue.
- Village - Phulchanger
- Planted 200 banana and 60 mango sapling
- Also grows Vegetable & Paddy

Project Samridhi: Orchard Development Initiative

3 Farmers Supported . Plan to develop 5 Orchards

Mango Orchard in convergence with Dept. of Horticulture, Sambalpur at Narupada.

INFRASTRUCTURE ACTIVITIES IN CSR

- 7no. of ponds dug in 7 villages (Pondoloi, Narupada, Orampada, Chatanpada, Ghichamora, Gumkarma, Golamal
- 1 pond cleaned
- More than 75 man-days of employment

INFRASTRUCTURE ACTIVITIES IN CSR

56 solar lights installed at common places to enhance safety and visibility at night in 8 villages (Khadiapalli, Sradhapalli, Lapanga, Naikpada, Rohidaspada, Narupada, Banjiberna, Orampada)

Rehabilitation & Resettlement UPDATE

WORK DONE/ WIP IN RR Colony

Infrastructure Work in Ludhapalli and Pondoloi RR Colony
Road Repair
School Road will be repaired
Balance Road Construction
Community Centre will be completed with kitchen, washroom and tiling
Water tank cleaning work
Drain Cleaning
Repair of Households
Temple
Market Complex
Hand Pumps

Highlights of RR

1. Shopping Complex Inaugurated in Pondoloi

2. Ponds constructed in both RR Colony- Pondoloi and Ludhapalli

3. Health Service started in both RR Colony on Monthly Basis from September 2020

4. 2 nos. of Hand Pumps installed

5. Womenfolk mobilized for Leaf Plate making and Nursery raising income generation activity

6. Work Order issued for Road Work in both Colony

7. 3 DPs (Bharat Mirdha, Bablu Kisan and Sunil Nag) permanent employment with Aditya in process

8. DP identity card printed and to be signed by Collector Sambalpur

9. Pending Cash in lieu of employment paid to Jeru Kisan, Bisikesan Kisan, Biranchi Kisan and Santan Kisan

EDUCATION INITIATIVE IN R&R

Aditya Birla Public School Admission		
	Ludhapalli	**Pondoloi**
Total	17	6
Non Employee	9	0
Employee	7	0
BPL	1	6

Super Six ABPS

- Admission to 6 BPL Students
- Zero Fee
- Morning online class
- Free of Cost books to students

HEALTH & WOMEN EMPOWERNMENT INITIATIVE

Weekly Health Camp in RR Colony

- Doctor and Pharmacist started visiting.
- A long term commitment fulfilled
- 22 patient in Ludhapalli and 15 in Pondoloi

Green Belt Development/ Avenue Plantation	
Details	**Pondoloi**
2020	500 saplings

Self Help Group		
Details	**Ludhapalli**	**Pondoloi**
SHG	6	3
No. of Members	65	32
No. of IGA	0	5
No. of Women in IGA	0	77

22 Kg Detergent prepared by Jai Santoshi Maa SHG at Pondoloi RR Colony

Way Forward for R&R

Infrastructure Work in Both RR Colony
House Repair Work
Boundary Wall
Playground phase wise to be developed
Park Development
An Arch carrying colony name with gate
Drain height to be increased
School boundary wall
Overhead Tank
Soak pit Cleaning
Cleaning Bleaching of Syntax

1. Patta for DP
2. DP Id Card Distribution
3. Payment to E Category Families (CILE)
4. Giving it a Status of Revenue Village
5. Leaf Plate Making Producer Group
6. Mobilize youth for skill training

ADITYA BIRLA

Media Presence – News clippings

World Population Day Observed at Aditya Aluminium

Bhubaneswar: With the objective of increasing people's awareness about various population issues, the World Population Day was Observed by Aditya Birla Group's Aditya AluminiumCompany at itsRR colony Pondoloi, of Lapanga in the district of Sambalpur. This was observed by adhering to the Covid Guidelines of the Government.

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Aditya Aluminium's CSR puts women at the centre-stage

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आदित्य एल्यूमिनियम ने मनाया विश्व जनसंख्या दिवस

Aditya Aluminium observes World Population Day

PBD BUREAU

BHUBANESWAR, JULY 12

WITH the objective of spreading awareness about the exploding world population and various population issues, the World Population Day was observed by Aditya Birla Group's Aditya Aluminium Company at its

NRHM.

Dr. Senapati shared a video with the participants to sensitize the girls on reproductive health; and while explaining to them the importance of family planning, she advised them to maintain a healthy diet.

Garnik explained in detail about the deadly coronavirus and the preventive measures to get rid of COVID-19; while Patel, in his deliberation, spoke on the measures to prevent Dengue and Diarrhoea.

Sweta Upadhyay, Lead CSR, Aditya Aluminium, also addressed the girls and in her interactive deliberation, she focussed on girl's right on pregnancy, awareness of contraceptives and role in family planning. The local ASHA karmis and Anganwadi workers also actively participated in the discussion.

Media Presence August 2020

Aditya Aluminium observes World Breast feeding Week-2020

ଆଦିତ୍ୟ ଆଲୁମିନିୟମ୍‌ରେ ବିଶ୍ୱ ସ୍ତନ୍ୟପାନ ସପ୍ତାହ

ସମ୍ବଲପୁର, ୯୮(ଇମିସ): ଆଦିତ୍ୟ ଆଲୁମିନିୟମ୍ ଲପଙ୍ଗା ଅନୁକୂଲ୍ୟରେ ଅଗଷ୍ଟ ୧ରୁ ସପ୍ତାହବ୍ୟାପୀ ଜଙ୍ଗଲା ପଞ୍ଚାୟତର ଭୁକିପାଲି, ବୋମାଲୋଇ ଗ୍ରାମ ଉଚ୍ଚବିଦ୍ୟାଳୟରେ ମନୋରଞ୍ଜନ ବେହେରାଙ୍କ ନେତୃତ୍ୱରେ ସ୍ତନ୍ୟପାନର ଉପାଦେୟତା ଉପରେ ସଚେତନତାଧର୍ମୀ କାର୍ଯ୍ୟକ୍ରମ ଆୟୋଜିତ ହୋଇଥିଲା। ଶେଷ ଦିନଟି ଘିଚାମୁରା ପଞ୍ଚାୟତ ଉଚ୍ଚ ବିଦ୍ୟାଳୟଠାରେ ପାଳିତ ହୋଇଥିଲା। ଏହି କାର୍ଯ୍ୟକ୍ରମରେ ଅନ୍ନପୂର୍ଣ୍ଣା ... ଡ଼ଯାକାରାୟଣ ଅଗ୍ରୱାଲ, ... ସାହୁ ଓ ଚନ୍ଦ୍ରଶେଖର ... ସମେତ ସ୍ଥାନୀୟ ଅଞ୍ଚଳର ...ର, ଅଙ୍ଗନୱାଡ଼ି ଓ

ଆଶାକର୍ମୀମାନେ ଉପସ୍ଥିତ ଥିଲେ। କାର୍ଯ୍ୟକ୍ରମରେ ଆଦିତ୍ୟ ଆଲୁମିନିୟମ୍ ପକ୍ଷରୁ ଡେବସ୍ମିତା ମାନସିଂ ଓ ଶ୍ୱେତା ଉପାଧ୍ୟାୟ ଉପସ୍ଥିତ ରହି ସ୍ତନ୍ୟପାନ ଉପରେ ମହିଳାମାନଙ୍କୁ ସଚେତନ କରିଥିଲେ। କାର୍ଯ୍ୟକ୍ରମରେ ମୋଟ ୨୮ ଜଣ ମହିଳା ଅଂଶଗ୍ରହଣ କରିଥିଲେ।

ରାଜ୍ୟ

ଆଦିତ୍ୟ ଆଲୁମିନିୟମ ପକ୍ଷରୁ ବିଶ୍ୱ ସ୍ତନ୍ୟପାନ ସପ୍ତାହ-୨୦୨୦ ପାଳିତ

କମ୍ପାନିରେ ଚାକିରି ପାଇଲେ ଦୃଷ୍ଟିବାଧିତ ଗାୟତ୍ରୀ

ଗଣମାଧ୍ୟମକୁ ପତ୍ର ଲେଖି ଜିଲ୍ଲାପାଳଙ୍କ ପ୍ରତି କୃତଜ୍ଞତା ବ୍ୟକ୍ତ କଲେ

Share

Bhubaneswar(Kalinga Voice) : Aditya Birla Group's Hindalco com
the World Breast Feeding Week to create awareness on the impo
(Jangala, Bomoloi and Ghichamora) of Rengali Block recently. As
event. The awareness sessions reiterated the importance of brea
nutrition. Exclusive breastfeeding is a cornerstone of child surviv
irreplaceable nutrition for a child's growth and development. It se
from respiratory infections, diarrhea disease, and other potential
has a protective effect against obesity and certain non-communic
awareness among pregnant women and lactating mothers on the

नवभारत
Odisha Patrika - 10 Aug 2020 - 10bsrp4

आदित्य एलुमिनियम की ओर से विश्व स्तनपान सप्ताह पर हुए कार्यक्रम

संबलपुर. संबलपुर जिला रेंगाली ब्लॉक लपंगा स्थित आदित्य एलुमिनियम कारखाना की ओर से विश्व स्तनपान सप्ताह पर जागरूकता कार्यक्रम का आयोजन किया गया. सात दिनों तक चले इस कार्यक्रम में जंगला पंचायत के भूर्सीपाली, बोमालोई उच्च विद्यालय में मनोरंजन बेहेरा के तत्वावधान में आयोजित कार्यक्रम में स्तनपान के लाभ पर जागरूक किया गया. अंतिम दिवस पर स्थानीय घीचामुरा उच्च विद्यालय में कार्यक्रम का आयोजन किया गया. इसमें घीचामुरा सरपंच अन्नपूर्णा साहू, रेंगाली ब्लॉक उपाध्यक्ष सत्यनारायण अग्रवाल, ललित साहू, चंद्रशेखर किसान, आदित्य एलुमिना की डॉ. देवस्मिता मानसिंह, कंपनी के पारिवारिक विकास विभाग की मुख्य श्वेता उपाध्याय, पंचायत के सभी वार्ड सदस्य, आंगनवाड़ी एवं आशा कर्मी उपस्थित थे. इसमें कोविड नियम का पालन करते हुए कार्यक्रम का आयोजन किया गया.

Media Presence September 2020

National Nutrition Week Observed at Aditya Aluminum

Bhubaneswar: National Nutrition Week 2020 is observed at Aditya Aluminum on 7th Sept at Lapanga in Sambalpur district. To mark the occasion, a campaign was organised to improve the nutrition intake, haemoglobin amongst all, especially women, adolescent girls and children under Project Aditya Suposhan Abhiyaan at Derba

ଆଦିତ୍ୟ ଆଲୁମିନିୟମରେ ଜାତୀୟ ପୁଷ୍ଟିସାଧନ ସପ୍ତାହ ପାଳିତ

ସମ୍ବଲପୁର, (ଡି କେ ନ୍ୟୁଜ) : ସମ୍ବଲପୁର ଜିଲ୍ଲାର ଲପଙ୍ଗାସ୍ଥିତ ଆଦିତ୍ୟ ଆଲୁମିନିୟମ ଠାରେ ଜାତୀୟ ପୁଷ୍ଟିସାଧନ ସପ୍ତାହ ୨୦୨୦ ଚଳିତ ମାସ ୭ତାରିଖରେ ପାଳିତ ହୋଇଛି। ଏହି ଉତ୍ସବ ପାଳନ ଅବସରରେ ଲପଙ୍ଗା ବ୍ଲକର ଘିଚାମୋରା ଗ୍ରାମପଞ୍ଚାୟତ ଅନ୍ତର୍ଗତ ଡେର୍ବାଠାରେ ପ୍ରୋଜେକ୍ଟ ଆଦିତ୍ୟ ସୁପୋଷଣ ଅଭିଯାନ ଅଧୀନରେ ବିଶେଷକରି ମହିଳା, କିଶୋରୀ ଏବଂ ପିଲାମାନଙ୍କ କ୍ଷେତ୍ରରେ ପୁଷ୍ଟିଯୁକ୍ତ ଖାଦ୍ୟ ଖାଇବା ଏବଂ ହେମୋଗ୍ଲୋବିନ ସ୍ତରରେ ଉନ୍ନତି ଆଣିବା ନିମନ୍ତେ ଏକ ଅଭିଯାନ ଆୟୋଜନ କରାଯାଇଥିଲା। ଚଳିତ ବର୍ଷ ପୁଷ୍ଟିସାଧନ ସପ୍ତାହର ବିଷୟବସ୍ତୁ ହେଉଛି 'ଅଳ୍ପ ଅଳ୍ପ ସଠିକ ଖାଦ୍ୟ ଖାଆନ୍ତୁ'। ତାହାସହିତ 'ଆପଣ ଯାହା ଖାଇବେ ସେହିପରି ହେବେ' ଉକ୍ତିକୁ ନେଇ ଜାତୀୟ ପୁଷ୍ଟିସାଧନ ସପ୍ତାହ ଉତ୍ତମ ସ୍ୱାସ୍ଥ୍ୟ ନିମନ୍ତେ ସଠିକ ଖାଦ୍ୟ ଖାଇବା ଉପରେ ପ୍ରାଧାନ୍ୟ ଦେଉଛି।

ଆଦିତ୍ୟ ଆଲୁମିନିୟମରେ ଜାତୀୟ ପୁଷ୍ଟିସାଧନ ସ

।।ପ୍ରଭାନ୍ୟୁଜ।। ଭୁବନେଶ୍ୱର, ୮।୯ : ସମ୍ବଲପୁର ଜିଲ୍ଲାର ଲପଙ୍ଗାସ୍ଥିତ ଆଦିତ୍ୟ ଆଲୁମିନିୟମ ଠାରେ ଜାତୀୟ ପୁଷ୍ଟିସାଧନ ସପ୍ତାହ ୨୦୨୦ ଚଳିତ ମାସ ୭ତାରିଖରେ ପାଳିତ ହୋଇଛି। ଏହି ଉତ୍ସବ ପାଳନ ଅବସରରେ ଲପଙ୍ଗା ବ୍ଲକର ଘିଚାମୋରା ଗ୍ରାମପଞ୍ଚାୟତ ଅନ୍ତର୍ଗତ ଡେର୍ବାଠାରେ ପ୍ରୋଜେକ୍ଟ ଆଦିତ୍ୟ ସୁପୋଷଣ ଅଭିଯାନ ଅଧୀନରେ ବିଶେଷକରି ମହିଳା, କିଶୋରୀ ଏବଂ ପିଲାମାନଙ୍କ କ୍ଷେତ୍ରରେ ପୁଷ୍ଟିଯୁକ୍ତ ଖାଦ୍ୟ ଖାଇବା ଏବଂ ହେମୋଗ୍ଲୋବିନ ସ୍ତରରେ ଉନ୍ନତି ଆଣିବା ନିମନ୍ତେ ଏକ ଅଭିଯାନ ଆୟୋଜନ କରାଯାଇଥିଲା। ଚଳିତ ବର୍ଷ ପୁଷ୍ଟିସାଧନ ସପ୍ତାହର ବିଷୟବସ୍ତୁ ହେଉଛି 'ଅଳ୍ପ ଅଳ୍ପ ସଠିକ ଖାଦ୍ୟ ଖାଆନ୍ତୁ'। ଭିନ୍ନକ୍ଷମ ସିଏସଆର ଟିମ୍ ସଦସ୍ୟା ଗାୟତ୍ରୀ ସାହୁ 'ପୁଷ୍ଟିସାଧନ ସଂଗୀତ' ଗାନସହିତ କାର୍ଯ୍ୟକ୍ରମ ଶୁଭାରମ୍ଭ ହୋଇଥିଲା। ଏଥିରେ ଡେର୍ବା, ପିପଲକାଲନି ଆଦି ଗ୍ରାମରୁ ୩୬ରୁ ଊର୍ଦ୍ଧ୍ୱ ଗର୍ଭବତୀ ମହିଳା, ସ୍ତନ୍ୟପାନ କରାଉଥିବା ମା' ଏବଂ ବାଳିକାମାନେ ଯୋଗଦେଇଥିଲେ। 'ପୁଷ୍ଟିସାଧନ ସମ୍ପର୍କିତ ପ୍ରଦର୍ଶନୀ' ଜରିଆରେ ସଚେତନତା ସୃଷ୍ଟି ଉପରେ ଗୁରୁତ୍ୱ ଦିଆଯାଇଥିଲା ଏବଂ ପରେ କୁଇଜ ପ୍ରତିଯୋଗିତା ଅନୁଷ୍ଠିତ ହୋଇଥିଲା। ପ୍ରତିଯୋଗିତାର ବିଜେତାଙ୍କୁ ପୁଷ୍ଟିସାଧନ କିଟ୍ ପ୍ରଦାନ ସହିତ ସମ୍ବର୍ଦ୍ଧିତ କରାଯାଇଥିଲା। କାର୍ଯ୍ୟକ୍ରମ ଶେଷରେ ପୁଷ୍ଟିଯୁକ୍ତ ଖେଚେଡି ଏବଂ ସ୍ଥାନୀୟ ସୁସ୍ୱାଦୁ ପିଠା ସମସ୍ତ ଉପସ୍ଥିତ ବ୍ୟକ୍ତିଙ୍କୁ ବଣ୍ଟନ କରାଯାଇଥିଲା। ସମନ୍ୱିତ ମହିଳା ଓ ଶିଶୁ ବିକାଶ ବିଭାଗ ସହଯୋଗରେ ଏହି କାର୍ଯ୍ୟକ୍ରମ ସଫଳତାର ସହିତ ଆୟୋଜନ କରାଯାଇଥିଲା। ଅଙ୍ଗନବାଡି ଦିଦି ସିଏସଆର ସୌକାର୍ଯ୍ୟ ସାଧନକାରୀଙ୍କ ସହିତ ମିଶି ପୁଷ୍ଟିସାଧନ ସମ୍ପର୍କିତ ସାରଣୀ ପ୍ରସ୍ତୁତ କରିଥିଲେ ଯାହା ପ୍ରଦର୍ଶନୀରେ ସ୍ଥାନ ପାଇଥିଲା। କାର୍ଯ୍ୟକ୍ରମରେ ସମସ୍ତ ଭାଗିଦାରଙ୍କ

National Nutrition Week Observed at Aditya Aluminum

Bhubaneswar: National Nutrition Week 2020 is observed at Aditya Aluminum on 7th Sept at Lapanga in Sambalpur district. To mark the occasion, a campaign was organised to improve the nutrition intake, haemoglobin amongst all, especially women, adolescent girls and children under Project Aditya Suposhan Abhiyaan at Derba in Ghichamora Gram Panchayat of Lapanga block. The theme for 2020 is "Eat Right Bite by Bite". Aligned by the quote "You are what you eat", National Nutrition Week puts emphasis on right eating for better health. According to State of Food Security and Nutrition in the World, over 10% of the Indian population is malnourished. This accounts for many problems related to poor dietary practices and undernourishment. This is visible in symptoms like stunted growth, weaker bones and muscles, higher risk of diseases, etc.

The program started with the commencement of "Nutrition Poem" by Ms. Gayatri Sahu, the differently abled CSR team member. More than 36 pregnant women, lactating mothers and girls attended the event from Derba, Pipalkani villages. The event emphasized on awareness creation marked by "Nutrition Exhibition" followed by Quiz Competition. During the exhibition Angawadi didi explained about the nutrition content of the food items displayed and the subsequent benefits of them. A video was also played on nutrition awareness by Government of Odisha that intrigued the audience. The winners were felicitated with nutrition kit. At the end of the event Nutritious Khichdi with local delicacy Peetha was served to all attendees. The program was successfully organised in cooperation with ICDS Department. Anganwadi Didi prepared the nutrition carte du jour appealing everyone's palate for exhibition along with CSR facilitator. The stakeholders who were present on the occasion were Shri Lalit Sahu a Social Worker and an opinion maker from Ghichamora, Smt Mamta Mirdha Anganwadi didi Derba, Smt. Niladri Luhar Anganwadi Worker Pipulkalni, Smt. Tejabati Kisan ASHA Didi Derba

Appreciation Letter

ADITYA BIRLA
HINDALCO

OFFICE OF THE PANCHAYAT SAMITI, RENGALI

Letter No. 1340 /Dt. 18/09/2020

To

Mr. Kailash Pandey, Unit Head,
Aditya Aluminium , Lapanga,
Sambalpur

I would like to express my sincere admiration for the effort put by your company for the containment of the spread of COVID-19. Starting from creating awareness among the public, distribution of mask, soap, sanitizing public places, distribution of mattress and personal hygienic kits at the TMC your entire management team have worked immensely.

We appreciate your hard work done in last six months to fight against the Pandemic.

Thanking You

18/09/2020

Block Development Officer
Block Development Officer
Rengali
Rengali

ADITYA BIRLA
HINDALCO

Aditya Aluminium Lapanga received ***Indiacsr Award 2020*** on 20th July for its contribution in Empowering 800+ Women through Self Help Groups and Income Generating Activities under Women Empowerment category.

ADITYA BIRLA
HINDALCO

Aditya Aluminium Lapanga received *FAME INDIA PALTINUM Award 2020* in special category on 10th November for its contribution on COVID 19 Pandemics.

Way Forward 2020

1. Observation of Swachhta Diwas on Gandhi Jayanti
2. Global Hand Washing Day on 15th Oct
3. Signing of MOU for Vision Centre and Commencement of Vision Centre
4. Inauguration of Solar Lights in Aditya Model Village Naikpada
5. Registration of 2 Leaf Plate Making and 1 Mushroom Producer Groups
6. Children's Day in Model Village Naikpada with 60 children in age group 3 yrs. to 15yrs
7. Skill Training to 60 youths in Aditya Skill School
8. Wall Painting for Awareness and Branding
9. Awareness on COVID
10. World Toilet Day in Model Village Naikpada
11. World Aids Day 1st Dec
12. World Disability Day on 3rd Dec
13. National Farmer's Day on 23rd Dec
14. Watershed Feasibility Study

ADITYA BIRLA
HINDALCO

THANK YOU

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1876 Date :20.07.2020

AMBIENT AIR QUALITY MONITORING REPORTAPRIL- 2020 TO JUNE -2020

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 in presence of Aditya Aluminium 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 ($\mu g/m^3$)
01.04.2020	45.2	24.6	15.2	17.3	< 4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.04.2020	50.6	26.8	14.4	16.9	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.04.2020	52.1	29.3	15.0	19.6	<4.0	0.25	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
11.04.2020	46.9	25.1	15.2	17.4	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2020	45.1	25.3	14.9	18.3	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
18.04.2020	47.8	28.6	15.7	19.6	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2020	48.5	30.1	16.1	20.9	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
25.04.2020	49.1	29.8	15.5	19.2	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04.2020	47.8	28.6	14.9	18.5	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.05.2020	51.6	30.3	16.4	19.1	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.05.2020	50.3	26.4	14.9	17.8	<4.0	0.15	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.05.2020	48.4	25.7	15.3	18.1	<4.0	0.11	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2020	45.6	23.6	14.8	20.6	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.05.2020	45.9	24.5	15.4	19.5	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.05.2020	42.4	23.8	16.6	17.8	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.05.2020	47.2	29.7	16.1	19.6	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2020	47.1	28.6	15.8	19.8	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.05.2020	46.2	26.4	16.3	19.5	<4.0	0.25	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.06.2020	45.8	23.1	15.9	18.4	<4.0	0.27	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.06.2020	49.6	31.5	16.3	17.6	<4.0	0.29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.06.2020	53.2	32.1	16.1	21.1	<4.0	0.33	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.06.2020	50.7	30.6	15.4	20.4	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.06.2020	51.6	29.8	15.6	20.8	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.06.2020	52.5	32.4	14.8	21.9	<4.0	0.25	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.06.2020	49.5	28.4	15.9	20.1	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.06.2020	50.3	29.6	16.3	20.5	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.06.2020	48.8	28.3	15.5	20.7	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	**100**	**60**	**80**	**80**	**100**	**4**	**400**	**05**	**01**	**20**	**1.0**	**06**	**--**
Average	**48.51**	**27.89**	**15.57**	**19.30**	**<4.0**	**0.21**	**<20.0**	**<0.001**	**<0.002**	**<0.01**	**<0.001**	**<0.001**	**<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 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

Reviewed By **Approved By**

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1877 Date :20.07.2020

AMBIENT AIR QUALITY MONITORING REPORT APRIL-2020 TO JUNE- 2020

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 in presence of Aditya Aluminium 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 ($\mu g/m^3$)
01.04.2020	42.3	23.5	8.8	11.2	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.04.2020	41.6	24.6	8.4	10.7	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.04.2020	43.8	27.2	9.6	11.3	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
11.04.2020	42.7	25.9	9.0	11.7	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2020	40.9	22.4	8.5	12.5	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
18.04.2020	42.3	24.7	9.2	12.9	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2020	44.9	23.7	9.6	11.5	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
25.04.2020	42.5	24.8	9.1	12.9	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04.2020	43.8	25.9	10.4	13.8	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.05.2020	42.9	23.9	10.5	13.1	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.05.2020	40.8	25.9	7.8	11.3	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.05.2020	38.6	21.2	6.3	9.4	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2020	41.4	29.6	7.4	10.8	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.05.2020	45.9	28.7	10.2	12.6	<4.0	0.15	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.05.2020	44.8	27.9	9.6	11.3	<4.0	0.13	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.05.2020	45.3	29.3	10.7	13.5	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2020	47.9	30.4	12.4	17.1	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.05.2020	44.2	28.6	11.1	13.7	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.06.2020	42.1	26.4	11.6	15.8	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.06.2020	46.3	30.5	13.3	17.3	<4.0	0.25	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.06.2020	45.2	27.6	12.4	16.5	<4.0	0.30	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.06.2020	41.7	24.7	10.2	14.7	<4.0	0.33	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.06.2020	40.7	23.6	9.8	12.5	<4.0	0.34	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.06.2020	42.5	24.1	10.4	13.3	<4.0	0.32	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.06.2020	47.8	28.2	12.1	16.8	<4.0	0.36	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.06.2020	44.5	27.5	10.6	14.2	<4.0	0.29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.06.2020	42.9	26.8	11.0	13.6	<4.0	0.28	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	**100**	**60**	**80**	**80**	**100**	**4**	**400**	**05**	**01**	**20**	**1.0**	**06**	**--**
Quarterly Average	**43.34**	**26.2**	**10.0**	**13.2**	**<4.0**	**0.23**	**<20.0**	**<0.001**	**<0.002**	**<0.01**	**<0.001**	**<0.001**	**<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

Reviewed By **Approved By**

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1878 Date :20.07.2020

AMBIENT AIR QUALITY MONITORING REPORT APRIL-2020 TO JUNE-2020

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 in presence of Aditya Aluminium 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 ($\mu g/m^3$)
01.04.2020	44.3	26.4	10.6	14.1	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.04.2020	42.9	24.9	9.7	13.3	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.04.2020	44.7	25.8	10.4	15.5	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
11.04.2020	42.6	23.9	10.7	14.1	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2020	45.5	28.6	11.1	15.9	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
18.04.2020	43.8	27.3	10.3	16.6	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2020	42.9	24.3	9.6	14.8	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
25.04.2020	46.2	28.9	11.2	14.6	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04.2020	45.6	27.1	10.9	14.9	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.05.2020	42.8	25.5	11.3	13.5	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.05.2020	44.4	26.5	12.5	16.4	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.05.2020	42.6	24.7	9.4	14.3	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2020	44.5	26.1	10.9	15.4	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.05.2020	46.6	27.7	12.4	16.6	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.05.2020	44.3	25.8	10.5	15.2	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.05.2020	44.1	26.4	11.2	14.8	<4.0	0.15	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2020	42.8	25.9	8.7	11.4	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.05.2020	44.6	27.6	9.3	12.1	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.06.2020	43.4	25.5	9.6	13.9	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.06.2020	42.5	24.9	9.1	13.2	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.06.2020	45.2	27.6	10.8	13.4	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.06.2020	42.8	23.7	9.1	12.6	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.06.2020	45.9	26.8	11.9	15.1	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.06.2020	44.1	25.3	9.5	14.8	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.06.2020	46.5	28.1	10.3	14.2	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.06.2020	42.9	25.3	9.1	13.6	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.06.2020	43.3	23.7	10.2	14.2	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	**100**	**60**	**80**	**80**	**100**	**4**	**400**	**05**	**01**	**20**	**1.0**	**06**	**--**
Average	**44.14**	**26.08**	**10.38**	**14.39**	**<4**	**0.18**	**<20.0**	**<0.001**	**<0.002**	**<0.01**	**<0.001**	**<0.001**	**<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 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

Reviewed By **Approved By**

Visiontek Consultancy Services Pvt. Ltd.

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ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1879 Date :20.07.2020

AMBIENT AIR QUALITY MONITORING REPORT APRIL-2020 TO JUNE- 2020

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 in presence of Aditya Aluminium 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 ($\mu g/m^3$)
01.04.2020	49.6	31.5	16.1	19.8	<4.0	0.2	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.04.2020	47.9	30.4	15.9	20.3	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.04.2020	51.6	32.2	17.2	22.4	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
11.04.2020	54.4	33.7	17.3	23.2	5.2	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2020	53.5	35.6	16.5	24.6	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
18.04.2020	51.7	31.5	14.4	21.1	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2020	52.9	34.9	15.5	24.4	4.6	0.30	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
25.04.2020	48.8	29.4	13.1	21.7	<4.0	0.29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04.2020	50.3	29.1	14.2	20.6	<4.0	0.28	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.05.2020	52.5	30.7	15.4	23.0	<4.0	0.29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.05.2020	51.6	32.3	14.8	24.1	<4.0	0.32	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.05.2020	54.4	35.3	16.1	25.3	5.0	0.34	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2020	48.9	30.6	14.9	21.6	<4.0	0.33	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.05.2020	51.1	33.5	16.2	23.2	<4.0	0.29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.05.2020	53.2	36.1	17.9	24.7	4.9	0.30	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.05.2020	51.9	34.6	17.5	26.4	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2020	50.8	31.7	16.1	22.5	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.05.2020	52.5	34.6	17.0	23.6	4.8	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.06.2020	51.7	32.1	15.4	23.8	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.06.2020	54.1	33.6	18.2	24.6	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.06.2020	48.6	28.6	13.6	20.3	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.06.2020	51.8	30.8	15.2	22.6	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.06.2020	48.3	29.4	14.4	19.5	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.06.2020	46.2	27.4	12.1	18.8	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.06.2020	50.4	27.6	13.5	20.9	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.06.2020	51.6	28.3	16.9	23.3	4.8	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.06.2020	52.4	27.8	15.5	24.1	4.2	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	**100**	**60**	**80**	**80**	**100**	**4**	**400**	**05**	**01**	**20**	**1.0**	**06**	**--**
Average	**51.21**	**31.60**	**15.59**	**22.61**	**4.81**	**0.25**	**<20.0**	**<0.001**	**<0.002**	**<0.01**	**<0.001**	**<0.001**	**<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

Reviewed By **Approved By**

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1880 Date :20.07.2020

AMBIENT AIR QUALITY MONITORING REPORT APRIL-2020 TO JUNE- 2020

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 in presence of Aditya Aluminium 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 ($\mu g/m^3$)
01.04.2020	44.6	24.3	14.3	19.6	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.04.2020	42.3	25.9	12.5	18.2	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.04.2020	43.7	23.7	14.8	18.9	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
11.04.2020	46.1	28.6	15.4	19.8	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2020	43.6	23.3	13.6	18.4	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
18.04.2020	39.8	25.7	12.1	16.5	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2020	44.6	28.8	14.5	18.8	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
25.04.2020	42.6	22.9	13.2	18.2	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04.2020	44.3	23.4	13.9	18.7	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.05.2020	47.1	25.4	14.2	20.1	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.05.2020	46.7	26.7	15.7	19.7	< 4.0	0.12	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.05.2020	49.3	26.3	17.3	21.2	< 4.0	0.13	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2020	46.1	22.8	14.1	19.4	< 4.0	0.13	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.05.2020	45.4	29.3	15.6	19.3	< 4.0	0.11	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.05.2020	42.1	33.1	16.1	18.3	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.05.2020	45.2	28.6	17.4	18.5	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2020	47.1	29.4	16.2	19.2	< 4.0	0.12	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.05.2020	46.6	27.1	14.9	18.6	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.06.2020	50.9	25.6	16.2	21.1	< 4.0	0.14	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.06.2020	49.2	28.7	14.8	20.8	< 4.0	0.12	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.06.2020	45.7	24.9	12.6	20.2	< 4.0	0.11	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.06.2020	44.8	22.1	14.4	18.6	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.06.2020	48.2	26.5	16.7	19.1	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.06.2020	45.6	23.2	15.3	19.6	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.06.2020	46.6	24.9	16.4	18.7	< 4.0	0.11	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.06.2020	43.1	26.4	13.5	17.4	< 4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.06.2020	42.2	22.6	13.1	18.1	<4.0	<0.10	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	**100**	**60**	**80**	**80**	**100**	**4**	**400**	**05**	**01**	**20**	**1.0**	**06**	**--**
Average	**45.31**	**25.93**	**14.77**	**19.07**	**< 4.0**	**0.12**	**<20.0**	**<0.001**	**<0.002**	**<0.01**	**<0.001**	**<0.001**	**<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

Reviewed By **Approved By**

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1881 Date :20.07.2020

AMBIENT AIR QUALITY MONITORING REPORT APRIL-2020 TO JUNE- 2020

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 in presence of Aditya Aluminium 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)
01.04.2020	50.6	28.6	16.4	20.8	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.04.2020	49.8	26.4	16.2	20.1	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.04.2020	51.2	27.3	17.5	19.4	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
11.04.2020	49.6	26.9	16.3	21.2	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2020	45.7	28.1	14.5	18.6	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
18.04.2020	47.3	29.4	15.9	18.3	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2020	44.2	24.1	13.4	17.2	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
25.04.2020	41.3	25.3	13.1	16.6	<4.0	0.15	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04.2020	43.9	26.5	14.4	17.8	<4.0	0.15	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.05.2020	47.9	28.1	16.3	19.4	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.05.2020	44.6	26.4	14.6	18.5	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.05.2020	42.8	24.1	13.5	19.7	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2020	44.1	25.3	15.6	17.9	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.05.2020	50.2	28.7	18.0	19.2	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.05.2020	49.3	29.6	17.7	20.8	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.05.2020	46.7	27.1	15.4	19.3	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2020	45.2	28.3	17.3	18.2	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.05.2020	51.4	30.4	18.5	20.6	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.06.2020	48.9	28.5	17.1	18.8	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.06.2020	46.4	27.6	16.8	17.9	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.06.2020	48.3	29.4	16.9	20.4	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.06.2020	43.6	25.6	14.5	17.5	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.06.2020	42.4	24.7	14.1	16.6	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.06.2020	45.8	26.1	15.4	18.4	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.06.2020	42.1	24.1	13.5	17.3	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.06.2020	45.2	28.9	17.2	15.8	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.06.2020	45.9	27.6	15.4	17.2	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	**100**	**60**	**80**	**80**	**100**	**4**	**400**	**05**	**01**	**20**	**1.0**	**06**	**--**
Average	**46.46**	**27.15**	**15.76**	**18.65**	**<4.0**	**0.19**	**<20.0**	**<0.001**	**<0.002**	**<0.01**	**<0.001**	**<0.001**	**<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

Prepared by: **Verified by:**

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1882 Date :20.07.2020

AMBIENT AIR QUALITY MONITORING REPORT APRIL-2020 TO JUNE- 2020

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 in presence of Aditya Aluminium representative

Date	PARAMETERS												
	PM10 (µg/m^3)	PM2.5 (µg/m^3)	SO2 (µg/m^3)	NOx (µg/m^3)	O3 (µg/m^3)	CO (mg/m^3)	NH3 (µg/m^3)	C6H6 (µg/m^3)	BaP (ng/m^3)	Ni (ng/m^3)	Pb (µg/m^3)	As (ng/m^3)	F (µg/m^3)
01.04.2020	42.6	23.6	14.5	20.6	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.04.2020	43.7	25.9	15.0	22.2	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.04.2020	45.8	28.1	15.3	21.6	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
11.04.2020	40.9	22.3	15.4	22.4	<4.0	0.15	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2020	46.4	26.7	16.0	21.4	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
18.04.2020	44.2	23.7	16.2	21.1	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2020	44.5	26.2	16.5	20.9	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
25.04.2020	48.1	30.9	17.1	20.5	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04.2020	47.4	28.8	16.7	19.6	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.05.2020	49.0	31.4	17.8	20.7	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.05.2020	50.6	31.2	17.0	20.1	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.05.2020	48.9	28.6	18.2	20.6	<4.0	0.25	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2020	47.4	27.4	18.4	20.5	<4.0	0.30	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.05.2020	52.3	26.2	17.6	20.3	<4.0	0.29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.05.2020	50.6	30.9	17.5	21.1	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.05.2020	48.7	26.7	16.3	21.5	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2020	46.2	26.2	16.6	21.9	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.05.2020	44.3	24.8	18.1	22.1	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.06.2020	43.7	27.6	17.6	22.4	<4.0	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.06.2020	45.6	26.9	18.2	23.1	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.06.2020	47.8	29.4	17.5	22.6	<4.0	0.25	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.06.2020	45.4	27.2	17.8	25.2	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.06.2020	45.9	28.1	16.5	24.9	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.06.2020	51.2	22.6	17.2	23.2	<4.0	0.29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.06.2020	50.8	29.6	16.4	24.1	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.06.2020	53.2	32.5	16.2	25.6	<4.0	0.28	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.06.2020	49.3	30.6	15.8	26.2	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	**100**	**60**	**80**	**80**	**100**	**4**	**400**	**05**	**01**	**20**	**1.0**	**06**	**--**
Average	**47.20**	**27.56**	**16.79**	**22.08**	**<4.0**	**0.023**	**<20.0**	**<0.001**	**<0.002**	**<0.01**	**<0.001**	**<0.001**	**<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 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

Prepared by: **Verified by:**

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1883 Date :20.07.2020

AMBIENT AIR QUALITY MONITORING REPORT APRIL-2020 TO JUNE-2020

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 in presence of Aditya Aluminium 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)
01.04.2020	52.6	33.5	18.5	24.9	7.0	0.24	23.2	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.04.2020	50.9	32.9	17.3	23.5	7.4	0.23	23.1	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.04.2020	55.8	36.7	20.2	25.2	7.2	0.20	22.9	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
11.04.2020	48.2	32.4	17.0	24.4	6.6	0.26	28.5	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2020	52.4	33.5	18.8	22.9	6.9	0.20	28.4	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
18.04.2020	56.4	36.7	19.4	26.2	6.3	0.24	26.2	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2020	55.1	37.2	19.4	23.4	7.5	0.26	25.8	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
25.04.2020	58.9	38.3	21.2	26.9	7.1	0.29	26.3	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04.2020	53.7	36.2	21.4	24.5	7.2	0.25	25.5	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.05.2020	47.5	31.2	19.6	22.8	6.8	0.22	23.9	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.05.2020	49.7	33.8	17.6	23.5	7.6	0.24	28.9	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.05.2020	48.9	28.7	16.6	21.1	7.2	0.21	29.4	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2020	52.3	34.3	16.9	22.8	7.8	0.24	27.2	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.05.2020	55.8	36.8	17.2	23.3	6.9	0.26	24.6	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.05.2020	51.1	29.1	17.5	22.6	6.4	0.23	24.5	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.05.2020	47.9	32.9	18.1	23.2	6.5	0.21	23.6	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2020	44.4	27.4	16.3	21.7	7.1	0.20	23.9	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.05.2020	48.6	25.7	18.1	22.2	6.5	0.29	22.7	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
02.06.2020	46.2	26.2	16.9	24.4	6.2	0.26	23.2	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.06.2020	47.3	29.5	17.2	20.5	6.8	0.26	24.8	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.06.2020	48.9	28.3	19.1	24.2	7.5	0.23	20.6	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.06.2020	53.7	29.6	19.3	25.9	7.2	0.28	22.8	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.06.2020	49.3	31.4	17.5	22.1	6.6	0.25	21.5	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.06.2020	54.2	35.7	19.1	23.2	7.3	0.28	24.2	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.06.2020	51.9	33.8	18.8	24.6	7.2	0.24	22.8	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.06.2020	47.8	28.8	15.1	22.5	6.9	0.28	24.5	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.06.2020	53.4	26.9	18.4	23.7	6.5	0.26	25.3	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	**100**	**60**	**80**	**80**	**100**	**4**	**400**	**05**	**01**	**20**	**1.0**	**06**	**--**
Average	**51.21**	**32.13**	**18.24**	**23.56**	**6.97**	**0.24**	**24.75**	**<0.001**	**<0.002**	**<0.01**	**<0.001**	**<0.001**	**<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 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

Prepared by: **Verified by:**

Visiontek Consultancy Services Pvt. Ltd.

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ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1890 Date :20.07.2020

SURFACE WATER QUALITY ANALYSIS REPORT JUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling location : **SW-1:**Hirakud Reservoir;**SW-2:**Lapanga Pond**; SW-3:**Matwadinadi –U/S**, SW-4:**Bamloi Pond; **SW-5:** Bhedan river
3. Date of sampling : 15.06.2020
4. Date of analysis : 16.06.2020 TO 23.06.2020
5. Sample collected by : VCSPL Representative in presence of Aditya Aluminium 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 Value	APHA 4500H^+ B	--	**6.0-9.0**	7.24	7.32	7.4	7.45	7.42
2	Colour	APHA 2120 B, C	Hazen	**300**	<1.0	<1.0	<1.0	<1.0	<1.0
3	Taste	APHA 2160 C	--	--	AL	AL	AL	AL	AL
4	Odour	APHA 2150 B	--	--	U/O	U/O	U/O	U/O	U/O
5	Turbidity	APHA 2130 B	NTU	--	3.3	3.5	3.9	3.4	3.5
6	Total Dissolved Solids	APHA 2540 C	mg/l	**1500**	118.7	123.5	128.8	122.4	124.1
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	--	**58**	**56**	**52**	**54**	**62**
8	Total Alkalinity	APHA 2320 B	mg/l	--	42	48	42	56	42
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	16.5	15.8	14.9	15.6	17.6
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	4.1	4.1	3.6	3.7	4.4
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	--	ND	ND	ND	ND	ND
12	Boron (as B)	APHA 4500B, B	mg/l	--	<0.01	<0.01	<0.01	<0.01	<0.01
13	Chloride (as Cl)	APHA 4500Cl^- B	mg/l	**600**	24	20	22	24	26
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	**400**	37.1	54.2	48	73.2	29.8
15	Fluoride (as F)	APHA 4500F^- C	mg/l	**1.5**	0.15	0.22	0.19	0.2	0.16
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	**50**	1.31	1.36	1.28	1.283	1.35
17	Sodium as Na	APHA3500-Na	mg/l	--	8.4	9.3	9.7	8.3	9.5
18	Potassium as K	APHA 3500-K	mg/l	--	1.9	2.3	2.7	1.6	1.3
19	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	**0.005**	<0.001	<0.001	<0.001	<0.001	<0.001
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**	<0.001	<0.001	<0.001	<0.001	<0.001
23	Arsenic (as As)	APHA 3114 B	mg/l	**0.2**	<0.001	<0.001	<0.001	<0.001	<0.001
24	Copper (as Cu)	APHA 3111 B,C	mg/l	**1.5**	<0.05	<0.05	<0.05	<0.05	<0.05
25	Lead (as Pb)	APHA 3111 B,C	mg/l	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	--	<0.005	<0.005	<0.005	<0.005	<0.005
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	**0.5**	0.07	0.12	0.08	0.14	0.08
28	Chromium (as Cr^{+6})	APHA 3500Cr B	mg/l	**0.05**	<0.05	<0.05	<0.05	<0.05	<0.05
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**	<0.05	<0.05	<0.05	<0.05	<0.05
31	Aluminium as(Al)	APHA 3500Al B	mg/l	--	<0.001	<0.001	<0.001	<0.001	<0.001
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	--	<0.001	<0.001	<0.001	<0.001	<0.001
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**	280	350	320	430	350

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

Prepared by **Verified by:**

Ref : Envlab/20/R-1891 Date :20.07.2020

SURFACE WATER QUALITY ANALYSIS REPORT JUNE-2020

1. Name of Industry : **M/s Hindalco 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; **SW-10:** Sanamal.
3. Date of sampling : 15.06.2020
4. Date of analysis : 16.06.2020 TO 23.06.2020
5. Sample collected by : VCSPL Representative in presence of Aditya Aluminium 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 Value	APHA 4500H^+ B	--	**6.0-9.0**	7.36	7.24	7.25	7.39	7.30
2	Colour	APHA 2120 B, C	Hazen	**300**	CL	CL	CL	CL	CL
3	Taste	APHA 2160 C	--	--	AL	AL	AL	AL	AL
4	Odour	APHA 2150 B	--	--	U/O	U/O	U/O	U/O	U/O
5	Turbidity	APHA 2130 B	NTU	--	2.5	2.7	2.4	3.3	3.6
6	Total Dissolved Solids	APHA 2540 C	mg/l	**1500**	133.0	154.0	146.0	138.0	150.0
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	--	56	66	60	58	60
8	Total Alkalinity	APHA 2320 B	mg/l	--	48	46	54	58	54
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	15.9	19.1	17.6	17	17.6
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	4	4.5	4	3.8	3.9
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	--	ND	ND	ND	ND	ND
12	Boron (as B)	APHA 4500B, B	mg/l	--	<0.01	<0.01	<0.01	<0.01	<0.01
13	Chloride (as Cl)	APHA 4500Cl^- B	mg/l	**600**	32	30	27	23	25
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	**400**	52.5	62.1	48.8	56.1	48.4
15	Fluoride (as F)	APHA 4500F^- C	mg/l	**1.5**	0.23	0.28	0.34	0.30	0.25
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	**50**	2.3	2.4	2.5	2.7	2.3
17	Sodium as Na	APHA 3500-K	mg/l	--	9.3	9.1	9.6	9.4	8.3
18	Potassium as K	APHA3500-Na	mg/l	--	2.5	2.3	2.1	2.5	2.7
19	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	**0.005**	<0.001	<0.001	<0.001	<0.001	<0.001
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**	<0.001	<0.001	<0.001	<0.001	<0.001
23	Arsenic (as As)	APHA 3114 B	mg/l	**0.2**	<0.001	<0.001	<0.001	<0.001	<0.001
24	Copper (as Cu)	APHA 3111 B,C	mg/l	**1.5**	<0.05	<0.05	<0.05	<0.05	<0.05
25	Lead (as Pb)	APHA 3111 B,C	mg/l	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	--	<0.005	<0.005	<0.005	<0.005	<0.005
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	**0.5**	0.1	0.11	0.09	0.12	0.14
28	Chromium (as Cr^{+6})	APHA 3500Cr B	mg/l	**0.05**	<0.05	<0.05	<0.05	<0.05	<0.05
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**	<0.05	<0.05	<0.05	<0.05	<0.05
31	Aluminium as(Al)	APHA 3500Al B	mg/l	--	<0.001	<0.001	<0.001	<0.001	<0.001
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	--	<0.001	<0.001	<0.001	<0.001	<0.001
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**	350.0	430.0	440.0	430.0	540.0

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

Prepared by

Verified by:

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1884 Date :20.07.2020

GROUND WATER QUALITY ANALYSIS REPORTJUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga.**
2. Sampling location : **GW-1:** Lapanga Village; **GW-2**: Pandoloi Village; **GW-3:** Bomaloi Village; **GW-4:** Tilaimal Village
3. Date of sampling : 15.06.2020
4. Date of analysis : 16.06.2020 to 23.06.2020
5. Sample collected by : VCSPL Representative in presence of Aditya Aluminium 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	APHA 4500H^+ B	--	**6.5-8.5**	**No Relaxation**	6.92	7.22	7.46	6.59
2	Colour	APHA 2120 B, C	Hazen	**5**	**15**	<1.0	2.0	2.0	2.0
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**	208.0	175.0	189.0	191.0
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	**200**	**600**	72.0	66.0	70.0	66.0
8	Total Alkalinity	APHA 2320 B	mg/l	**200**	**600**	54.0	52.0	58.0	64.0
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	**75**	**200**	21.3	19.2	20.5	19.6
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	**30**	**100**	4.6	4.4	4.6	4.2
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**	<0.01	<0.01	<0.01	<0.01
13	Chloride (as Cl)	APHA 4500Cl^- B	mg/l	**250**	**1000**	27.4	28.9	20.8	31.3
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	**200**	**400**	6.4	5.7	5.1	6.5
15	Fluoride (as F)	APHA 4500F^- C	mg/l	**1.0**	**1.5**	0.22	0.18	0.19	0.14
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	**45**	**No Relaxation**	2.2	2.9	2.0	3.3
17	Sodium as Na	APHA3500-Na	mg/l	--	--	13.6	12.1	12.7	10.2
18	Potassium as K	APHA 3500-K	mg/l	--	--	2.5	3.1	3.6	4.3
19	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	**0.001**	**0.002**	<0.001	<0.001	<0.001	<0.001
20	Cyanide (as CN)	APHA 4500 CN^- C,D	mg/l	**0.05**	**No Relaxation**	ND	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**	<0.001	<0.001	<0.001	<0.001
23	Arsenic (as As)	APHA 3114 B	mg/l	**0.01**	**No Relaxation**	<0.001	<0.001	<0.001	<0.001
24	Copper (as Cu)	APHA 3111 B,C	mg/l	**0.05**	**1.5**	<0.001	<0.001	<0.001	<0.001
25	Lead (as Pb)	APHA 3111 B,C	mg/l	**0.01**	**No Relaxation**	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	**0.1**	**0.3**	<0.001	<0.001	<0.001	<0.001
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	**0.3**	**No Relaxation**	0.20	0.19	0.21	0.19
28	Chromium (as Cr)	APHA 3500Cr B	mg/l	**0.05**	**No Relaxation**	<0.05	<0.05	<0.05	<0.05
29	Selenium (as Se)	APHA 3114 B	mg/l	**0.01**	**No Relaxation**	<0.001	<0.001	<0.001	<0.001
30	Zinc (as Zn)	APHA 3111 B,C	mg/l	**5**	**15**	<0.05	<0.05	<0.05	<0.05
31	Aluminium as(Al)	APHA 3500Al B	mg/l	**0.03**	**0.2**	<0.001	<0.001	<0.001	<0.001
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	**0.001**	**No Relaxation**	<0.001	<0.001	<0.001	<0.001
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**	--	Absent	Absent	Absent	Absent

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

Prepared By

Verified By

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1885 Date :20.07.2020

GROUND WATER QUALITY ANALYSIS REPORTJUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga.**
2. Sampling location : **GW-5:** Thelkoloi Village; **GW-6:** Ghichamura Village; **GW-7:** Gumkarama Village; **GW-8:** Chaltikra Village.
3. Date of sampling : 15.06.2020
4. Date of analysis : 16.06.2020 to 23.06.2020
5. Sample collected by : VCSPL Representative in presence of Aditya Aluminium 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	APHA 4500H^+ B	--	**6.5-8.5**	**No Relaxation**	**7.14**	7.09	7.24	7.04
2	Colour	APHA 2120 B, C	Hazen	**5**	**15**	<1.0	3.0	2.0	2.0
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**	196.0	187.0	211.0	186.0
7	Total Hardness (as $CaCO_3$)	APHA 2340 C	mg/l	**200**	**600**	64.0	60.0	76.0	68.0
8	Total Alkalinity	APHA 2320 B	mg/l	**200**	**600**	52.0	50.0	56..0	52.0
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	**75**	**200**	18.9	17.3	22.3	19.9
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	**30**	**100**	4.1	4.1	5.0	4.5
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**	<0.01	<0.01	<0.01	<0.01
13	Chloride (as Cl)	APHA 4500Cl^- B	mg/l	**250**	**1000**	26.7	25.0	24.1	22.5
14	Sulphate (as SO_4)	APHA 4500 SO_4^{2-} E	mg/l	**200**	**400**	6.7	5.5	5.3	5.1
15	Fluoride (as F)	APHA 4500F^- C	mg/l	**1.0**	**1.5**	0.2	0.14	0.21	0.19
16	Nitrate (as NO_3)	APHA 4500 NO_3^- E	mg/l	**45**	**No Relaxation**	2.5	2.7	2.2	1.9
17	Sodium as Na	APHA3500-Na	mg/l	--	--	10.5	11.1	11.3	12.6
18	Potassium as K	APHA 3500-K	mg/l	--	--	3.7	5.2	4.5	4.7
19	Phenolic Compounds (as C_6H_5OH)	APHA 5530 B,D	mg/l	**0.001**	**0.002**	<0.001	<0.001	<0.001	<0.001
20	Cyanide (as CN)	APHA 4500 CN^- C,D	mg/l	**0.05**	**No Relaxation**	ND	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**	<0.001	<0.001	<0.001	<0.001
23	Arsenic (as As)	APHA 3114 B	mg/l	**0.01**	**No Relaxation**	<0.001	<0.001	<0.001	<0.001
24	Copper (as Cu)	APHA 3111 B,C	mg/l	**0.05**	**1.5**	<0.001	<0.001	<0.001	<0.001
25	Lead (as Pb)	APHA 3111 B,C	mg/l	**0.01**	**No Relaxation**	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	**0.1**	**0.3**	<0.001	<0.001	<0.001	<0.001
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	**0.3**	**No Relaxation**	0.17	0.16	0.22	0.20
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**	<0.05	<0.05	<0.05	<0.05
31	Aluminium as(Al)	APHA 3500Al B	mg/l	**0.03**	**0.2**	<0.001	<0.001	<0.001	<0.001
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	**0.001**	**No Relaxation**	<0.001	<0.001	<0.001	<0.001
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**	--	Absent	Absent	Absent	Absent

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

VISIONTEK CONSULTANCY SERVICES PVT. LTD. *Prepared By*

VISIONTEK CONSULTANCY SERVICES PVT. LTD. *Verified By*

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1892 Date :20.07.2020

SOIL QUALITY ANALYSIS REPORT JUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.06.2020
3. Sampling Location : **S-1:** Project Site; **S-2:** Thelkoloi; **S-3:** Ghichamura; **S-4:** Lapanga; **S-5:** Bamloi
4. Date of Analysis : 16.06.2020 TO 23.06.2020
5. Sample Collected By : VCSPL representative in Presence of Aditya Aluminium representative

Sl.No.	Parameters	Unit	S-1	S-2	S-3	S-4	S-5
1	P^H	--	6.92	6.87	6.9	7.02	6.89
2	Conductivity	--	124.9	115.2	108.7	131.2	126.5
3	Soil Texture	--	Sandy Loamy	Clay Loamy	Clay Loamy	Sandy Loamy	Sandy Loamy
4	Sand	%	40.6	23.2	31.8	39.3	40.2
5	Silt	%	13.5	23.4	19.8	20.6	15.5
6	Clay	%	44.2	52.3	44.1	46.4	42.8
7	Bulk Density	gm/cc	1.52	1.34	1.43	1.48	1.49
8	Exchangeable Calcium as Ca	%	37.2	33.0	41.4	36.0	41.0
9	Exchangeable Magnesium as Mg	%	51.3	50.9	53.1	50.8	53.5
10	Available Sodium as Na	%	0.012	0.022	0.019	0.024	0.023
11	Available Potassium as K	%	0.055	0.045	0.052	0.042	0.047
12	Available phosphorous as P	%	0.021	0.025	0.023	0.019	0.026
13	Available Nitrogen as N	%	0.23	0.29	0.24	0.27	0.30
14	Organic Matter	%	3.3	3.5	3.8	3.1	3.9
15	Organic Carbon as OC	%	1.50	1.54	1.59	1.63	1.51
16	Water soluble Chlorides as Cl	%	0.25	0.30	0.24	0.26	0.31
17	Water soluble Sulphates as SO_4	%	0.17	0.15	0.22	0.26	0.23
18	Sodium Absorption Ratio	%	0.160	0.163	0.155	0.149	0.144
19	Aluminium as Al	%	0.00009	0.00011	0.00013	0.00012	0.00015
20	Total Iron as Fe	%	0.095	0.044	0.049	0.080	0.076
21	Manganese as Mn	%	0.016	0.0017	0.0020	0.0031	0.0020
22	Boron as B	%	0.00017	0.00019	0.00025	0.0003	0.00023
23	Zinc as Zn	%	0.00035	0.00033	0.00032	0.00028	0.00024
24	Silica as SiO_2	%	6.2	6.0	6.8	6.4	6.6
25	Ferric Oxide as Fe_2O_3	%	0.05	0.046	0.043	0.037	0.029
26	Calcium Oxide as CaO	%	29.6	27.5	26.2	26.8	27.9
27	Magnesium Oxide as MgO	%	25.0	25.6	23.8	21.2	22.4
28	Aluminium Oxide as Al_2O_3	%	0.00005	0.00011	0.00026	0.00035	0.00037
29	Iron Oxide as FeO	%	0.051	0.0120	0.052	0.030	0.031
30	Manganese Oxide as MnO	%	0.0056	0.0019	0.0015	0.0021	0.0043
31	Potassium Oxide as K_2O	%	0.0535	0.0422	0.0418	0.0513	0.0513
32	Phosphorus Oxide as P_2O_5	%	0.0090	0.0086	0.0083	0.0081	0.0094
33	Fluoride as F	%	0.0017	0.00025	0.00031	0.00037	0.00040

ND: Not Detected

Prepared by: **Verified by:**

Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)

ISO 9001: 2015
ISO 14001:2015
ISO 45001:2018 (OH&S)
ISO/IEC 17025:2005

Ref : Envlab/20/R-1893 Date :20.07.2020

SOIL QUALITY ANALYSIS REPORT JUNE-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 15.06.2020
3. Sampling Location : **S-6:** Tileimal; **S-7:** Jangala; **S-8:** Gurupali; **S-9**: Gumkarama; **S-10:** Bhadarpali.
4. Date of Analysis : 16.06.2020 TO 23.06.2020
5. Sample Collected By : VCSPL representative in Presence of Aditya Aluminium representative

Sl.No.	Parameters	Unit	S-6	S-7	S-8	S-9	S-10
1	P^H	--	6.86	7.08	7.1	7.18	6.96
2	Conductivity	--	128.7	124.9	117.1	112.8	106.5
3	Soil Texture	--	Clay Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Clay Loamy
4	Sand	%	23.4	30.4	33.2	40.5	25.6
5	Silt	%	12.8	12.7	21.2	20.6	20.9
6	Clay	%	62.4	55.2	49.6	39.7	52.1
7	Bulk Density	gm/cc	1.52	1.44	1.33	1.45	1.46
8	Exchangeable Calcium as Ca	%	46.1	37.2	45.1	44.7	43.2
9	Exchangeable Magnesium as Mg	%	52.4	55.8	57.3	60.4	58.9
10	Available Sodium as Na	%	0.025	0.026	0.031	0.028	0.025
11	Available Potassium as K	%	0.05	0.048	0.044	0.05	0.052
12	Available phosphorous as P	%	0.018	0.017	0.019	0.025	0.023
13	Available Nitrogen as N	%	0.32	0.28	0.25	0.19	0.25
14	Organic Matter	%	4.1	4.0	3.8	3.2	3.6
15	Organic Carbon as OC	%	1.54	1.83	1.85	1.79	1.87
16	Water soluble Chlorides as Cl	%	0.23	0.25	0.19	0.23	0.26
17	Water soluble Sulphates as SO_4	%	0.15	0.2	0.15	0.17	0.15
18	Sodium Absorption Ratio	%	0.16	0.162	0.155	0.151	0.153
19	Aluminium as Al	%	0.00011	0.0001	0.00015	0.00016	0.00013
20	Total Iron as Fe	%	0.057	0.066	0.046	0.038	0.04
21	Manganese as Mn	%	0.0025	0.002	0.0027	0.0025	0.003
22	Boron as B	%	0.00021	0.00035	0.00032	0.00034	0.00026
23	Zinc as Zn	%	0.00022	0.00025	0.00019	0.00013	0.00018
24	Silica as SiO_2	%	7.1	6.5	6.3	6.9	6.1
25	Ferric Oxide as Fe_2O_3	%	0.023	0.027	0.031	0.035	0.033
26	Calcium Oxide as CaO	%	26.2	30.4	30.9	35.4	33.2
27	Magnesium Oxide as MgO	%	21.9	31.4	29.6	29.4	21.5
28	Aluminium Oxide as Al_2O_3	%	0.00039	0.00036	0.00029	0.00035	0.00035
29	Iron Oxide as FeO	%	0.0185	0.0178	0.019	0.0202	0.0215
30	Manganese Oxide as MnO	%	0.002	0.0017	0.0013	0.0015	0.0019
31	Potassium Oxide as K_2O	%	0.0426	0.0421	0.0519	0.0445	0.0516
32	Phosphorus Oxide as P_2O_5	%	0.0086	0.0092	0.0107	0.0085	0.0087
33	Fluoride as F	%	0.00043	0.00032	0.00029	0.00025	0.00021

Prepared by : **Verified by:**

Ref : Envlab/20/R-2046 Date :20.07.2020

NOISE MONITORING REPORT JUNE-2020

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

Daytime Noise monitoring results (Noise Level in dB (A)) June 2020

TIME (6.00AM to 9.00PM)	N1:Gumkarma (08.06.2019)	N2:Ghichamura (08.06.2019)	N3:Bomaloi (09.06.2019)	N4:Tileimal (09.06.2019)	N5:Thelkoli (09.06.2019)	N6:Khadiapali (09.06.2019)	N7:Kapilas (10.06.2019)	N8:Phulchanghal (10.06.2019)
06.00am	39.5	38.8	40.8	38.8	45.2	44.6	37.4	38.8
07.00am	41.6	42.4	44.6	39.2	45.8	45.8	42.8	39.2
08.00am	43.8	43.8	47.2	43.8	46.2	45.2	43.8	39.9
09.00am	45.2	45.2	46.8	42.2	46.6	47.8	45.2	40.2
10.00am	44.2	44.8	48.2	40.2	46.8	46.1	42.6	40.6
11.00am	42.7	46.2	52.8	44.2	47.2	49.3	43.2	41.8
12.00 noon	43.7	42.6	49.4	41.4	48.8	44.8	40.6	42.2
01.00pm	54.9	40.8	43.8	44.8	49.6	42.6	41.4	43.4
02.00pm	51.2	42.2	42.6	45.2	50.6	41.6	42.8	44.6
03.00pm	50.2	44.6	47.6	42.6	50.8	43.4	45.2	44.8
04.00pm	52.6	45.2	49.8	45.6	51.2	42.6	42.6	44.6
05.00pm	56.2	48.8	53.2	48.6	51.6	45.2	43.2	44.4
06.00pm	51.2	44.6	46.2	43.2	52.2	43.8	43.8	44.2
07.00pm	50.6	44.2	41.6	39.9	52.6	40.2	42.2	45.2
08.00pm	44.8	42.6	40.2	38.7	51.8	42.2	44.8	45.8
09.00pm	40.6	40.1	42.8	38.2	50.6	41.1	39.6	40.6
Average	**47.06**	**43.56**	**46.10**	**42.29**	**49.23**	**44.14**	**42.58**	**42.52**
Standard as per CPCB	**55**							

Night time Noise monitoring results (Noise Level in dB (A)) June -2020

TIME (10.00PM to 5.00AM)	N1:Gumkarma (08.06.2019)	N2:Ghichamura (08.06.2019)	N3:Bomaloi (09.06.2019)	N4:Tileimal (09.06.2019)	N5:Thelkoli (09.06.2019)	N6:Khadiapali (09.06.2019)	N7:Kapilas (10.06.2019)	N8:Phulchanghal (10.06.2019)
10.00pm	44.2	41.8	46.7	41.2	45.8	43.8	42.1	45.2
11.00pm	42.8	39.8	43.8	40.8	43.6	42.6	39.8	42.8
12.00 Midnight	41.6	37.2	40.2	39.6	42.6	42.8	38.6	43.8
01.00am	39.2	37.8	38.8	39.2	39.2	40.2	39.8	39.6
02.00am	37.8	38.6	39.2	40.6	40.8	40.8	39.2	37.8
03.00am	38.6	39.8	38.8	40.8	39.8	40.4	38.8	38.8
04.00am	41.8	42.2	41.6	40.6	43.2	44.8	41.8	44.2
05.00am	43.2	43.4	44.2	43.8	45.8	43.1	40.8	45.6
Average	**41.15**	**40.08**	**41.66**	**40.83**	**42.60**	**42.31**	**40.11**	**42.23**
Standard as per CPCB	**45**							

Prepared By *Verified By*

Ref : Envlab/20/R-2048 (I) Date :04.03.2020

FORAGE FLOURIDE ANALYSIS REPORT-FEBRUARY 2020

1.	Name of Industry	:	**M/s Hindalco Industries Ltd, (Unit- Aditya Aluminium); Lapanga**
2.	Date of Sampling	:	20.02.2020 & 21.02.2020
3.	Date of Analysis	:	22.02.2020 TO 26.02.2020
4.	Nature of Sample	:	Vegetation Sample
5.	Sampling Locations	:	Thelkoli, Lapanga, Gurupali, Jangala, Bhasarpali, Bamloi, Tilamal, Gumkarma, Ghichamura, Plant Site
6.	Sample collected by	:	VCSPL Representative in Presence of Aditya Aluminum Representative

Sl. No.	Date of Sampling	Name of the Location	Type of Species	Method of Analysis	Results (ppm)
					Fluoride
1	20.02.2020	Thelkoli	*Grass (Cynodon dactylon)*	AOAC 975.04	1.31
2	20.02.2020	Lapanga	*Karanja Tree Leaf (Millettiapinnata)*	AOAC 975.04	1.42
3	20.02.2020	Gurupali	*Curry Tree (MurrayaKoenigii)*	AOAC 975.04	1.05
4	20.02.2020	Jangala	*Brinjal (Solanum Melongena)*	AOAC 975.04	1.24
5	20.02.2020	Bhadrapali	*Cucumber(CucumisSativus)*	AOAC 975.04	1.32
6	20.02.2020	Bamloi	*Tomato Leaf(Solanumlycopersicum)*	AOAC 975.04	1.34
7	20.02.2020	Tilaimal	*Bottle Gourd(LagenariaSiceraria)*	AOAC 975.04	0.92
8	20.02.2020	Gumkarma	*Onion(Allium Cepa)*	AOAC 975.04	1.58
9	20.02.2020	Ghichamura	*Cauliflower(Brassica Oleracea)*	AOAC 975.04	0.81
10	20.02.2020	Plant Site	*Grass (Cynodondactylon)*	AOAC 975.04	1.80

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Reviewed By

Approved By

Ref : Envlab/20/R-1894 Date :20.07.2020

FORAGE FLOURIDE ANALYSIS REPORT JUNE-2020

1	Name of Industry	:	**M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga**
2	Date of Sampling	:	15.06.2020 & 16.06.2020
3	Date of Analysis	:	17.06.2020 to 24.06.2020
4	Name of the Sample	:	Vegetation Sample
5	Sampling Location	:	Bomaloi, Guripalli, Plant Gate, Thelkolai, Gumukarma, Ghichamura , Tileimal & Lapanga
6	Sample Collected By	:	VCSPL Representative in presence of Clients representative

Sl. No.	Date of Sampling	Name of the Location	Type of Species	Method of Analysis	Result (PPM)
1	15.06.2020	Bomaloi	*Duba Grass (Cynodon dactylon)*	AOAC 975.04	1.42
2	15.06.2020	Gurupali	*Bela Tree (Aegle marmelos)*	AOAC 975.04	1.14
3	15.06.2020	Plant Gate	*Sisoo Tree (Dalbergia Sissoo Roxb), Karanja Tree (Pongame Oil tree)*	AOAC 975.04	1.62
4	15.06.2020	Thelkolai	*Krushnachuda Tree (Caesalpini pulcherrima), Jammu Tree (Syzgium cumini)*	AOAC 975.04	1.20
5	16.06.2020	Gumukarma	*Bamboo Tree (Bambusoideade), Duba Grass (Cynodon dactylon)*	AOAC 975.04	1.51
6	16.06.2020	Ghichamura	*Baulakoli Tree (Mimusops elengi)*	AOAC 975.04	0.78
7	16.06.2020	Tileimal	*Bela Tree (Aegle marmelos), Duba Grass (Cynodon dactylon)*	AOAC 975.04	0.94
8	16.06.2020	Lapanga	*Neem Tree(Azadirachta Indica)*	AOAC 975.04	1.56
9	16.06.2020	Jangala	*Brinjal (Solanum Melongena)*	AOAC 975.04	1.28
10	16.06.2020	Bhadrapali	*Cucumber(Cucumis Sativus)*	AOAC 975.04	1.32

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Ref : Envlab/20/R-4451 Date :03.10.2020

FORAGE FLOURIDE ANALYSIS REPORT-SEPTEMBER 2020

1.	Name of Industry	:	**M/s Hindalco Industries Ltd, (Unit- Aditya Aluminium); Lapanga**
2.	Date of Sampling	:	16.09.2020 & 17.09.2020
3.	Date of Analysis	:	18.09.2020 to 24.09.2020
4.	Nature of Sample	:	Vegetation Sample
5.	Sampling Locations	:	Gumkarma, Plant Site, Jangala, Bomaloi, Ghichamura, Gurupali, Thelkolai, Tileimal, Bhadrapali, Lapanga
6.	Sample collected by	:	VCSPL Representative in Presence of Aditya Aluminum Representative

Sl. No.	Date of Sampling	Name of the Location	Type of Species	Method of Analysis	Results (ppm)
					Fluoride
1	16.09.2020	Gumkarma	*Bamboo Tree (Bambusoideade), Duba Grass (Cynodon dactylon)*	AOAC 975.04	1.46
2	16.09.2020	Plant Site	*Sisoo Tree (Dalbergia Sissoo Roxb), Karanja Tree (Pongame Oil tree)*	AOAC 975.04	1.52
3	16.09.2020	Jangala	*Brinjal (Solanum Melongena)*	AOAC 975.04	1.31
4	16.09.2020	Bomaloi	*Duba Grass (Cynodon dactylon)*	AOAC 975.04	1.41
5	16.09.2020	Ghichamura	*Baulakoli Tree (Mimusops elengi)*	AOAC 975.04	0.82
6	17.09.2020	Gurupali	*Bela Tree (Aegle marmelos)*	AOAC 975.04	1.11
7	17.09.2020	Thelkolai	*Krushnachuda Tree (Caesalpini pulcherrima), Jammu Tree (Syzgium cumini)*	AOAC 975.04	1.18
8	17.09.2020	Tileimal	*Bela Tree (Aegle marmelos), Duba Grass (Cynodon dactylon)*	AOAC 975.04	0.92
9	17.09.2020	Bhadrapali	*Cucumber(Cucumis Sativus)*	AOAC 975.04	1.31
10	17.09.2020	Lapanga	*Neem Tree(Azadirachta Indica)*	AOAC 975.04	1.51

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