



Letter No: AAP/E&S/EC/2020/582

Date: 20/05/2020

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

Sub: Submission of Six Monthly Compliance from Oct' 19 to Mar' 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 Oct'2019 to Mar'2020.

Kindly acknowledge receipt of the reports.

Thanking You

Yours faithfully
For Aditya Aluminium

A handwritten signature in black ink, appearing to read "K. N. Pandey".

(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

Hindalco Industries Limited

Aditya Aluminium: At/P.O.: Lapanga - 768 212, District: Sambalpur, Odisha, India
T: +91 663 2536 247 | Fax: +91 663 2536 499 | E: hindalco@adityabirla.com | W: www.hindalco.com
Registered Office: Ahura Centre, 1st Floor, B-Wing, Mahakali Caves Road, Andheri (East), Mumbai 400 093
Tel: +91 22 6691 7000 | Fax: + 91 222 6691 7001
Corporate ID No.: L27020MH1958PLC011238

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 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)	<p>The gaseous emissions (PM, SO₂, NO_x, 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.</p> <p>The particulate emissions from the bake oven plant shall not exceed 50 mg/Nm³.</p>	<p>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.</p> <p>a) Smelter GTC 1 & 2- 2 Nos. b) Smelter FTC 1 & 2 - 2 Nos. c) CPP Unit 1 to 6 - 6 Nos.</p> <p>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 Oct'19 to Mar'20 in Anoe baking Furnace stacks of stated below</p> <table border="1" data-bbox="871 1798 1474 1955"> <thead> <tr> <th rowspan="2">Stack attached to</th> <th colspan="3">PM Emission (mg/Nm³)</th> </tr> <tr> <th>(Min)</th> <th>(Max)</th> <th>(Avg)</th> </tr> </thead> <tbody> <tr> <td>FTC # 1</td> <td>8.2</td> <td>11.1</td> <td>9.9</td> </tr> <tr> <td>FTC # 2</td> <td>6.5</td> <td>12.6</td> <td>8.1</td> </tr> </tbody> </table> <p>The monitoring report of Fume treatment Plant</p>	Stack attached to	PM Emission (mg/Nm ³)			(Min)	(Max)	(Avg)	FTC # 1	8.2	11.1	9.9	FTC # 2	6.5	12.6	8.1
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Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

		stacks is attached as Annexure-1.															
iv)	<p>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/Nm³.</p>	<p>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 Oct'19 to Mar'20 is stated below:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Stack attached to</th> <th colspan="3">Particulate Fluoride Emission (mg/Nm³)</th> </tr> <tr> <th>(Min)</th> <th>(Max)</th> <th>(Avg)</th> </tr> </thead> <tbody> <tr> <td>GTC # 1</td> <td>0.15</td> <td>0.18</td> <td>0.16</td> </tr> <tr> <td>GTC # 2</td> <td>0.14</td> <td>0.15</td> <td>0.14</td> </tr> </tbody> </table> <p>The average fugitive particulate fluoride emission from pot rooms during Oct'19 to Mar'20 is 0.06 kg/ton of metal produced.</p> <p>The monitoring reports of Gas Treatment Centre stacks is attached as Annexure-2.</p>	Stack attached to	Particulate Fluoride Emission (mg/Nm ³)			(Min)	(Max)	(Avg)	GTC # 1	0.15	0.18	0.16	GTC # 2	0.14	0.15	0.14
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v)	<p>The poly aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) should not exceed 2 mg/Nm³. The data on PAH should be monitored quarterly and report submitted regularly to the Ministry/Regional Office at Bhubaneswar and SPCB.</p>	<p>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).</p>															
vi)	<p>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.</p> <p>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.</p> <p>Further dry scrubbing system to control the emissions from the pot lines should be provided.</p>	<p>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 handling, ash handling plant in captive power plant is installed to control fugitive dust emissions.</p> <p>Online Roof Top Monitoring analyzer installed for Fugitive fluoride (HF) monitoring in potrooms, the concentration of hydrogen fluoride varies between 0.01 mg/m³ to 0.69 mg/m³ and average is 0.15 mg/m³ during Oct'19 to Mar'20. The daily average emission report during these period is attached as Annexure-3.</p> <p>Forage fluoride analysis around the smelter is being carried out on quarterly basis and the</p>															

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

		<p>concentration of the forage fluoride (analysed in Nov 2019) are listed below:</p> <table border="1" data-bbox="868 349 1479 840"> <thead> <tr> <th>Location</th> <th>Species</th> <th>Fluoride (in ppm)</th> </tr> </thead> <tbody> <tr> <td>Thekoli</td> <td>Brinjal leaf (Solanum Melongena)</td> <td>1.66</td> </tr> <tr> <td>Lapanga</td> <td>Neem Leaf (Azadirata indica)</td> <td>1.58</td> </tr> <tr> <td>Gurupali</td> <td>Onion leaf (Allium Sepa)</td> <td>0.84</td> </tr> <tr> <td>Jangala</td> <td>Grass (Cylodon Dactylon)</td> <td>1.32</td> </tr> <tr> <td>Bhadarpali</td> <td>Karanja leaf (Milletia Pinnata)</td> <td>1.24</td> </tr> <tr> <td>Bomaloi</td> <td>Charoli leaf (Buchanania lanzan)</td> <td>1.68</td> </tr> <tr> <td>Tileimal</td> <td>Lemon leaf (Citrus lemon)</td> <td>1.10</td> </tr> <tr> <td>Gumkarma</td> <td>Brinjal leaf (Solanum Melongena)</td> <td>1.42</td> </tr> <tr> <td>Ghichamura</td> <td>Drumstick leafs (Moringa Oleifera)</td> <td>1.16</td> </tr> <tr> <td>Plant site</td> <td>Grass (Cylodon Dactylon)</td> <td>2.21</td> </tr> </tbody> </table> <p>Dry scrubbing system is being provided as gas treatment centre (GTC) to each of the pots in the pot room to control fugitive emission.</p>	Location	Species	Fluoride (in ppm)	Thekoli	Brinjal leaf (Solanum Melongena)	1.66	Lapanga	Neem Leaf (Azadirata indica)	1.58	Gurupali	Onion leaf (Allium Sepa)	0.84	Jangala	Grass (Cylodon Dactylon)	1.32	Bhadarpali	Karanja leaf (Milletia Pinnata)	1.24	Bomaloi	Charoli leaf (Buchanania lanzan)	1.68	Tileimal	Lemon leaf (Citrus lemon)	1.10	Gumkarma	Brinjal leaf (Solanum Melongena)	1.42	Ghichamura	Drumstick leafs (Moringa Oleifera)	1.16	Plant site	Grass (Cylodon Dactylon)	2.21
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vii)	<p>Electrostatic Precipitators (ESP) will be provided to Captive Power Plant (CPP) to control particulate emissions below 50 mg/Nm³.</p> <p>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.</p> <p>The emissions shall conform to the standards prescribed by the Ministry CPCB/SPCB whichever is more stringent.</p>	<p>Electrostatic Precipitators (ESP) of adequate efficiency is installed in Captive Power Plant (CPP) to restrict particulate emissions within 50 mg/Nm³.</p> <p>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.</p> <p>The standards prescribed by the Ministry/ CPCB/ SPCB is being adhered.</p> <p>The results of the stack emission from the CPP units from Oct'19 to Mar' 20 is stated below:</p> <table border="1" data-bbox="868 1736 1479 2033"> <thead> <tr> <th rowspan="2">CPP Stack</th> <th colspan="3">PM Emission (mg/Nm³)</th> </tr> <tr> <th>(Min)</th> <th>(Max)</th> <th>(Avg)</th> </tr> </thead> <tbody> <tr> <td>CPP 1</td> <td>42.7</td> <td>47.6</td> <td>44.7</td> </tr> <tr> <td>CPP 2</td> <td>43.8</td> <td>46.1</td> <td>45.06</td> </tr> <tr> <td>CPP 3</td> <td>35.3</td> <td>39.8</td> <td>37.82</td> </tr> <tr> <td>CPP 4</td> <td>38.0</td> <td>46.5</td> <td>43.03</td> </tr> <tr> <td>CPP 5</td> <td>41.4</td> <td>45.1</td> <td>43.3</td> </tr> <tr> <td>CPP 6</td> <td>44.5</td> <td>47.1</td> <td>46.0</td> </tr> </tbody> </table>	CPP Stack	PM Emission (mg/Nm ³)			(Min)	(Max)	(Avg)	CPP 1	42.7	47.6	44.7	CPP 2	43.8	46.1	45.06	CPP 3	35.3	39.8	37.82	CPP 4	38.0	46.5	43.03	CPP 5	41.4	45.1	43.3	CPP 6	44.5	47.1	46.0		
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Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

viii)	Provision for installation of FGD shall be provided for future use.	Provisional Space kept for installation of FGD and will be utilized for the proposed FGD near to the Power plant.
ix)	Three tri-flue and one bi-flue stack of 275 m height with flue gas velocity not less than 22 m/s shall be installed and provided with continuous online monitoring equipment's for SO ₂ , NO _x , and PM ₁₀ .	Two (02) numbers of tri-flue stacks of 275 m height is installed in phase-I, another two nos. of stacks will be installed during Phase-II. Continuous emission monitoring system (CEMS) installed for monitoring of SO ₂ , NO _x , 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 4 th 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 efforts being made for achieving target ash utilization as stated below: <ul style="list-style-type: none"> ➤ Increase supply to Cement Plants like M/s Ultratech, Jharsuguda unit; M/s ACC, Bargarh Unit; M/s OCL, Rajgangpur Unit ➤ Use in own ash brick unit installed inside the plant & increased supply to the local brick manufacturing Units ➤ Low lying area development, ash dyke raising and road making inside and outside the plant premises ➤ We have constituted a Team for exploring more areas of Ash utilization like Road making, Abandoned mines/quarry filling, infrastructure projects etc. The Status of ash utilization from Oct' 19 to

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

		<p>Mar' 20 is stated below:</p> <table border="1" data-bbox="874 300 1482 456"> <thead> <tr> <th>Oct' 19 to Mar'20</th> <th>Quantity in MT</th> </tr> </thead> <tbody> <tr> <td>Total ash generated</td> <td>7,15,379</td> </tr> <tr> <td>Total Ash Utilised</td> <td>6,90,111</td> </tr> <tr> <td>Utilization (%)</td> <td>96.46 %</td> </tr> </tbody> </table> <p>Details of the ash utilization from Oct'19 to Mar'20 is attached as annexure- 4.</p> <p>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 utilization in the FY 19-20.</p>	Oct' 19 to Mar'20	Quantity in MT	Total ash generated	7,15,379	Total Ash Utilised	6,90,111	Utilization (%)	96.46 %
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xii)	<p>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.</p>	<p>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 discharged 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-5.</p> <p>The ash filling in the low lying area inside the plant premises is being 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).</p>								
xiii)	<p>Fluoride (as F) consumption shall be less than 10 kg/ton of Aluminium produced as specified by the CREP.</p>	<p>The specific fluoride (as F) consumption for the period Oct'19 to Mar'20 is 7.88 kg/ton of Aluminium produced and 7.67 kg/MT for the FY 2019-20.</p>								
xiv)	<p>Anode butts generated from the pots shall be cleaned and recycled to the Anode Plant.</p> <p>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.</p>	<p>Anode butts generated from the pots is being cleaned and recycled completely for making green anode in green anode plant.</p> <p>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.</p> <p>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</p>								

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

	<p>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).</p> <p>The dross shall be recycled in the cast house.</p> <p>STP sludge shall be utilized as manure for greenbelt development.</p> <p>All the used oil and batteries shall be sold to the authorized recyclers/ re-processors.</p>	<p>disposal to CHW-TSDF. M/s Ramky Enviro Pvt. Ltd is establishing 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 is likely to lift the refractory part of SPL soon after fulfilling the terms & conditions specified in the Protocol and after getting approvals from SPCB/CPCB. An amount of 6646.47 MT SPL Refractory stock has been stored till end of March 2020 inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users.</p> <p>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.</p> <p>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.</p> <p>STP is in operation at township & Plant area separately, the sludge generated is being used for gardening/greenbelt development.</p> <p>The used oil and batteries are being sold/supplied to authorized recyclers/reprocessors only.</p>
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 HCS 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 maintaining the average CoC of cooling tower above 5.

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

xviii)	<p>Regular monitoring of ground water shall be carried out by establishing a network of existing wells and constructing new piezometers.</p> <p>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.</p>	<p>Regular monitoring of ground water is being carried out through establishing a network of existing wells and constructing two nos new piezometer wells near ash pond areas and the analysis report is enclosed as Annexure-6.</p> <p>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.</p>
xix)	<p>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.</p>	<p>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.</p>
xx)	<p>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.</p> <p>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.</p> <p>Domestic effluent shall be treated in sewage treatment plant (STP) and treated domestic waste water will be used for greenbelt development.</p>	<p>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.</p> <p>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.</p> <p>Separate Sewage Treatment Plant (STP) is installed @ capacity 25 m³/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.</p>
xxi)	<p>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.</p>	<p>We are operating a Double Stage Reverse Osmosis based effluent treatment plant (ETP) of 300 m³/hr capacity and therefore no effluent water is being discharged to outside without treatment from Smelter.</p>
xxii)	<p>Greenbelt of adequate width and density around the project site shall be developed in 33% area in consultation with the DFO as per the CPCB guidelines having density of 2,000 trees/Ha.</p>	<p>Aditya Aluminium has developed Greenbelt over 741 acres inside the Core plant & Township areas. Around 4,66,500 saplings planted till Mar 2020.</p>
xxiii)	<p>Occupational Health Surveillance of the workers should be done on a regular basis and records</p>	<p>Occupational Health Surveillance of the workers is being done as per the Odisha</p>

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

	maintained as per the Factories Act.	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-7
xxvii)	The company shall adopt well laid down corporate policy and identified and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with environmental clearance, environmental laws and regulations.	The company has adopted a well laid down Corporate Environment Policy. The copy of the same has been communicated in the last Six-Monthly EC Compliance report vide our letter no. AA/E&S/EC/2018/410, dated 27/11/2018.
xxviii)	All the commitments made to the public during public hearing /public consultation meeting held on 2 nd 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 2 nd 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 Enterprise Social Commitment (ESC) till March 2020 is Rs 47.23 Crores. The details of the expenditure made under Enterprise Social Commitment (ESC) till March 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 drinking water, medical health care, crèche etc. the housing may be in the form of temporary	The construction activities are completed after the plant is installed & commissioned. However, in case of any construction & maintainance activities from time to time we are providing all necessary infrastructure and facilities to the workers as per rules &

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

	structures to be ensured accordingly in a time bound manner.	guidelines.
xxxii)	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.	<p>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.</p> <p>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.</p>
	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 19 th 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) CAAQM Stations completed and commissioned. Data connectivity established with the servers of OSPCB and CPCB. Installation of the continuous stack emission monitoring system in all the major stacks completed. All the CAAQMS & CEMS synchronized with the webserver of the SPCB & CPCB. Six-monthly compliance along with the monitoring data is being submitted to the concerned authorities regularly.
v)	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz	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.

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

	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 programmes, drinking water supply and health care etc.	We have noted and accepted all the conditions and will comply in a time bound manner. The economic development activities are going on regularly as a part of our corporate social responsibility. A team of personnel working dedicatedly for peripheral development work like conducting health camps, community developed programmes, formation SHG groups, supply of drinking water and other common infrastructural development works. Details of the CSR, R&R activities undertaken is attached as Annexure-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	The status of compliance to the EC conditions is being submitted to the Regional office of the MOEF regularly on 1 st June and 1 st Dec respectively with a copy to CPCB & OSPCCB and the same is being uploaded into the Company

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

	<p>simultaneously be sent to the Regional Office of the MoEF at Bhubaneswar. The respective zonal office of CPCB and SPCB. The criteria pollutant levels namely' PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>	<p>website. (http://www.hindalco.com/sustainability/regulatory-compliances).</p> <p>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 electronically displayed at main entrance gate for information to the public.</p>
xii)	<p>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.</p>	<p>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.</p> <p>The monitoring data in respect of AAQ, water, soil, noise etc is enclosed as Annexure-11.</p>
xiii)	<p>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.</p>	<p>The environmental statement for each financial year ending 31st March in Form-V is being submitted to the concerned authorities of SPCB and MoEF.</p>
xiv)	<p>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.</p>	<p>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.</p> <p>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.</p>
xv)	<p>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</p>	<p>Financial closure for Phase-1 (Smelter capacity of 0.36 MTPA and CPP of 1650 MW) of the Project is completed on 17th September 2012 and Construction activities for Phase-I</p>

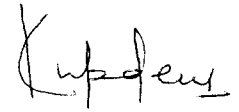
Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

	commencing the land development work.	completed for 0.36 MTPA Smelter and 6x150 MW CPP and operating 360 pots out of 360 pots in Smelter 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 for disposal to CHW-TSDF. M/s Ramky Enviro Pvt. Ltd is establishing 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 is likely to lift the refractory part of SPL soon after fulfilling the terms & conditions specified in the Protocol and getting approvals from SPCB & CPCB.
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 Oct'19 to Mar 20. 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 utilization in the FY 19-20.
iii)	All the measures proposed during the presentation and application shall be implemented.	We have Noted and will 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	We are in the process of exploring suitable

Aditya Aluminium: Six Monthly EC Compliance from October 2019– March 2020

	facilities for treatment of SPL in 2 to 3 years.	technology for treatment and areas of utilization for disposal of SPL. Carbon part is being supplied to M/s Green Energy Resureces for detoxification and reuse as carbon fuel.
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) Env't. /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. ii. Forest Clearance vide letter No: 8-27/2009-FC, 10.02.2011
2	Location/ Block/ Sub-Divn./ Dist/ State	Aditya Aluminium (A Div. of Hindalco Industries Limited) At/Po- Lapanga, Dist- Sambalpur Pin - 768 212, Odisha
3	Address for communication	Aditya Aluminium (A Div. of Hindalco Industries Limited) At/Po- Lapanga, Dist- Sambalpur Pin - 768 212, Odisha
4	Existing vegetation in the area/ region	At present several types of vegetation available in the area, however some of the names mentioned as follows- Terminalia arjuna; Pongamia pinnata; Gmelina arborea; Anthocephalus 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 arborea; Anthocephalus 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:	Anthocephalus cadamba Terminalia arjuna, Peltoferrum ferrugenum, Gmelina arborea, Alberzia Lebbeck, Delonix regia etc 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	741 acres covered under greenbelt Mar 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 741 acres of land has been covered under greenbelt and balance will be covered in phased manner.				

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;	2*2	32'-36'	14.7 Ha	Plantation is being done in phased manner.
2012-13	Pongamia pinnata;	3*3	22'-25'	38.2 Ha	
2013-14	Gmelina arboria;	3*3	20'-22'	11.2 Ha	
2014-15	Anthocephalus cadamba; Dalbergia latifolia;	3*3	18'-20'	16.8 Ha	
2015-16	Azadiracta indica;	4*4	17'-18'	24.36 Ha	
2016-17	Albizzia Lebbeck;	2*2	14'-15'	20.0 Ha	
2017-18	Delonix regia;	2*2	10'-12'	46.8 Ha	
2018-19	Ailanthus exelsa, Cassea siamea;	2*2	7'-9'	45.0 Ha	
2019-20	Cassia fistula, etc	2*2	3'- 5'	82.96 Ha	

c) Survival of Plantation:

Total Plantation (No.)	4,66,500
Survival (No.)	3,19,850
Survival rate	Approx 90%

9. Agency carrying out plantation and maintenance: NA

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

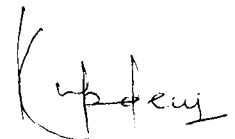
Sl. No.	Year	Fund allocated(Rs)	Expenditure made(Rs)	Average cost of each surviving plant in Rs.
1	2010-11	81,62,000	81,62,000.00	245.00
2	2011-12			
3	2012-13	46,21,600	46,21,600.00	121.00
4	2013-14	13,62,500	13,62,500.00	121.00
5	2014-15	18,53,000	18,53,000.00	115.00
6	2015-16	18,65,000	18,65,000	109.00
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. Inspection of plantation by field experts and their comments and follow up actions:

Forest officials from Divisional Forest Office, Sambalpur and Forest Renge 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

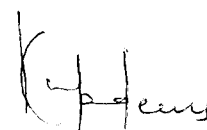
5. Employment details

- 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)



Ref.: Konfab/19/R-5768
STACK EMISSION MONITORING REPORT FOR OCTOBER-2019 02.11.19

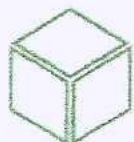
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 28.10.2019
3. Sampling Location : Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 29.10.2019 TO 31.10.2019

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	°C	IS 11255: Part 3 :1985 (RA 2008)	-	98.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	10.75
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (RA 2008)	-	100769
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	737
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	10.3
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	242.7
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	61.6
Particulate Fluoride	mg/Nm ³	Distillation followed by Ion Electrode method	-	0.16
Gaseous Fluoride	mg/Nm ³	Ion Electrode method	-	0.46
Total Fluoride as F	mg/Nm ³	Calculation	-	0.62
Tar Fumes	mg/Nm ³	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	µg/Nm ³	Gas Chromatography	-	ND

Note: ND: Not Detected.





Ref: Kowlab/19/R-5169

Date: 02.11.19

STACK EMISSION MONITORING REPORT FOR OCTOBER-2019

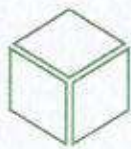
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 28.10.2019
3. Sampling Location : Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 29.10.2019 TO 31.10.2019

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	$^{\circ}\text{C}$	IS 11255: Part 3 :1985 (Reaff 2008)	-	97.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	10.6
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	60801
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	740.7
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.5
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	222.7
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	92.5
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.16
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.42
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	$\mu\text{g}/\text{Nm}^3$	Gas Chromatography	-	ND

Note: ND: Not Detected.





Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

Ref.:

Konlab/19/R-6056

03.12.19

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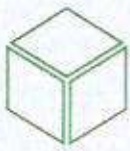
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 29.11.2019
3. Sampling Location : Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 30.11.2019 TO 03.12.2019

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	^o C	IS 11255: Part 3 :1985 (RA 2008)	-	96.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	9.95
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (RA 2008)	-	96061
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	745
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	10.1
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	254.4
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	68.2
Particulate Fluoride	mg/Nm ³	Distillation followed by Ion Electrode method	-	0.16
Gaseous Fluoride	mg/Nm ³	Ion Electrode method	-	0.44
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	µg/Nm ³	Gas Chromatography	-	ND

Note: ND: Not Detected.





Ref.: *Konlab/19/R-6057*

Date: *03.12.19*

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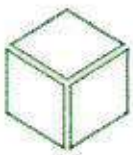
1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : **29.11.2019**
3. Sampling Location : **Stack attached to FTC-2 (ABF-2)**
4. Name of sampling Instrument : **Vayubodhan Stack Sampler VSS 2**
5. Sample Collected by : **VC SPL Representative in presence of Aditya Aluminium Representative**
6. Date of Analysis : **30.11.2019 TO 03.12.2019**

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	°C	IS 11255: Part 3 :1985 (Reaff 2008)	-	95.0°
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	10.28 °
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	59849
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	742.8
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.9
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	219.6
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	88.8
Particulate Fluoride	mg/Nm ³	Distillation followed by Ion Electrode method	-	0.17
Gaseous Fluoride	mg/Nm ³	Ion Electrode method	-	0.43
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	µg/Nm ³	Gas Chromatography	-	ND

Note: ND: Not Detected.





Ref: Em1ab/11A/R-6672

Date: 03.01.2020

STACK EMISSION MONITORING REPORT FOR DECEMBER-2019

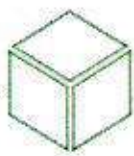
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 19.12.2019
3. Sampling Location : Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 20.12.2019 TO 24.12.2019

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	^o C	IS 11255: Part 3 :1985 (RA 2008)	-	95.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	10.19
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (RA 2008)	-	97836
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	9.7
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	263.1
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	66.8
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	µg/Nm ³	Gas Chromatography	-	ND

Note: ND: Not Detected.





Ref: Envlab/19/R-6673

Date: 03.01.2020

STACK EMISSION MONITORING REPORT FOR DECEMBER-2019

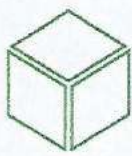
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 19.12.2019
3. Sampling Location : Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 20.12.2019 TO 24.12.2019

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)	-	94.0
Velocity of Fluc Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	9.97
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	57634
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	742.9
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (Reaff 2003)	50	6.8
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	224.5
Oxides of Nitrogen as NOx	mg/Nm ³	EPA Method 7E	-	95.3
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 Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	µg/Nm ³	Gas Chromatography	-	ND

Note: ND: Not Detected.





Ref.:

Enufab/191R-7406

STACK EMISSION MONITORING REPORT FOR JANUARY 2020

01/02/2020

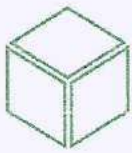
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 13.01.2020
3. Sampling Location : Stack attached to FTC-1 (ABF-1)
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 14.01.2020 TO 16.01.2020

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	$^{\circ}\text{C}$	IS 11255: Part 3 :1985 (RA 2008)	-	94.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	10.88
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	101962
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	8.2
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	248.4
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	71.1
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 as F	mg/Nm^3	Calculation	-	0.56
Tar/Fumes	mg/Nm^3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	$\mu\text{g}/\text{Nm}^3$	Gas Chromatography	-	ND

Note: ND: Not Detected.





Ref: Enu/ab/19/R-7407

Date: 01/02/2020

STACK EMISSION MONITORING REPORT FOR JANUARY-2020

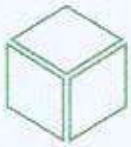
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 13.01.2020
3. Sampling Location : Stack attached to FTC-2 (ABF-2)
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 14.01.2020 TO 16.01.2020

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)	-	99.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	11.06
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	62445
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	742.9
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	6.5
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	231.6
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	93.3
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.41
Total Fluoride as F	mg/Nm3	Calculation	-	0.55
Tar Fumes	mg/Nm3	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	µg/Nm3	Gas Chromatography	-	ND

Note: ND: Not Detected.





Ref: Komlab/19/R-8134 27.02.2020
STACK EMISSION MONITORING REPORT FOR FEBRUARY-2020

- 1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
- 2. Date of Sampling : 18.02.2020
- 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 : 19.02.2020 TO 22.02.2020

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	°C	IS 11255: Part 3 :1985 (RA 2008)	-	95.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	11.18
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (RA 2008)	-	105943.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	742.0
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	10.4
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	255.6
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	78.4
Particulate Fluoride	mg/Nm ³	Distillation followed by Ion Electrode method	-	0.15
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	µg/Nm ³	Gas Chromatography	-	ND

Note: ND: Not Detected.





Ref: Konlab/19/R-9135

Date: 27.02.2020

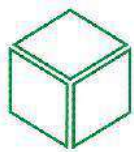
STACK EMISSION MONITORING REPORT FOR FEBRUARY-2020

- 1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
- 2. Date of Sampling : 18.02.2020
- 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 : 19.02.2020 TO 22.02.2020

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	°C	IS 11255: Part 3 :1985 (Reaff 2008)	-	99.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	11.6
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	65397.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	741.8
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.4
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	242.7
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	88.5
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.42
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.





STACK EMISSION MONITORING REPORT FOR MARCH-2020

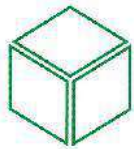
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
 2. Date of Sampling : 12-03-2020
 3. Sampling Location : Stack attached to FTC-2 (ABF-2)
 4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
 5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
 6. Date of Analysis : 13-03-2019 to 16-03-2020

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	⁰ C	IS 11255: Part 3 :1985 (RA 2008)	-	103.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	10.14
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (RA 2008)	-	56794
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	742.4
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	12.6
Sulphur Dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	237.1
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	92.4
Particulate Fluoride	mg/Nm ³	Distillation followed by Ion Electrode method	-	0.16
Gaseous Fluoride	mg/Nm ³	Ion Electrode method	-	0.44
Total Fluoride as F	mg/Nm ³	Calculation	-	0.60
Tar Fumes	mg/Nm ³	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs	µg/Nm ³	Gas Chromatography	-	ND



For Visiontek Consultancy Services Pvt Ltd.



Ref No : Envlab/19/R-9096

Date : 28.03.2020

STACK EMISSION MONITORING REPORT FOR MARCH-2020

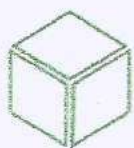
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 11-03-2020
3. Sampling Location : Stack attached to GTC-1 (Pot room)
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 12-03-2020 TO 14-03-2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	500 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	$^{\circ}\text{C}$	IS 11255: Part 3 :1985 (RA 2008)	-	99.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.44
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2029327
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	743.8
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	6.4
Sulphur Dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	77.6
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	58.5
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	mg/Nm^3	Calculation	-	0.57



For Visiontek Consultancy Services Pvt Ltd.



Ref: Enr/ab/19/R-5165

Date: 02.11.19

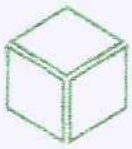
STACK EMISSION MONITORING REPORT FOR OCTOBER-2019

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 28.10.2019
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 : 29.10.2019 TO 31.10.2019

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	500 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)	-	98
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.48
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2073184
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	744.3
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	12.10
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	67.2
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	53.0
Particulate Fluoride	mg/Nm ³	Distillation followed by Ion Electrode method	-	0.17
Gaseous Fluoride	mg/Nm ³	Ion Electrode method	-	0.46
Total Fluoride	mg/Nm ³	Calculation	-	0.63





Ref: Kowlab/19/R-5166

Date: 02-11-19

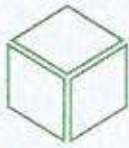
STACK EMISSION MONITORING REPORT FOR OCTOBER-2019

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 23.10.2019
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 : 24.10.2019 TO 26.10.2019

Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	500 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	°C	IS 11255: Part 3 :1985 (Reaff 2008)	-	109.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	7.95
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1883435
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	745.1
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.8
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	75.3
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	46.5
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





Ref.: Enwlab/19/R-6054

Date: 03.12.19

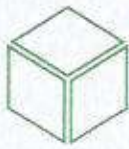
STACK EMISSION MONITORING REPORT FOR NOVEMBER-2019

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 19.11.2019
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 : 20.11.2019 TO 23.11.2019

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	500 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	$^{\circ}\text{C}$	IS 11255: Part 3 :1985 (RA 2008)	-	101
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.36
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2024290
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	745.6
Concentration of Particulate Matter as PM	mg/Nm^3	IS 11255: Part 1 :1985 (RA 2003)	50	13.6
Sulphur dioxide as SO_2	mg/Nm^3	EPA Method 6C	-	64.5
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	56.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.18
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.45
Total Fluoride	mg/Nm^3	Calculation	-	0.63





Ref.: *Konlab/19/R-6055*

Date: *03.12.19*

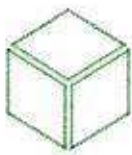
STACK EMISSION MONITORING REPORT FOR NOVEMBER-2019

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga**
2. Date of Sampling : **18.11.2019**
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 : **19.11.2019 TO 23.11.2019**

Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	500 TPD
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)	-	108.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	8.42
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1993930
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	745.3
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (Reaff 2003)	50	7.0
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	72.3
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	47.2
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





Ref: Envlab/19/R-6670

Date: 03.01.2020

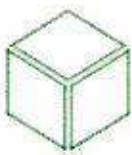
STACK EMISSION MONITORING REPORT FOR DECEMBER-2019

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
 2. Date of Sampling : 23.12.2019
 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 : 24.12.2019 TO 27.12.2019

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	500 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^o C	IS 11255: Part 3 :1985 (RA 2008)	-	102
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)	-	1930958
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	743.4
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	10.8
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	-	55.1
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





Ref:

Env/lab/19/12-2019

03.01.2020

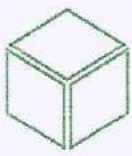
STACK EMISSION MONITORING REPORT FOR DECEMBER-2019

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 19.12.2019
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 : 20.12.2019 TO 24.12.2019

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	500 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	°C	IS 11255: Part 3 :1985 (Reaff 2008)	-	98.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	7.84
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1869921
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	743.3
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (Reaff 2003)	50	6.6
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	74.4
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	45.7
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





Ref: En/ab/19/R-7408

Date: 01/02/2020

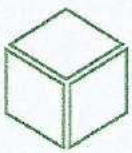
STACK EMISSION MONITORING REPORT FOR JANUARY-2020

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 22.01.2020
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 : 23.01.2020 TO 25.01.2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	500 TPD
Pollution Control Device Attached with the Stack	Bag Filter

Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	$^{\circ}\text{C}$	IS 11255: Part 3 :1985 (RA 2008)	-	87
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.53
Quantity of Gas Flow	Nm^3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2066934
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	742.8
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	-	81.0
Oxides of Nitrogen as NO_x	mg/Nm^3	EPA Method 7E	-	59.2
Particulate Fluoride	mg/Nm^3	Distillation followed by Ion Electrode method	-	0.17
Gaseous Fluoride	mg/Nm^3	Ion Electrode method	-	0.43
Total Fluoride	mg/Nm^3	Calculation	-	0.6





Ref: Enu/ab/19/R-7409

Date: 01/02/2020

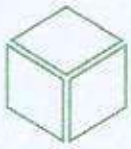
STACK EMISSION MONITORING REPORT FOR JANUARY-2020

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 22.01.2020
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 Representat
6. Date of Analysis : 23.01.2020 TO 25.01.2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Capacity	500 TPD
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)	-	97.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (Reaff 2008)	-	7.71
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (Reaff 2008)	-	1835925
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (Reaff 2008)	-	742.6
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (Reaff 2003)	50	6.1
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	71.3
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	47.8
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.41
Total Fluoride	mg/Nm3	Calculation	-	0.55





Ref: Envlab/19/R-8136

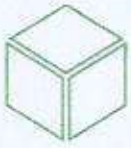
Date: 27.02.2020

STACK EMISSION MONITORING REPORT FOR FEBRUARY-2020

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 17.02.2020
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 : 19.02.2020 TO 22.02.2020

Stack Description				
Stack Height		100 Meter		
Stack Diameter		10.4 Meter		
Height of Sampling Point		65 Meter		
Operational Load		500 TPD		
Pollution Control Device Attached with the Stack		Bag Filter		
Parameters	UOM	Protocol	Permissible Limit	Results
Stack Temperature	^o C	IS 11255: Part 3 :1985 (RA 2008)	-	99.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	8.3
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2005773.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	742.6
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	10.7
Sulphur dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	82.3
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	63.8
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





Ref.: Envlab/19/R-8137

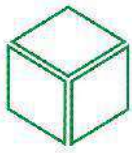
Date: 27.02.2020

STACK EMISSION MONITORING REPORT FOR FEBRUARY-2020

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 17.02.2020
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 : 19.02.2020 TO 22.02.2020

Stack Description				
Stack Height	100 Meter			
Stack Diameter	10.4 Meter			
Height of Sampling Point	65 Meter			
Capacity	500 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)	-	98.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)	-	7.98
Quantity of Gas Flow	Nm3/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	1868393.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	742.2
Concentration of Particulate Matter as PM	mg/Nm3	IS 11255: Part 1 :1985 (RA 2003)	50	6.3
Sulphur dioxide as SO2	mg/Nm3	EPA Method 6C	-	76.5
Oxides of Nitrogen as NOx	mg/Nm3	EPA Method 7E	-	47.1
Particulate Fluoride	mg/Nm3	Distillation followed by Ion Electrode method	-	0.14
Gaseous Fluoride	mg/Nm3	Ion Electrode method	-	0.41
Total Fluoride	mg/Nm3	Calculation	-	0.55





Ref No : Envlab/19/R-9097

Date : 28.03.2020

STACK EMISSION MONITORING REPORT FOR MARCH-2020

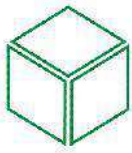
1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Date of Sampling : 12-03-2020
3. Sampling Location : **Stack attached to GTC-2 (Pot room)**
4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative
6. Date of Analysis : 13-03-2020 TO 14-03-2020

Stack Description	
Stack Height	100 Meter
Stack Diameter	10.4 Meter
Height of Sampling Point	65 Meter
Operational Load	500 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)	-	8.81
Quantity of Gas Flow	Nm ³ /Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2046229
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	743.9
Concentration of Particulate Matter as PM	mg/Nm ³	IS 11255: Part 1 :1985 (RA 2003)	50	6.9
Sulphur Dioxide as SO ₂	mg/Nm ³	EPA Method 6C	-	75.8
Oxides of Nitrogen as NO _x	mg/Nm ³	EPA Method 7E	-	49.2
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



For Visiontek Consultancy Services Pvt Ltd



Ref No : Envlab/19/R-9104

Date : 28.03.2020

STACK EMISSION MONITORING REPORT FOR MARCH-2020

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Date of Sampling : 18-03-2020
3. Sampling Location : **ST-1: Stack attached to A-11 Mill De-dusting, BRS**
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 : 19-03-2020

Parameters	Unit of Measurement	Methodology	Results
			ST-1
Stack Temperature	⁰ C	Stack Sampler	31.0
Velocity of Flue Gas	m/sec	Stack Sampler	21.11
Concentration of Particulate Matter as PM	mg/Nm ³	Gravimetric	23.6



For Visiontek Consultancy Services Pvt.Ltd.

ANNEXURE-4

NAME OF THE INDUSTRY:- ADITYA ALUMINIUM																							
STATUS OF UTILIZATION OF COAL ASH (FLY ASH AND BOTTOM ASH), For the Year 2019-20																							
Sl. No.	Month	Year	Coal Consumption (MT)	Power Installed Capacity (MW)	Power Generated (MW)	Quantity 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)	Through HCSD to Ash Pond	Ash Utilized from Previous Stock in Ash Pond (MT)	Ash Utilized from Current Month generation (MT) (Col. 20+Sum of col. 10 to 17)	Total Ash Utilized (MT) (Col. 21+Col. 19+Col.20)	% of ash Utilization (Col. 22+Col. 21/Col.8*100)	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	Oct	2019	332185.0	900	645.9	113426.9	4726.1	118153.0	Do	1548.48	99148.54	0	0	0	6230.66	0	0	11225.30	20060	106927.68	126987.68	107.5	540 MT ash used in ash pond dyke raising and 19520 MT used in low lying area development from the previous stock in ash pond.
2	Nov	2019	301862.1	900	639.1	105733.8	4405.6	110139.3	Do	2084.79	102537.61	0	0	0	6424.01	0	0	-907.10	0.00	111046.41	111046.41	100.8	
3	Dec	2019	329965.1	900	664.6	113407.2	5968.8	119376.0	Do	1905.38	100657.32	0	0	0	6201.89	0	0	10611.40	10666.86	108764.59	119431.45	100	2666.86 MT pond ash supplied to Dalmia Cement, Rajgangpur & 8000 MT used in low lying area development from the previous stock in ash pond.
4	Jan	2020	332641.0	900	687.9	113430.7	4726.3	118157.0	Do	1566.76	104956.6	0	0	0	5850.16	0	0	5783.10	8019.85	112373.52	120393.37	102	1349.85 MT pond ash supplied to Dalmia Cement, Rajgangpur & 6670 MT used in low lying area development from the previous stock in ash pond.
5	Feb	2020	316860.4	900	680.2	112498.6	5921.0	118419.5	Do	1746	98914.47	0	0	0	5927.46	0	0	11831.66	1772.00	106587.93	108359.93	91.5	1772 MT ash used in ash pond dyke raising from the previous stock in ash pond.
6	Mar	2020	345020.6	900	677.7	124577.2	6556.7	131133.9	Do	1532.34	87337.34	0	0	0	11022.81	0	0	31241.4	4000	99892.49	103892.49	79.2	4000 MT ash used in ash pond dyke raising from the previous stock in ash pond.
Total			1958534.1			683074.3	32304.4	715378.8		10383.8	593551.9	0.0	0.0	0.0	41657.0	0.0	0.0	69785.8	44518.7	645592.6	690111.3	96.47	



Ref: Emvlab/191R-7907

Date: 05.02.20

FLY ASH ANALYSIS REPORT-NOVEMBER 2019

- 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 : 18.11.2019
- 4. Date of Analysis : 19.11.2019 TO 26.11.2019
- 5. Sample Collected By : VCSPL Representative in presence of Aditya Aluminium Representative.

Sl. No.	Parameters	Test Method	Unit	Analysis Results BA-01
A. Chemical Analysis				
1	Na ₂ O	IS 4032:1985	%	0.20
2	MgO		%	0.58
3	Al ₂ O ₃		%	30.1
4	SiO ₂		%	66.0
5	P ₂ O ₅		%	0.26
6	SO ₃		%	0.64
7	K ₂ O		%	0.72
8	CaO		%	3.64
9	MnO		%	0.18
10	Fe ₂ O ₃		%	7.6
B. Heavy Metals Analysis				
1	Hg	EPA 1311/EPA 200.8 Rev 0, July 1992	ppm	<0.02
2	As		ppm	46.0
3	Pb		ppm	14.0
4	Cr		ppm	48.0
5	V		ppm	44.0
6	Fe		ppm	68000
7	Co		ppm	<0.02
8	Cu		ppm	66.0
9	Ni		ppm	74.0
10	Zn		ppm	68.0
11	Ba	ppm	<0.02	





Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2015
OHSAS 18001 : 2007

Ref.: Envlab/19/R-7908

Date: 05.02.20

ASH ANALYSIS REPORT- NOVEMBER 2019

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 : 18.11.2019
4. Date of Analysis : 19.11.2019 TO 26.11.2019
5. Sample Collected By : VCSPL Representative in presence of Aditya Aluminium Representative.

Sl. No.	Parameters	Test Method	Unit	Analysis Results FA-01
Chemical Analysis				
1	Na ₂ O	IS 4032:1985	%	0.18
2	MgO		%	0.82
3	Al ₂ O ₃		%	26.1
4	SiO ₂		%	50.6
5	P ₂ O ₅		%	0.24
6	SO ₃		%	0.38
7	K ₂ O		%	0.51
8	CaO		%	3.6
9	MnO		%	0.28
10	Fe ₂ O ₃		%	10.6
Heavy Metals Analysis				
1	Hg	EPA 1311/EPA 200.8 Rev 0, July 1992	ppm	<0.02
2	As		ppm	26.0
3	Pb		ppm	42.0
4	Cr		ppm	38.0
5	V		ppm	44.0
6	Fe		ppm	60000
7	Co		ppm	<0.02
8	Cu		ppm	68.0
9	Ni		ppm	94.0
10	Zn		ppm	56.0
11	Ba		ppm	<0.02



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Bhubaneswar - 751015
[CIN : U51909WB1956PTC023037]

T : (0674) 2362916. 2360917
F : (0674) 2362918

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

TEST REPORT

Report No. : BBS/658
Date : 01.01.2020
Sample No. : MSKGL/ED/2019-20/01/00946
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-1
(Near Ash Pond)
Date of Sampling : 23.12.2019

ANALYSIS RESULT

Sl. No.	Test Parameters	Standards	Test Method / Specification	Result
		Inland Ground Water		
1.	pH at 26°C	6.5-8.5	APHA 23 rd Edition, 4500-H-B	7.18
2.	Turbidity in mg/l	----	APHA 23 rd Edtn.,2130 B	1.7
3.	Total Dissolved Solids as TDS in mg/l	500.0	APHA 23rd Edtn-2540 C	154
4.	Aluminium as Al in mg/l	0.03	APHA 23 rd Edition 3120B	<0.01
5.	Boron as B in mg/l	0.5	APHA 23rd Edition 4500-B C,2017	<0.5
6.	Calcium as Ca in mg/l	75	APHA 23 rd Edition, 3500 Ca	25
7.	Chloride as Cl in mg/l	250	APHA 23 rd Edtn-2012,4500CL B	15
8.	Copper as Cu in mg/l	0.05	APHA 23rd Edition.3120B	<0.02
9.	Flouride as F in mg/l	1.0	APHA 23 rd Edition, 4500-F C/D	0.22
10.	Iron as Fe in mg/l	0.3	APHA 23rd Edition, 3500 Fe B	0.13
11.	Magnesium as Mg in mg/l	30	APHA 23rd Edition.3500 Mg B,2017	1.2
12.	Manganese as Mn in mg/l	0.1	APHA 23rd Edition.3120B 2017	<0.02
13.	Nitrate as NO ₃ in mg/l	45	APHA 23rd Edition.4500-NO ₃ -E	0.75
14.	Phenolic Compounds as C ₆ H ₅ OH in mg/l	0.001	APHA 23rd Edition,5530C 2017	<0.001
15.	Selenium as Se in mg/l	0.01	APHA 23rd Edition, 3111B 2017	<0.005
16.	Sulphate as SO ₄ in mg/l	200	APHA 23rd Edition.4500-SO ₄ E 2017	<1.0
17.	Total Hardness as CaCO ₃ in mg/l	200	APHA 23rd Edition, 2340 C 2017	69
18.	Cadmium as Cd in mg/l	0.003	APHA 23rd Edition.3120B 2017	<0.001
19.	Cyanide as CN in mg/l	0.05	APHA 23 rd Edition, 4500 CN-F 2017	<0.01
20.	Lead as Pb in mg/l	0.01	APHA 23 rd Edtn-2012,4500 Pb	<0.005
21.	Mercury as Hg in mg/l	0.001	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	----	APHA 23 rd Edition, 3120B 2017	<0.005
23.	Total Chromium as Cr in mg/l	0.05	APHA 23 rd Edition, 3111 D 2017	<0.01
24.	Sodium as Na in mg/l	----	APHA 23 rd Edition, 3500 Na B 2017	18
25.	Conductivity in us/cm	----	APHA 23 rd Edition, 2510B	262
26.	Potassium as K in mg/l	----	APHA 23rd Edition, 3500 K B 2017	3.6
27.	Zinc as Zn in mg/l	5.0	APHA 23 rd Edition, 3210B 2017	<0.02
28.	Total Alkalinity as CaCO ₃ in mg/l	200	APHA 23 rd Edition,- 2017,2320B	104


Report Prepared by:



Mitra S. K. Private Limited


Authorized Signatory

N-5/100, Ground Floor
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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/659
Date : 01.01.2020
Sample No. : MSKGL/ED/2019-20/01/00948
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-2
(Near Proposed Ash Pond)
Date of Sampling : 23.12.2019

ANALYSIS RESULT

Sl. No.	Test Parameters	Standards	Test Method / Specification	Result
		Inland Ground Water		
1.	pH at 26°C	6.5-8.5	APHA 23 rd Edition, 4500-H-B	7.02
2.	Turbidity in mg/l	----	APHA 23 rd Edtn.,2130 B	2.2
3.	Total Dissolved Solids as TDS in mg/l	500.0	APHA 23 rd Edtn-2540 C	63
4.	Aluminium as Al in mg/l	0.03	APHA 23 rd Edition 3120B	<0.01
5.	Boron as B in mg/l	0.5	APHA 23 rd Edition 4500-B C,2017	<0.5
6.	Calcium as Ca in mg/l	75	APHA 23 rd Edition, 3500 Ca	7.9
7.	Chloride as Cl in mg/l	250	APHA 23 rd Edtn-2012,4500CL B	9.8
8.	Copper as Cu in mg/l	0.05	APHA 23 rd Edition.3120B	<0.02
9.	Flouride as F in mg/l	1.0	APHA 23 rd Edition, 4500-F C/D	<0.1
10.	Iron as Fe in mg/l	0.3	APHA 23 rd Edition, 3500 Fe B	0.19
11.	Magnesium as Mg in mg/l	30	APHA 23 rd Edition.3500 Mg B,2017	2.4
12.	Manganese as Mn in mg/l	0.1	APHA 23 rd Edition.3120B 2017	<0.02
13.	Nitrate as NO3 in mg/l	45	APHA 23 rd Edition.4500-NO3-E	5.7
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	APHA 23 rd Edition,5530C 2017	<0.001
15.	Selenium as Se in mg/l	0.01	APHA 23 rd Edition, 3111B 2017	<0.005
16.	Sulphate as SO4 in mg/l	200	APHA 23 rd Edition.4500-SO4 E 2017	<1.0
17.	Total Hardness as CaCO3 in mg/l	200	APHA 23 rd Edition, 2340 C 2017	30
18.	Cadmium as Cd in mg/l	0.003	APHA 23 rd Edition.3120B 2017	<0.001
19.	Cyanide as CN in mg/l	0.05	APHA 23 rd Edition, 4500 CN-F 2017	<0.01
20.	Lead as Pb in mg/l	0.01	APHA 23 rd Edtn-2012,4500 Pb	<0.005
21.	Mercury as Hg in mg/l	0.001	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	----	APHA 23 rd Edition, 3120B 2017	<0.005
23.	Total Chromium as Cr in mg/l	0.05	APHA 23 rd Edition, 3111 D 2017	<0.01
24.	Sodium as Na in mg/l	----	APHA 23 rd Edition, 3500 Na B 2017	2.2
25.	Conductivity in us/cm	----	APHA 23 rd Edition, 2510B	111
26.	Potassium as K in mg/l	----	APHA 23 rd Edition, 3500 K B 2017	2
27.	Zinc as Zn in mg/l	5.0	APHA 23 rd Edition, 3210B 2017	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	APHA 23 rd Edition,- 2017,2320B	38


Report Prepared by:



Mitra S. K. Private Limited


Authorized Signatory

N-5/100, Ground Floor
IRC Village, Nayapalli
Bhubaneswar - 751015
[CIN : U51909WB1956PTC023037]

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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/660
Date : 01.01.2020
Sample No. : MSKGL/ED/2019-20/01/00947
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-3
(Near RR Colony)

Date of Sampling : 23.12.2019

ANALYSIS RESULT

Sl. No.	Test Parameters	Standards	Test Method / Specification	Result
		Inland Ground Water		
1.	pH at 26°C	6.5-8.5	APHA 23 rd Edition, 4500-H-B	7.1
2.	Turbidity in mg/l	----	APHA 23 rd Edtn.,2130 B	2.7
3.	Total Dissolved Solids as TDS in mg/l	500.0	APHA 23 rd Edtn-2540 C	156
4.	Aluminium as Al in mg/l	0.03	APHA 23 rd Edition 3120B	<0.01
5.	Boron as B in mg/l	0.5	APHA 23 rd Edition 4500-B C,2017	<0.5
6.	Calcium as Ca in mg/l	75	APHA 23 rd Edition, 3500 Ca	20
7.	Chloride as Cl in mg/l	250	APHA 23 rd Edtn-2012,4500CL B	17
8.	Copper as Cu in mg/l	0.05	APHA 23 rd Edition.3120B	<0.02
9.	Flouride as F in mg/l	1.0	APHA 23 rd Edition, 4500-F C/D	0.28
10.	Iron as Fe in mg/l	0.3	APHA 23 rd Edition, 3500 Fe B	0.23
11.	Magnesium as Mg in mg/l	30	APHA 23 rd Edition.3500 Mg B,2017	8.3
12.	Manganese as Mn in mg/l	0.1	APHA 23 rd Edition.3120B 2017	<0.02
13.	Nitrate as NO ₃ in mg/l	45	APHA 23 rd Edition.4500-NO ₃ -E	1.8
14.	Phenolic Compounds as C ₆ H ₅ OH in mg/l	0.001	APHA 23 rd Edition,5530C 2017	<0.001
15.	Selenium as Se in mg/l	0.01	APHA 23 rd Edition, 3111B 2017	<0.005
16.	Sulphate as SO ₄ in mg/l	200	APHA 23 rd Edition.4500-SO ₄ E 2017	2.5
17.	Total Hardness as CaCO ₃ in mg/l	200	APHA 23 rd Edition, 2340 C 2017	84
18.	Cadmium as Cd in mg/l	0.003	APHA 23 rd Edition.3120B 2017	<0.001
19.	Cyanide as CN in mg/l	0.05	APHA 23 rd Edition, 4500 CN-F 2017	<0.01
20.	Lead as Pb in mg/l	0.01	APHA 23 rd Edtn-2012,4500 Pb	<0.005
21.	Mercury as Hg in mg/l	0.001	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	----	APHA 23 rd Edition, 3120B 2017	<0.005
23.	Total Chromium as Cr in mg/l	0.05	APHA 23 rd Edition, 3111 D 2017	<0.01
24.	Sodium as Na in mg/l	----	APHA 23 rd Edition, 3500 Na B 2017	14
25.	Conductivity in us/cm	----	APHA 23 rd Edition, 2510B	244
26.	Potassium as K in mg/l	----	APHA 23 rd Edition, 3500 K B 2017	1
27.	Zinc as Zn in mg/l	5.0	APHA 23 rd Edition, 3210B 2017	<0.02
28.	Total Alkalinity as CaCO ₃ in mg/l	200	APHA 23 rd Edition,- 2017,2320B	82

Report Prepared by:



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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/987
Date : 01.01.2020
Sample No. : MSKGL/ED/2019-20/09/00674
Sample Description : Ground Water
Sampling Location : Pizometric
Borewell-4 (Bomaloi Village)
Date of Sampling : 23.12.2019

ANALYSIS RESULT

Sl. No.	Test Parameters	Standards	Test Method / Specification	Result
		Inland Ground Water		
1.	pH at 26°C	6.5-8.5	APHA 23 rd Edition, 4500-H-B	6.97
2.	Turbidity in mg/l	----	APHA 23 rd Edtn.,2130 B	<1.0
3.	Total Dissolved Solids as TDS in mg/l	500.0	APHA 23 rd Edtn-2540 C	136
4.	Aluminium as Al in mg/l	0.03	APHA 23 rd Edition 3120B	<0.01
5.	Boron as B in mg/l	0.5	APHA 23 rd Edition 4500-B C,2017	<0.5
6.	Calcium as Ca in mg/l	75	APHA 23 rd Edition, 3500 Ca	16
7.	Chloride as Cl in mg/l	250	APHA 23 rd Edtn-2012,4500CL B	9.8
8.	Copper as Cu in mg/l	0.05	APHA 23 rd Edition.3120B	<0.02
9.	Flouride as F in mg/l	1.0	APHA 23 rd Edition, 4500-F C/D	0.17
10.	Iron as Fe in mg/l	0.3	APHA 23 rd Edition, 3500 Fe B	0.18
11.	Magnesium as Mg in mg/l	30	APHA 23 rd Edition.3500 Mg B,2017	4.8
12.	Manganese as Mn in mg/l	0.1	APHA 23 rd Edition.3120B 2017	<0.02
13.	Nitrate as NO3 in mg/l	45	APHA 23 rd Edition.4500-NO3-E	12
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	APHA 23 rd Edition,5530C 2017	<0.001
15.	Selenium as Se in mg/l	0.01	APHA 23 rd Edition, 3111B 2017	<0.005
16.	Sulphate as SO4 in mg/l	200	APHA 23 rd Edition.4500-SO4 E 2017	<1.0
17.	Total Hardness as CaCO3 in mg/l	200	APHA 23 rd Edition, 2340 C 2017	59
18.	Cadmium as Cd in mg/l	0.003	APHA 23 rd Edition.3120B 2017	<0.001
19.	Cyanide as CN in mg/l	0.05	APHA 23 rd Edition, 4500 CN-F 2017	<0.01
20.	Lead as Pb in mg/l	0.01	APHA 23 rd Edtn-2012,4500 Pb	<0.005
21.	Mercury as Hg in mg/l	0.001	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	----	APHA 23 rd Edition, 3120B 2017	<0.005
23.	Total Chromium as Cr in mg/l	0.05	APHA 23 rd Edition, 3111 D 2017	<0.01
24.	Sodium as Na in mg/l	----	APHA 23 rd Edition, 3500 Na B 2017	15
25.	Conductivity in us/cm	----	APHA 23 rd Edition, 2510B	213
26.	Potassium as K in mg/l	----	APHA 23 rd Edition, 3500 K B 2017	1.6
27.	Zinc as Zn in mg/l	5.0	APHA 23 rd Edition, 3210B 2017	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	APHA 23 rd Edition,- 2017,2320B	84

Report Prepared by: 



Mitra S. K. Private Limited


Authorized Signatory

TEST REPORT

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

Report No. : BBS/902
Date : 16.04.2020
Sample No. : MSKGL/ED/2019-20
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-1
(Near Ash Pond)
Date of Sampling : 17.03.2020

ANALYSIS RESULT

Sl. No.	Test Parameters	Standards	Test Method / Specification	Result
		Inland Ground Water		
1.	pH at 26°C	6.5-8.5	APHA 23 rd Edition, 4500-H-B	7.5
2.	Turbidity in mg/l	----	APHA 23 rd Edtn.,2130 B	1.2
3.	Total Dissolved Solids as TDS in mg/l	500.0	APHA 23rd Edtn-2540 C	178
4.	Aluminium as Al in mg/l	0.03	APHA 23 rd Edition 3120B	<0.01
5.	Boron as B in mg/l	0.5	APHA 23rd Edition 4500-B C,2017	<0.5
6.	Calcium as Ca in mg/l	75	APHA 23 rd Edition, 3500 Ca	26
7.	Chloride as Cl in mg/l	250	APHA 23 rd Edtn-2012,4500CL B	12
8.	Copper as Cu in mg/l	0.05	APHA 23rd Edition.3120B	<0.02
9.	Flouride as F in mg/l	1.0	APHA 23 rd Edition, 4500-F C/D	0.12
10.	Iron as Fe in mg/l	0.3	APHA 23rd Edition, 3500 Fe B	0.16
11.	Magnesium as Mg in mg/l	30	APHA 23rd Edition.3500 Mg B,2017	3.9
12.	Manganese as Mn in mg/l	0.1	APHA 23rd Edition.3120B 2017	<0.02
13.	Nitrate as NO3 in mg/l	45	APHA 23rd Edition.4500-NO3-E	1.2
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	APHA 23rd Edition,5530C 2017	<0.001
15.	Selenium as Se in mg/l	0.01	APHA 23rd Edition, 3111B 2017	<0.005
16.	Sulphate as SO4 in mg/l	200	APHA 23rd Edition.4500-SO4 E 2017	<1.0
17.	Total Hardness as CaCO3 in mg/l	200	APHA 23rd Edition, 2340 C 2017	82
18.	Cadmium as Cd in mg/l	0.003	APHA 23rd Edition.3120B 2017	<0.001
19.	Cyanide as CN in mg/l	0.05	APHA 23 rd Edition, 4500 CN-F 2017	<0.01
20.	Lead as Pb in mg/l	0.01	APHA 23 rd Edtn-2012,4500 Pb	<0.005
21.	Mercury as Hg in mg/l	0.001	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	----	APHA 23 rd Edition, 3120B 2017	<0.005
23.	Total Chromium as Cr in mg/l	0.05	APHA 23 rd Edition, 3111 D 2017	<0.01
24.	Sodium as Na in mg/l	----	APHA 23 rd Edition, 3500 Na B 2017	23
25.	Conductivity in us/cm	----	APHA 23 rd Edition, 2510B	306
26.	Potassium as K in mg/l	----	APHA 23rd Edition, 3500 K B 2017	3.3
27.	Zinc as Zn in mg/l	5.0	APHA 23 rd Edition, 3210B 2017	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	APHA 23 rd Edition,- 2017,2320B	156

Report Prepared by: *Subhanish Kanungo*



Mitra S. K. Private Limited

[Signature]
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TEST REPORT

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

Report No. : BBS/903
Date : 16.04.2020
Sample No. : MSKGL/ED/2019-20
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-2
(Near Proposed Ash Pond)
Date of Sampling : 17.03.2020

ANALYSIS RESULT

Sl. No.	Test Parameters	Standards	Test Method / Specification	Result
		Inland Ground Water		
1.	pH at 26°C	6.5-8.5	APHA 23 rd Edition, 4500-H-B	7.1
2.	Turbidity in mg/l	----	APHA 23 rd Edtn.,2130 B	1.7
3.	Total Dissolved Solids as TDS in mg/l	500.0	APHA 23rd Edtn-2540 C	76
4.	Aluminium as Al in mg/l	0.03	APHA 23 rd Edition 3120B	<0.01
5.	Boron as B in mg/l	0.5	APHA 23rd Edition 4500-B C,2017	<0.5
6.	Calcium as Ca in mg/l	75	APHA 23 rd Edition, 3500 Ca	13.6
7.	Chloride as Cl in mg/l	250	APHA 23 rd Edtn-2012,4500CL B	13
8.	Copper as Cu in mg/l	0.05	APHA 23rd Edition.3120B	<0.02
9.	Flouride as F in mg/l	1.0	APHA 23 rd Edition, 4500-F C/D	0.16
10.	Iron as Fe in mg/l	0.3	APHA 23rd Edition, 3500 Fe B	0.2
11.	Magnesium as Mg in mg/l	30	APHA 23rd Edition.3500 Mg B,2017	3.4
12.	Manganese as Mn in mg/l	0.1	APHA 23rd Edition.3120B 2017	<0.02
13.	Nitrate as NO3 in mg/l	45	APHA 23rd Edition.4500-NO3-E	7.8
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	APHA 23rd Edition,5530C 2017	<0.001
15.	Selenium as Se in mg/l	0.01	APHA 23rd Edition, 3111B 2017	<0.005
16.	Sulphate as SO4 in mg/l	200	APHA 23rd Edition.4500-SO4 E 2017	<1.0
17.	Total Hardness as CaCO3 in mg/l	200	APHA 23rd Edition, 2340 C 2017	48
18.	Cadmium as Cd in mg/l	0.003	APHA 23rd Edition.3120B 2017	<0.001
19.	Cyanide as CN in mg/l	0.05	APHA 23 rd Edition, 4500 CN-F 2017	<0.01
20.	Lead as Pb in mg/l	0.01	APHA 23 rd Edtn-2012,4500 Pb	<0.005
21.	Mercury as Hg in mg/l	0.001	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	----	APHA 23 rd Edition, 3120B 2017	<0.005
23.	Total Chromium as Cr in mg/l	0.05	APHA 23 rd Edition, 3111 D 2017	<0.01
24.	Sodium as Na in mg/l	----	APHA 23 rd Edition, 3500 Na B 2017	5.8
25.	Conductivity in us/cm	----	APHA 23 rd Edition, 2510B	143
26.	Potassium as K in mg/l	----	APHA 23rd Edition, 3500 K B 2017	2.3
27.	Zinc as Zn in mg/l	5.0	APHA 23 rd Edition, 3210B 2017	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	APHA 23 rd Edition,- 2017,2320B	44

Subhanish Kamungo
Report Prepared by:



Mitra S. K. Private Limited

Authorized Signatory

TEST REPORT

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

Report No. : BBS/904
Date : 16.04.2020
Sample No. : MSKGL/ED/2019-20
Sample Description : Ground Water
Sampling Location : Pizometric Borewell-3
(Near RR Colony)
Date of Sampling : 17.03.2020

ANALYSIS RESULT

Sl. No.	Test Parameters	Standards	Test Method / Specification	Result
		Inland Ground Water		
1.	pH at 26°C	6.5-8.5	APHA 23 rd Edition, 4500-H-B	7.2
2.	Turbidity in mg/l	----	APHA 23 rd Edtn.,2130 B	1.6
3.	Total Dissolved Solids as TDS in mg/l	500.0	APHA 23 rd Edtn-2540 C	178
4.	Aluminium as Al in mg/l	0.03	APHA 23 rd Edition 3120B	<0.01
5.	Boron as B in mg/l	0.5	APHA 23 rd Edition 4500-B C,2017	<0.5
6.	Calcium as Ca in mg/l	75	APHA 23 rd Edition, 3500 Ca	30.4
7.	Chloride as Cl in mg/l	250	APHA 23 rd Edtn-2012,4500CL B	32
8.	Copper as Cu in mg/l	0.05	APHA 23 rd Edition.3120B	<0.02
9.	Flouride as F in mg/l	1.0	APHA 23 rd Edition, 4500-F C/D	0.45
10.	Iron as Fe in mg/l	0.3	APHA 23 rd Edition, 3500 Fe B	0.16
11.	Magnesium as Mg in mg/l	30	APHA 23 rd Edition.3500 Mg B,2017	7.3
12.	Manganese as Mn in mg/l	0.1	APHA 23 rd Edition.3120B 2017	<0.02
13.	Nitrate as NO ₃ in mg/l	45	APHA 23 rd Edition.4500-NO ₃ -E	4.5
14.	Phenolic Compounds as C ₆ H ₅ OH in mg/l	0.001	APHA 23 rd Edition,5530C 2017	<0.001
15.	Selenium as Se in mg/l	0.01	APHA 23 rd Edition, 3111B 2017	<0.005
16.	Sulphate as SO ₄ in mg/l	200	APHA 23 rd Edition.4500-SO ₄ E 2017	6.8
17.	Total Hardness as CaCO ₃ in mg/l	200	APHA 23 rd Edition, 2340 C 2017	106
18.	Cadmium as Cd in mg/l	0.003	APHA 23 rd Edition.3120B 2017	<0.001
19.	Cyanide as CN in mg/l	0.05	APHA 23 rd Edition, 4500 CN-F 2017	<0.01
20.	Lead as Pb in mg/l	0.01	APHA 23 rd Edtn-2012,4500 Pb	<0.005
21.	Mercury as Hg in mg/l	0.001	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	----	APHA 23 rd Edition, 3120B 2017	<0.005
23.	Total Chromium as Cr in mg/l	0.05	APHA 23 rd Edition, 3111 D 2017	<0.01
24.	Sodium as Na in mg/l	----	APHA 23 rd Edition, 3500 Na B 2017	16
25.	Conductivity in us/cm	----	APHA 23 rd Edition, 2510B	292
26.	Potassium as K in mg/l	----	APHA 23 rd Edition, 3500 K B 2017	1.8
27.	Zinc as Zn in mg/l	5.0	APHA 23 rd Edition, 3210B 2017	<0.02
28.	Total Alkalinity as CaCO ₃ in mg/l	200	APHA 23 rd Edition,- 2017,2320B	102

Subhanish Kamungo
Report Prepared by:



Mitra S. K. Private Limited

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TEST REPORT

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

Report No. : BBS/905
Date : 16.04.2020
Sample No. : MSKGL/ED/2019-20
Sample Description : Ground Water
Sampling Location : Pizometric
Borewell-4 (Bomaloi Village)
Date of Sampling : 17.03.2020

ANALYSIS RESULT

Sl. No.	Test Parameters	Standards	Test Method / Specification	Result
		Inland Ground Water		
1.	pH at 26°C	6.5-8.5	APHA 23 rd Edition, 4500-H-B	7.1
2.	Turbidity in mg/l	----	APHA 23 rd Edtn.,2130 B	<1.0
3.	Total Dissolved Solids as TDS in mg/l	500.0	APHA 23rd Edtn-2540 C	188
4.	Aluminium as Al in mg/l	0.03	APHA 23 rd Edition 3120B	<0.01
5.	Boron as B in mg/l	0.5	APHA 23rd Edition 4500-B C,2017	<0.5
6.	Calcium as Ca in mg/l	75	APHA 23 rd Edition, 3500 Ca	19
7.	Chloride as Cl in mg/l	250	APHA 23 rd Edtn-2012,4500CL B	18
8.	Copper as Cu in mg/l	0.05	APHA 23rd Edition.3120B	<0.02
9.	Flouride as F in mg/l	1.0	APHA 23 rd Edition, 4500-F C/D	0.29
10.	Iron as Fe in mg/l	0.3	APHA 23rd Edition, 3500 Fe B	0.21
11.	Magnesium as Mg in mg/l	30	APHA 23rd Edition.3500 Mg B,2017	4.88
12.	Manganese as Mn in mg/l	0.1	APHA 23rd Edition.3120B 2017	<0.02
13.	Nitrate as NO3 in mg/l	45	APHA 23rd Edition.4500-NO3-E	9
14.	Phenolic Compounds as C6H5OH in mg/l	0.001	APHA 23rd Edition,5530C 2017	<0.001
15.	Selenium as Se in mg/l	0.01	APHA 23rd Edition, 3111B 2017	<0.005
16.	Sulphate as SO4 in mg/l	200	APHA 23rd Edition.4500-SO4 E 2017	<1.0
17.	Total Hardness as CaCO3 in mg/l	200	APHA 23rd Edition, 2340 C 2017	68
18.	Cadmium as Cd in mg/l	0.003	APHA 23rd Edition.3120B 2017	<0.001
19.	Cyanide as CN in mg/l	0.05	APHA 23 rd Edition, 4500 CN-F 2017	<0.01
20.	Lead as Pb in mg/l	0.01	APHA 23 rd Edtn-2012,4500 Pb	<0.005
21.	Mercury as Hg in mg/l	0.001	IS 3025(Part 48)-1994	<0.001
22.	Arsenic as As in mg/l	----	APHA 23 rd Edition, 3120B 2017	<0.005
23.	Total Chromium as Cr in mg/l	0.05	APHA 23 rd Edition, 3111 D 2017	<0.01
24.	Sodium as Na in mg/l	----	APHA 23 rd Edition, 3500 Na B 2017	23
25.	Conductivity in us/cm	----	APHA 23 rd Edition, 2510B	298
26.	Potassium as K in mg/l	----	APHA 23rd Edition, 3500 K B 2017	2.5
27.	Zinc as Zn in mg/l	5.0	APHA 23 rd Edition, 3210B 2017	<0.02
28.	Total Alkalinity as CaCO3 in mg/l	200	APHA 23 rd Edition,- 2017,2320B	86

Subhanish Kamungo
Report Prepared by:



Mitra S. K. Private Limited

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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.
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 Oct '19 to Mar'20 is 8.26 kg/ton of Aluminium produced.
4	<p>The fluoride in forage should be limited to</p> <p>Average of 12 consecutive months - 40 ppm Average of 2 consecutive months - 60 ppm One month - 80 ppm</p> <p>Regular monitoring data to be submitted to SPCB and CPCB.</p>	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.	The SPL refractory part generated is being stored inside the covered shed in line with the Rule-8 of HW (Handling, Management & TM) Rules, 2016 for disposal to CHW-TSDF. M/s Ramky Enviro Pvt. Ltd is establishing 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 is likely to lift the refractory part of SPL soon after fulfilling the terms & conditions specified in the Protocol and after getting approvals from SPCB/CPCB. An amount of 6646.47 MT SPL Refractory stock has been stored till end of March 2020 inside the well-ventilated permanent covered sheds for disposal to CHW-TSDF/Actual users.
7	Achieving particulate matter limit of 50 mg/Nm ³ in anode baking furnace	It is being Complied with.

COMPLIANCE TO CREP GUIDELINES FOR CPP

Sr. No.	Conditions	Compliance
1	Implementation of Environmental Standards (emission & effluent) in non-compliant* Power Plants (31 & 27) - Submission of action plan: June 30, 2003 - Placement of order for Pollution of control equipment: September, 2003 - Installation & commission: December 31, 2005	Not Applicable
2	For existing thermal power plants, a feasibility study shall be carried out by Central Electricity Authority (CEA) to examine possibility to reduce the particulate matter emissions to 100 mg/Nm ³ . The studies shall also suggest the road map to meet 100 mg/Nm ³ . The studies shall also suggest the road map to meet 100 mg/Nm ³ 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 after 1.4.1.2003 shall meet the limit of 100 mg/Nm ³ for particulate matter.	Complied. SPM emission well below stipulated limit of 50 mg/Nm ³
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 SO ₂ & NO _x w.e.f. 1.1.2006.	Standard for SO ₂ & NO _x 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 & NO _x .
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 MOEF&CC in this regard.

Compliance Status from Oct 19 to March 20

8	<p>Implementation of use of beneficiated coal as per GOI Notification:</p> <p>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.</p> <p>Options/mechanism for setting up of coal washeries as a long term measure</p> <ul style="list-style-type: none"> * Coal India will up its own washery * Sate Electricity Board to set up its own washery * Coal India to ask private entrepreneurs to set up washeries for CIL and taking washing charges * SEBs to select a private entrepreneur to set up a washery near pit- head installation of coal beneficiation plant 	Not Applicable
9	Power plants will indicate their requirement of abandoned coal mines for ash disposal & Coal India/ MOC shall provide the list of abandoned mines by June 2003 to CEA.	Not Applicable
10	Power plants will provide dry ash to the users outside the premises or uninterrupted access to the users within six months.	It is being Complied with.
11	Power Plants should provide dry fly ash free of cost to the users	Dry fly ash is being provided to the ash brick manufacturing units free of cost.
12	State P.W.Ds/ construction & development agencies shall also adhere to the specifications/Schedules of CPWD for ash based products utilization MoEF will take up the matter with State Governments.	Not Applicable
13 (i)	New plants to be accorded environmental clearance on or after 1.04.2003 shall adopt dry fly ash extraction or dry disposal system or Medium (35-40%) ash concentration slurry disposal system or Lean phase with hundred percent ash waste re-circulation system depending upon site specific environmental situation.	It has been installed as part of the Ash Handling Package.
13 (ii)	Existing plants shall adopt any of the systems mentioned in 13(i) by December 2004	Implemented
14	Fly ash Mission shall prepare guidelines/manuals for fly ash utilization by March 2004.	Noted
15	<p>New plants shall promote adoption of clean coal and clean power generation technologies</p> <ul style="list-style-type: none"> * Units will submit bank guarantee to respective SPCB 	Noted

**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 4, 66,500 saplings inside the factory premises till Mar 2020. 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 facility to Rengali PHC, Conducted Pulse Polio facilitation in coordination with CHC Laida for 4,650 no's of 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 1,536 nos 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 has assured to give support 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 68 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 - 09

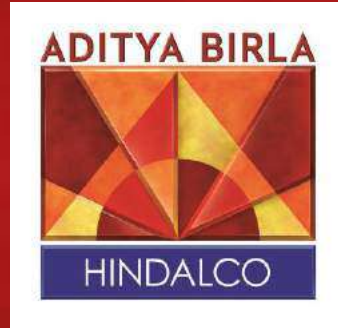
Expense incurred under Enterprise Social Commitment till March 2020:

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	
Total Expense		47.23	

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.



MAJOR CSR HIGHLIGHTS

OCT'19 –MAR '20

Highlights of Oct '19 – Mar '20

Health & Sanitation

- **Aditya First Aid Centre**
 - ✓ 1174 patient footfall
 - ✓ 15 villages availed health service
 - ✓ 134 tests conducted
 - ✓ Highest No. of Patient - RTI
- **Global Hand Washing Day 2019**
 - ✓ 12 Hand Washing awareness session organized
 - ✓ 12 schools covered
 - ✓ 1000+ students benefitted
- **Mega Blood Donation Camp**
 - ✓ 332 unit donated by employees, contract workers, vendors and women
 - ✓ In collaboration with Red Cross Society Burla and Sambalpur
 - ✓ Govt. Attended-PDDRDA Sambalpur, DLO Sambalpur, RLI Sambalpur
- **Mega Health Camp**
 - ✓ 520 people from 6 GPs benefitted with services provided by 8 specialist doctors
- **Outcome** : Improvement in the access and availability of primary health care; Awareness and increase practices of Sanitation



Global Handwashing Day Celebrated with SHG women Hand wash Demonstration and Awareness rally



Blood Donation Camp



Mega Health Camp

Highlights of Oct '19 – Mar '20

Education

- Support to students for availing formal education- **Free transportation for 11 students** from Gopkani to Ludhapalli PS
- **Support to School**– 12 schools provided with desk & bench.
 - ✓ 1000 students benefitted
 - ✓ BEO, MLA, Sarpanch, CRC, SMC President attended event
 - ✓ Children's day Celebrated in Lapanga High School Inter District Football Tournament in Orampada organized by Youth Club
 - ✓ Annual Function Saraswati Sishu Mandir School at Katarbagga
 - ✓ Yoga Class in Dhorropani High school
- **Outcome** : Increased awareness in students on handwashing and Sanitation; attendance in classes, Regularity to schools , Increase goodwill for the Company



Yoga Class in Dhorropani School



Annual Function Saraswati Sishu Vidya Madir School



Support to School 2019 at Girl's High school Rengali

Highlights of Oct '19 – Mar '20

Women Empowerment

SHG Meeting-

- ✓ 6 SHG meetings in 3 villages
- ✓ 50 women participated
- ✓ 170 Cloth bag delivered to Eco warrior
- ✓ Golamaal SHG started making paper bag
- ✓ 10 SHGs participated in Pallishree Mela. Earned INR 9100/-
- ✓ 18.5 Kg mushroom sold post training within 15 days. Profit INR 580 in 3 days

- **Outcome** : Loan Linkage will facilitate take up income generating activity ; Creation of self employment opportunity in villages



SHG Capacity Building Training



Mushroom Training to SHG Women



SHG Product display in Pallishree Mela



Women Sport's Meet

Highlights of Oct '19 – Mar '20

Agri & Allied - Samridhi

- ✓ Aditya Aluminium supports farmer with agri-equipment for better yield in alliance with lock Agriculture Dept.
- ✓ Meeting with 6 VDC Members regarding organic farming and Drip irrigation
- ✓ Meeting with Horticulture Dept. For Onion and Potato seeds
- ✓ Facilitated drip irrigation to 2 farmers with 90% subsidy
- ✓ Farmers' Exposure visit to Sambalpur for Floriculture
- ✓ Distribution of 32000 Marigold saplings to 20 farmers

- **Outcome** : Loan Linkage will facilitate take up income generating activity ; Creation of self employment opportunity in villages



Mitabhanu Kuanra using cow dung organic manure in vegetable field

Highlights of Oct '19 – Mar '20

Stakeholder Engagement

- **Stakeholder Meeting**– Organised first ever stakeholder meet for Bomloi GP
 - ✓ 23 stakeholders attended the meeting
 - ✓ Meeting was chaired by Head HR
 - ✓ Stakeholders were satisfied with the initiative
- **Meeting with COO, ORMAS**
 - ✓ Discussion on starting a garment P&T unit
 - ✓ **Meeting with COO, ORMAS**
- **Village Meeting** : 25 nos.
- **Outcome** : Proactive Engagement with the stakeholders, Social Risk Mitigation/ Grievance redressal and Rapport Building



Stakeholder Meeting with stakeholders of Bomloi Gram Panchayat



Employee Volunteerism



ADITYA BIRLA
EMPLOYEE VOLUNTEERISM FEEDBACK

Name: Apurva Kulkarni
 Department: HR
 Phone Number: 9000000000
 Event / Initiative Participated: Mega Farmers Meet
 Date: 19th Nov 2019
 Hours Spent: 10:30 AM - 04:30 PM
 Village Visited: Channarayana
 Contribution (if any): Stall & Distribution sign

Tell us what you think!

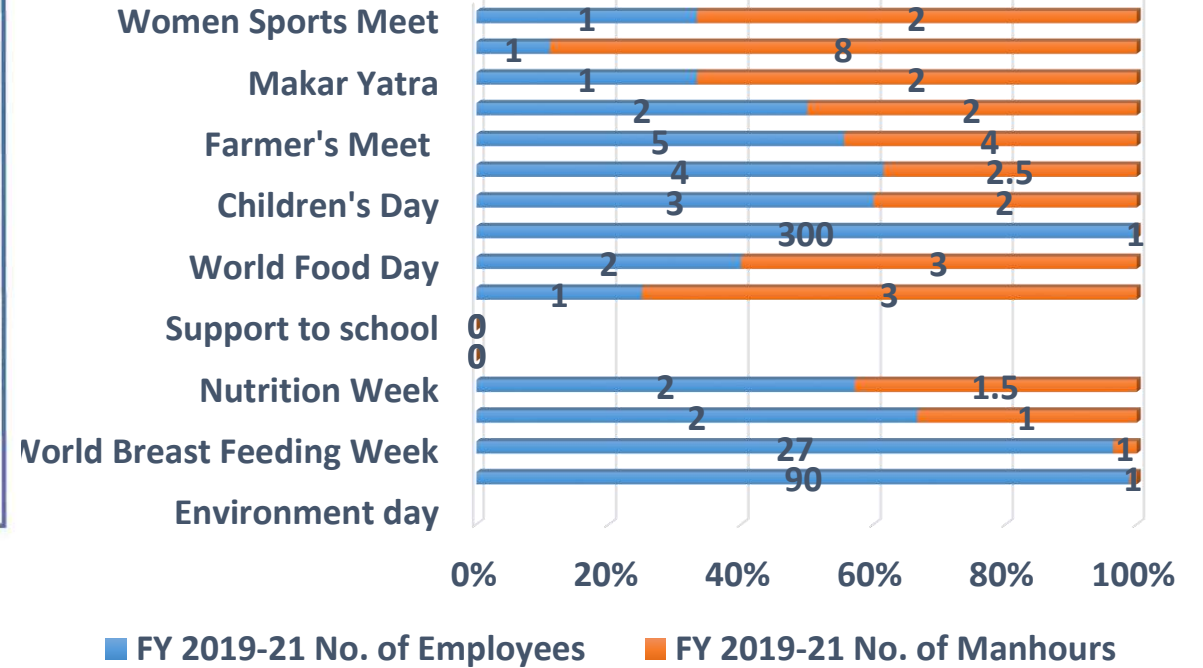
RATE YOUR EXPERIENCE

Very Good Good Very Poor

Mega Farmers Meet with the collaboration of HR, Aditya Aluminium runs a great program & Farmers/Visiting to all are well and much appreciated the program & got a chance to learn many more things from such effectively manage program. Related to agriculture and we meet we developed a good relationship with Farmers. Govt officials and village management.

Signature: [Signature]

Employee Volunteerism



Eco Warrior Group – Ladies Club

- Old Cloth Distribution in Gopkani Village



News Clippings for Oct '19 – Mar '20

Statesman: 3rd Oct 19

Aditya Aluminium Supports to Local Schools at Lapanga

Bhubaneswar: With the objective of improving the quality of education and creating a sound ambience in the schools, the Aditya Birla Group company Aditya Aluminium has conducted a School Support programme at Lapnaga yesterday. This Support to School program was organised at Rengali Girl's

ager- CSR, Mr Manoranjan Behera attended the programme. The BEO and the Vice Chairman of the Block profusely thanked the company for this initiative. While informing about this Mrs Sweta Upadhy said that today we have provided 250 desk benches to around 12 schools in our periphery under our CSR

others, Mr. Duryodhan Gardia, Ex-MLA, Rengali, ErGandhi Behera, Sarpanch, Jangla, Mr.Rajiv Mishra, Block President, Swadhina Ekata Parishad, Mr. Antaryami Padhi, Secy, Bayojyostha Nagarika Parishad, Basant Naik, President Baristha Nagarika



By Nalini Sahu

Exemplary Initiative: Aditya Aluminium Supports To Local Schools At Lapanga

Oct 2, 2019



ଆଦିତ୍ୟ ଆଲୁମିନିଆରେ ରକ୍ତଦାନ ଶିବିର

ରେଙ୍ଗାଲି, ୩୧୧୦ (ନି.ପ୍ର): ଲପନାଗାଠି ଆଦିତ୍ୟ ଆଲୁମିନିଆ ପ୍ରକଳ୍ପ ପକ୍ଷରୁ ଆଜି ଏକ ରକ୍ତଦାନ ଶିବିର ଆୟୋଜିତ ହୋଇଯାଇଛି । ରେଡ୍ କ୍ରସ୍ ସୋସାଇଟି ଓ ସ୍ୱାସ୍ଥ୍ୟ ଅନୁଷ୍ଠାନ ମିଳିତ ସହଯୋଗରେ ଆୟିତ ଏହି ଶିବିରକୁ ଜିଲା ଗ୍ରାମ୍ୟ ଚଳନ ସଂଘ ପ୍ରକଳ୍ପ ନିର୍ଦ୍ଦେଶକ ସୁବାସ କୁମାର ତ୍ରିପାଠୀ ଉଦଘାଟନ

Darshana: 3rd Nov 19

ମୁଖ୍ୟମନ୍ତ୍ରୀ | ବିଧାନ ସଭା ସଭାପତି | ମନ୍ତ୍ରୀମଣ୍ଡଳର ସଭ୍ୟମାନେ | ବିଧାନ ସଭା ସଭାପତିଙ୍କ ସହାୟତାରେ | ବିଧାନ ସଭା ସଭାପତିଙ୍କ ସହାୟତାରେ

ଆଦିତ୍ୟ ଆଲୁମିନିଆରେ ବିଶାଳ ରକ୍ତଦାନ ଶିବିର



Over 500 benefit from Aditya Aluminium's mega health camp

PBD BUREAU
BHUBANESWAR, FEB 2

AS many as 520 villagers from six gram panchayats of Sambalpur district were benefited from a free multi-speciality health camp organized by the Aditya Birla Group Company, Aditya Aluminium in association with the National Rural Health Mission, Shyam Metallics and Trilochan Netralaya at Lapnaga High School. The mega health camp, organised as part of the CSR initiatives of Aditya Aluminium, was inaugurated by Aditya Aluminium



Head (HR) Vivekanand Mishra, Head (Captive Power Plant) Ghanyashyam Panda, senior officials of Shyam Metallics and Medical Officers of Khinda and Rengali. As part of the health camp, free consultations and medicines were given to all

those who attended. A team of specialists in medicine, ophthalmology, paediatrics, ENT, dental and Obstetrics & Gynaecology conducted check-ups and offered free consultations. Speaking to the community, Vivekanand Mishra said, "Aditya Aluminium, as an organization, is always committed to the wellbeing of the local people, and it will continue to organize such camps in future also."

Sambad: 2nd Oct 19

ରେଙ୍ଗାଲି ବ୍ଲକର ୧୨ ବିଦ୍ୟାଳୟକୁ ଆଦିତ୍ୟ ଆଲୁମିନିୟମ ଦ୍ୱାରା ସହାୟତା



ସମ୍ବଲପୁର, ୧୧୧୦ (ସଂଭା): ବିଦ୍ୟାଳୟରେ ଶିକ୍ଷଣର ମାନବୃଦ୍ଧି, ଯୁବ ଚାକରଣର ଉଚ୍ଚା ଛାତ୍ରଛାତ୍ରୀଙ୍କ ଦୈନିକ ଉପଯୋଗୀ ବୃଦ୍ଧି ଲକ୍ଷ୍ୟ, ଆଦିତ୍ୟ ଆଲୁମିନିୟମ ଦ୍ୱାରା ସାମାଜିକ ଦାୟିତ୍ୱବୋଧ କାର୍ଯ୍ୟକ୍ରମ ପରିପ୍ରେଷଣରେ ରେଙ୍ଗାଲି ବ୍ଲକର ୧୨ ଶିକ୍ଷାଳୟରେ ଶେଷ ଉପକରଣ, ଖୁଣ୍ଟ ବ୍ୟାଚ ଓ ଶିକ୍ଷା ସାଧନ ଉପକରଣ ସାହାଯ୍ୟ କରିବା ପାଇଁ ଯୋଜନା ପ୍ରସ୍ତୁତ କରିଛନ୍ତି । ଆଜି ରେଙ୍ଗାଲି ବ୍ଲକର ବିଭିନ୍ନ ବିଦ୍ୟାଳୟରେ ଆଦିତ୍ୟ ଆଲୁମିନିୟମର ପ୍ରତିନିଧି ଶ୍ରୀମତୀ ସୁସମାଧି ଓ ମନୋରଞ୍ଜନ ବେହେରା ଉପସ୍ଥିତ ଥିଲେ । ସାମାଜିକ ଦାୟିତ୍ୱବୋଧ ଶିକ୍ଷା

Aditya Aluminium supports farmers for better yield

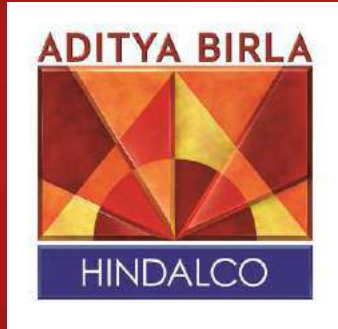
PBD BUREAU
BHUBANESWAR, NOV 8

AS a part of its CSR activities, the Aditya Birla Group Company, Aditya Aluminium, has provided "Improved Agriculture Equipment" to the farmers of Derba and Narupada village under Rengali Block in Sambalpur district. The objective of this initiative was to help the farmers improve their farming activities and yield maximum output. Aditya Aluminium recently organised one such programme in association with the

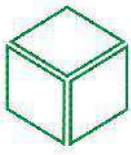


Agriculture Department in Rengali Block during which 45 High Speed Ploughs were provided to the farmers through Village Development Committee (VDC) of Derba and Narupada. District Agriculture Officer (DAO) Rabinarayan Nayak, who graced the occasion as chief guest, explained different agricultural schemes of the State government. Lauding Aditya Aluminium's initiative

of providing farm equipment to the farmers, he advised them (farmers) to take maximum advantage of it to improve the productivity. Among others, Amiya Kumar Sahoo, ADO, Sambalpur, Pramod Kumar Naik, AO, Mamas Kumar Bhoi, AAO, Rengali were present on the occasion. ADO Sahoo spoke about organic farming and its scope for sustainable livelihood. The program was organized under the guidance of Sweta Upadhaya and Manoranjan Behera of Aditya Aluminium.



Thank You



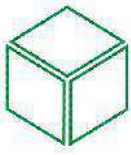
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-1 (Gumkarama)**
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 (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _X (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	47.8	34.2	17.3	25.8	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	48.2	33.9	16.8	26.1	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	44.3	31.7	17.6	23.2	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	43.5	30.6	17.2	24.6	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	45.2	32.2	18	25.2	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	44.7	30.8	17.4	29.9	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	47.8	32.8	17.9	25.6	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	54.3	36.6	18.6	27.4	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	50.6	37.4	18.8	23.8	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	51.9	26.9	19.2	24.6	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	58.3	41.4	20.1	27.1	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	52.9	38.5	18.4	25.2	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	59.6	40.8	20.1	27.4	<4.0	0.23	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	55.4	36.9	19.6	26.5	<4.0	0.2	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	53.2	35.8	18.4	26.2	<4.0	0.2	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	58.1	39.2	20.2	26	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	61.8	41.4	21.1	27.2	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	57.5	38.7	19.6	25.5	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	54.2	35.2	17.8	23.8	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	51.8	36.6	16.2	23.4	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	55.6	39.3	18.4	21.7	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	52.9	37.6	17.6	24.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	48.4	35.4	17.2	23.6	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	45.8	31.8	16.7	24.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	48.3	32.6	18.2	25.5	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	50.2	34.12	18.6	26.2	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	51.63	35.48	18.35	25.38	<4.0	0.20	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



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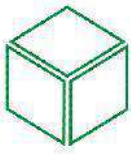
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-2 (Ghichamura)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VCSPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _X ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C ₆ H ₆ ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu\text{g}/\text{m}^3$)	As (ng/m^3)	F ($\mu\text{g}/\text{m}^3$)
02.10.2019	48.8	29.8	9.6	13.4	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	48.2	28.2	9.2	13.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	46.2	27.7	8.6	13.4	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	46.4	27.8	9.1	12.8	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	42.8	25.6	8.4	12.6	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	41.6	24.8	8.9	12.4	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	40.8	24.4	8.6	13.1	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	45.2	27	10.8	14.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	49.7	26.8	12.2	14.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	54.2	26.5	13.1	16.6	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	53.8	26.8	12.6	15.1	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	49.6	26.1	10.9	14.1	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	52.8	25.6	12.2	15.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	51.2	24.7	12.4	14.4	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	50.6	24.3	11.6	13.8	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	53.8	24.8	11.8	15.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	54.2	26.5	12.2	16.8	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	52.8	25.8	10.6	15.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	47.6	25.6	11.8	15.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	43.2	25.2	10.6	15.6	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	43.8	26.2	9.8	16.1	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	41.2	24.7	9.6	16.2	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	42.2	25.3	11.2	16.8	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	44.6	24.6	12.4	14.2	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	42.8	24.4	12.8	14.6	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	41.8	25.1	11.9	13.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	47.30	25.93	10.88	14.52	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



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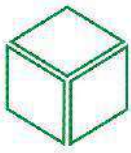
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-3 (Tileimal)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VCSPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	45.8	20.8	9.1	18.8	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	46.8	21.5	10.2	18.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	44.2	20.9	9.6	16.6	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	44.6	23.1	9.8	17.8	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	51.2	24.5	11.6	17.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	50.8	27.4	11.2	18.1	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	53.2	26.1	12.2	18.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	48.6	26.7	11.4	17.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	55.2	29.2	13.3	18.6	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	53.6	26.6	12.5	17.8	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	61.2	31.2	14.1	19.5	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	63.4	32.4	14.6	20.4	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	58.8	30.8	13.4	19.7	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	59.6	31.6	14.1	18.9	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	53.2	28.5	12.2	17.8	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	58.8	26.8	13.1	17.6	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	54.6	26.6	12.4	16.9	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	56.8	25.48	14.2	16.6	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	52.6	23.36	13.6	15.2	<4.0	0.17	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	47.2	27.12	11.4	16.6	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	44.8	26.88	10.9	14.4	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	48.6	26.16	10.2	17.1	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	43.2	25.92	8.6	16.1	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	41.6	24.96	9.4	15.8	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	41.2	24.72	9.8	15.6	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	42.8	25.68	8.9	16.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	50.86	26.35	11.61	17.42	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



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Ref : Envlab/19/R- 9812

Date: 10.01.2020

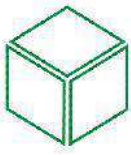
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-4 (Bomaloi)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VCSPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	46.6	32.1	15.4	22.2	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	48.2	32.2	16.6	23.4	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	45.8	32.8	15.7	22.6	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	47.2	33.1	15.1	22.8	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	51.2	31.2	17.2	24.2	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	49.2	30.7	17.6	23.6	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	50.6	30.3	16.4	23.9	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	54.8	31.8	18.2	25.7	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	52.1	29.6	15.9	24.8	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	57.4	30.8	18.6	26.2	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	60.4	32.2	20.2	27.1	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	63.8	37.4	21.2	27.5	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	66.2	32.2	22.1	28.3	<4.0	0.23	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	61.2	38.1	22.4	26.6	<4.0	0.23	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	68.8	42.6	22.2	27.9	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	63.9	41.7	21.4	26.8	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	58.6	38.4	20.4	24.2	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	61.4	41.4	19.2	26.4	<4.0	0.36	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	54.8	36.8	18.4	23.6	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	51.4	33.2	17.2	22.8	<4.0	0.33	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	52.8	31.9	18.3	24.4	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	48.6	31.5	16.1	22.2	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	51.4	30.4	15.8	23.8	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	54.8	31.8	16.1	23.2	<4.0	0.33	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	51.9	28.3	15.2	21.4	<4.0	0.36	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	53.6	31.56	17.2	22.6	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	54.87	33.62	18.08	24.55	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



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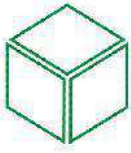
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-5 (Karpulus)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VC SPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	41.8	23.2	10.2	15.8	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	40.6	23.7	10.4	16.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	39.2	23.5	10.8	16.6	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	42.4	23.6	11.2	17.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	46.2	28.6	11.6	16.8	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	44.4	26.4	12.1	17.4	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	49.8	25.8	12.6	17.6	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	52.2	27.3	13.4	18.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	47.6	25.5	11.8	17.1	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	54.8	31.6	12.2	17.8	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	52.5	30.2	11.6	15.2	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	55.2	33.5	12.8	16.4	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	57.2	40.1	13.2	16.8	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	45.8	38.8	11.4	14.6	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	51.2	39.5	12.9	14.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	55.1	41.2	14.4	13.8	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	59.2	41.1	14.6	13.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	53.8	40.8	12.8	14.8	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	54.6	24.7	13.2	14.6	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	49.8	23.6	12.1	13.8	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	52.1	20.4	12.8	14.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	54.6	20.7	13.6	14.1	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	47.2	19.4	11.2	14.4	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	45.2	24.1	11.4	13.8	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	42.8	24.4	12.8	13.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	43.6	25.6	11.6	13.6	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	49.19	28.74	12.26	15.44	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



For Visiontek Consultancy Services Pvt. Ltd



Ref : Envlab/19/R- 9814

Date: 10.01.2020

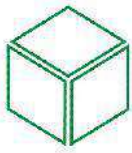
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-6 (Phulchanghal)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VCSPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	49.2	27.72	19.8	25.6	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	48.1	27.66	20.6	26.2	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	42.2	30.12	18.1	25.4	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	47.2	28.52	19.4	25.6	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	46.3	25.98	17.2	24.8	<4.0	0.25	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	43.6	26.16	18.8	23.4	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	44.8	26.88	19.2	23.8	<4.0	0.25	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	49.2	30.12	21.6	25.2	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	45.6	27.36	18.8	24.8	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	48.8	29.28	20.2	25.4	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	56.6	36.36	22.1	26.2	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	54.2	37.72	21.6	25.6	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	65.8	41.08	23.9	25.5	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	61.2	40.12	23.4	27.8	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	62.6	43.56	22.9	28.2	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	57.8	38.68	21.2	26.4	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	58.6	35.36	21.4	26.8	<4.0	0.34	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	53.2	36.72	20.6	25.1	<4.0	0.34	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	58.8	33.28	22.1	26.6	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	51.2	30.52	21.1	25.2	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	50.4	29.64	20.5	23.8	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	49.2	29.52	17.8	23.6	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	52.8	29.28	18.9	24.6	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	47.6	28.56	17.2	23.2	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	47.2	28.32	18.4	23.8	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	54.6	30	18.9	25.2	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	51.80	31.87	20.22	25.30	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



For Visiontek Consultancy Services Pvt. Ltd



Ref : Envlab/19/R- 9815

Date: 10.01.2020

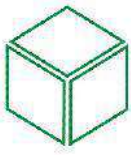
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-7 (Khadiapalli)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VC SPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C ₆ H ₆ ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu\text{g}/\text{m}^3$)	As (ng/m^3)	F ($\mu\text{g}/\text{m}^3$)
02.10.2019	44.80	20.80	13.80	18.60	<4	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	45.60	23.30	15.10	18.20	<4	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	45.20	24.10	15.60	19.40	<4	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	44.20	21.50	14.20	19.80	<4	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	44.80	21.80	15.40	17.20	<4	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	45.10	23.00	16.10	17.60	<4	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	44.20	26.50	14.20	17.10	<4	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	48.80	26.20	16.90	19.80	<4	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	46.50	24.50	16.60	19.20	<4	0.20	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	48.80	29.40	17.20	20.60	<4	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	44.60	24.90	15.40	17.90	<4	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	47.20	28.70	18.30	21.20	<4	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	54.20	30.50	19.20	23.60	<4	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	58.60	34.70	18.60	25.10	<4	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	62.80	39.60	19.10	24.60	<4	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	58.20	37.90	17.70	24.80	<4	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	53.10	36.80	15.80	23.20	<4	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	60.60	41.30	17.90	24.50	<4	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	54.80	40.40	16.50	21.20	<4	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	47.20	32.70	15.80	19.20	<4	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	41.80	28.80	13.60	17.80	<4	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	42.60	25.50	13.80	17.20	<4	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	42.80	25.60	14.30	18.40	<4	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	44.60	23.70	13.40	19.10	<4	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	45.20	27.10	15.70	20.70	<4	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	45.80	24.40	16.40	20.20	<4	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	48.54	28.60	16.02	20.24	<4	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



For Visiontek Consultancy Services Pvt. Ltd



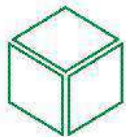
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-8 (Thelkoloi)**
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 (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	47.80	26.70	23.60	28.30	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	45.60	26.40	21.80	27.70	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	49.20	27.60	22.40	30.60	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	53.40	29.30	24.90	31.20	<4.0	0.30	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	52.40	26.80	22.20	29.60	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	53.80	30.90	23.80	33.90	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	56.20	34.20	25.20	32.80	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	63.40	36.40	28.60	34.20	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	58.20	35.20	26.80	32.70	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	57.20	34.80	22.50	31.90	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	59.60	36.50	25.70	33.80	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	63.20	37.20	27.40	35.40	<4.0	0.34	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	66.00	40.80	36.10	37.60	<4.0	0.35	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	62.80	39.40	26.80	34.80	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	64.60	42.70	25.70	33.60	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	60.20	41.50	24.90	31.20	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	63.80	38.80	26.20	32.80	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	62.60	37.50	25.80	33.10	<4.0	0.30	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	61.10	38.30	23.40	29.90	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	59.40	37.04	22.60	30.80	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	62.20	37.32	25.40	33.60	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	57.20	33.20	22.80	31.10	<4.0	0.25	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	54.80	31.40	20.40	28.80	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	60.20	33.10	24.20	32.20	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	56.40	31.40	22.60	29.10	<4.0	0.25	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	53.60	28.20	21.20	26.20	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	57.88	34.33	24.73	31.80	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



For Visiontek Consultancy Services Pvt.Ltd



Ref: Envlab/19/R-7901

Date: 05.02.2020

FORAGE FLOURIDE ANALYSIS REPORT-NOVEMBER-2019

1	Name of Industry	:	M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga
2	Date of Sampling	:	18.11.2019 & 19.11.2019
3	Name of the Sample	:	Vegetation Sample
4	Sampling Location	:	Thekoli, Lapanga, Gurupali, Jangala, Bhadarpali, Bamloi, Tilamal, Gumkarama, Ghichamura, Plant Site
5	Sample Collected By	:	VCSPL Representative in presence of Clients representative
6	Date of Analysis	:	20.11.2019 TO 27.11.2019

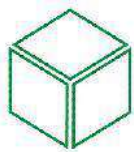
SL · No.	Date of Sampling	Name of the Location	Type of Species	Method of Analysis	Result (PPM)
					Fluoride
1	18.11.2019	Thekoli	Grass (Cynodon dactylon)	AOAC 975.04	1.66
2	18.11.2019	Lapanga	Neam Leaf (Azadirachta indica)	AOAC 975.04	1.58
3	18.11.2019	Gurupali	Onion leaf (Allium Sepa)	AOAC 975.04	0.84
4	18.11.2019	Jangala	Grass (Cynodon dactylon)	AOAC 975.04	1.32
5	18.11.2019	Bhadarpali	Karanja Tree Leaf (Millettia pinnata)	AOAC 975.04	1.24
6	19.11.2019	Bamloi	Charoli Leaf (Buchanania lanzan)	AOAC 975.04	1.68
7	19.11.2019	Tilamal	Lemon Leaf (Citrus limon)	AOAC 975.04	1.10
8	19.11.2019	Gumkarama	Brinjal Leaf (Solanum Melongena)	AOAC 975.04	1.42
9	19.11.2019	Ghichamura	Drumsticks(MoringaOleifera)	AOAC 975.04	1.16
10	19.11.2019	Plant Site	Grass (Cynodon dactylon)	AOAC 975.04	2.12


Prepared by




Verified by





No : Envlab/20/R-232

Date : 06.03.2020

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	Name of the Sample	:	Vegetation Sample
5	Sampling Location	:	Thelkoli, Lapanga, Gurupali, Jangala, Bhadarpali, Bamloi, Tilamal,Gumkarama, Ghichamura, Plant Site
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	20.02.2020	Thelkoli	Grass (Cynodondaetylon)	AOAC 975.04	1.31
2	20.02.2020	Lapanga	Karanja Tree Leaf (Millettia pinnata)	AOAC 975.04	1.42
3	20.02.2020	Gurupali	Curry Tree (Murraya Koenigii)	AOAC 975.04	1.05
4	20.02.2020	Jangala	Brinjal(Solanum Melongena)	AOAC 975.04	1.24
5	20.02.2020	Bhadarpali	Cucumber(Cucumis Sativus)	AOAC 975.04	1.32
6	20.02.2020	Bamloi	Tomato Leaf (Solanum lycopersicum)	AOAC 975.04	1.34
7	20.02.2020	Tilaimal	Bottle Gourd(Lagenaria Siceraria)	AOAC 975.04	0.92
8	20.02.2020	Gumkarama	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 (Cynodondaetylon)	AOAC 975.04	1.80



For Visiontek Consultancy Services Pvt.Ltd.



Ref: Envlab/19/R-7906

Date: 05-02-20

GROUND WATER QUALITY ANALYSIS REPORT-NOVEMBER 2019

1. Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga.
 2. Sampling Location : GW-1: Lapanga Village; GW-2: Pandoloi Village; GW-3: Bamloi Village; GW-4: Tilaimal Village; GW-5: Thekoloi Village; GW-6: Ghichamura Village; GW-7: Gumkarama Village; GW-8: Chaltikra Village
 3. Date of Sampling : 25.11.2019
 4. Date of Analysis : 26.11.2019 TO 03.12.2019
 5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative

Sl. No.	Parameter	Testing Methods	Unit	Standard as per IS-10500:2012	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6	GW-7	GW-8
1	pH Value	APHA 4500H ⁺ B	--	6.5-8.5	7.26	7.44	7.58	6.98	7.08	7.34	7.46	7.18
2	Colour	APHA 2120 B, C	Hazen	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6	Total Dissolved Solids	APHA 2540 C	mg/l	500	248.0	192.0	210.0	206.0	218.0	196.0	220.0	208.0
7	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	200	74.0	66.0	62.0	62.0	70.0	62.0	68.0	64
8	Total Alkalinity	APHA 2320 B	mg/l	200	60.0	62.0	58.0	48.0	52.0	50.0	52.0	50.8
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	19.4	17.4	15.9	16.8	19.2	16.7	19.2	18.4
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	6.2	5.5	5.4	4.9	5.4	4.8	4.9	4.5
11	Residual, free Chlorine	APHA 4500Cl, B	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND
12	Boron (as B)	APHA 4500B, B	mg/l	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
13	Chloride (as Cl)	APHA 4500Cl B	mg/l	250	30.2	32.0	24.2	32.0	30.0	26.0	24.0	22.0
14	Sulphate (as SO ₄)	APHA 4500 SO ₄ ²⁻ E	mg/l	200	6.8	6.2	5.6	6.6	6.6	5.6	5.44	5.32
15	Fluoride (as F)	APHA 4500F C	mg/l	1.0	0.31	0.34	0.38	0.44	0.42	0.34	0.32	0.34
16	Nitrate (as NO ₃)	APHA 4500 NO ₃ E	mg/l	45	2.6	2.8	2.4	3.1	3.2	2.6	2.4	2.2
17	Sodium as Na	APHA 3500-Na	mg/l	--	14.8	13.6	12.8	10.6	10.8	11.4	12.4	13.2
18	Potassium as K	APHA 3500-K	mg/l	--	3.1	3.6	4.2	4.4	4.2	4.6	4.4	4.8
19	Phenolic Compounds (as C ₆ H ₅ OH)	APHA 5530 B, D	mg/l	0.001	<0.001	<0.001	<0.001	<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	ND	ND	ND
21	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
22	Cadmium (as Cd)	APHA 3111 B, C	mg/l	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
23	Arsenic (as As)	APHA 3114 B	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
24	Copper (as Cu)	APHA 3111 B, C	mg/l	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
25	Lead (as Pb)	APHA 3111 B, C	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.3	0.24	0.19	0.22	0.21	0.24	0.20	0.23	0.22



Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2015
OHSAS 18001 : 2007

Ref.: Env/lab/19/R-7906

Date: 05.02.20

28	Chromium (as Cr)	APHA 3500Cr B	mg/l	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
29	Selenium (as Se)	APHA 3114 B	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30	Zinc (as Zn)	APHA 3111 B,C	mg/l	5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
31	Aluminium as (Al)	APHA 3500Al B	mg/l	0.03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<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	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
33	Mineral Oil	APHA 5220 B	mg/l	0.5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
34	Pesticides	APHA 6630 B,C	mg/l	Absent	Absent	Absent	Absent	Absent	Absent	Absent	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	Absent	Absent	Absent	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	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Note: Cl: Colourless, ND: Not Detected.





Ref: Envtab/19/R-7900

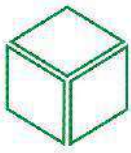
Date: 05.02.20

METEOROLOGICAL DATA FOR OCTOBER 2019

- Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga .
- Sampling Location : Near Raw Water Reservoir
- Sample collected by : VCSPL representative in presence of Aditya Aluminium representative.

Date	Temperature(°C)		Relative Humidity (%)		Wind Speed m/sec		Wind Direction	Rain fall (mm)
	Max	Min	Max	Min	Max	Min		
1-Oct-19	27.8	18.6	72.1	30.8	8.9	2.5	WSW	0.3
2-Oct-19	27.3	19.6	68.8	29.8	5.9	1.6	SW	0.0
3-Oct-19	27.6	21.4	72.0	26.7	4.3	1.2	WSW	0.0
4-Oct-19	27.9	22.8	70.9	24.5	4.0	1.1	WSW	0.0
5-Oct-19	28.0	24.6	69.5	22.6	3.2	0.9	WSW	0.0
6-Oct-19	27.9	22.8	68.2	24.7	2.8	0.8	ESE	0.6
7-Oct-19	27.3	22.6	66.9	28.4	2.9	0.8	E	0.3
8-Oct-19	27.4	21.4	68.1	25.3	5.7	1.6	E	0.7
9-Oct-19	27.4	20.8	68.5	27.7	2.3	0.6	ENE	0.2
10-Oct-19	27.4	21.6	65.8	23.8	4.2	1.2	ESE	0.0
11-Oct-19	27.3	20.82	67.7	25.9	3.8	1.1	ESE	0.9
12-Oct-19	27.1	22.4	69.9	22.8	6.1	1.7	ENE	0.9
13-Oct-19	27.1	25.1	67.7	26.4	5.4	1.5	ENE	0.0
14-Oct-19	27.5	18.4	63.2	27.3	4.8	1.3	ESE	0.0
15-Oct-19	27.1	19.6	62.4	26.5	2.2	0.6	ENE	0.0
16-Oct-19	27.0	21.6	67.8	25.8	3.6	1.0	ENE	0.0
17-Oct-19	27.2	20.8	69.4	30.5	3.1	0.8	ENE	0.0
18-Oct-19	26.9	20.2	67.1	26.7	3.0	0.8	ENE	0.4
19-Oct-19	27.6	21.1	64.7	27.5	3.9	1.1	SSW	0.0
20-Oct-19	27.1	19.8	65.7	28.6	3.2	0.9	SSE	0.0
21-Oct-19	27.0	18.9	68.1	30.3	5.1	1.4	SW	0.3
22-Oct-19	27.2	20.4	63.4	48.6	2.3	0.6	SE	0.0
23-Oct-19	26.4	21.2	71.2	43.5	6.2	1.7	ENE	0.5
24-Oct-19	24.7	20.8	71.8	34.1	15.8	4.4	ESE	1.8
25-Oct-19	24.7	20.2	71.3	37.1	15.2	4.2	ESE	0.2
26-Oct-19	26.1	21.2	71.4	34.1	5.5	1.5	ENE	0.0
27-Oct-19	28.3	21.4	66.2	36.1	3.4	0.9	ESE	0.4
28-Oct-19	27.0	20.6	65.7	55.2	4.9	1.4	ENE	0.0
29-Oct-19	27.6	19.8	64.1	48.2	3.9	1.1	ENE	0.0
30-Oct-19	27.8	20.6	64.6	41.1	2.4	0.7	SSE	0.0
31-Oct-19	27.5	21.4	58.5	40.8	2.7	0.8	SW	0.0





Ref.: Envlab/20/R-231

Date: 06.03.2020

METEOROLOGICAL DATA FOR FEBRUARY-2020

1. Name of the Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Sampling Location : Near Raw Water Reservoir
3. Sample Collected By : VCSPL representative in presence of Aditya Aluminium representative.

Date	Temperature(°C)		Relative Humidity (%)		Wind Direction	Wind Speed (km/h)		Rain Fall (mm)
	Max	Min	Min	Max		Min	Max	
01-Feb-20	29.8	15.3	55.1	28.2	NNW	15.8	1.0	0
02-Feb-20	28.3	14.5	52.6	28.3	NNE	15.8	1.0	0
03-Feb-20	28.7	14.5	60.1	31.3	SSW	11.6	0.6	0
04-Feb-20	26.3	16.5	75.5	51.3	ENE	11.8	0.5	0
05-Feb-20	28.3	18.7	86.5	40.3	ENE	11.2	1.1	0
06-Feb-20	27.3	17.3	63.4	31.4	NE	11.8	0.8	0
07-Feb-20	23.4	15.8	78.1	63.8	SE	12.3	3.7	3.4
08-Feb-20	27.5	16.8	88.1	58.3	NNE	10.5	1.0	1.1
09-Feb-20	27.9	14.3	85.7	31.4	WSW	11.5	1.1	0
10-Feb-20	29.6	14.9	62.3	22.5	NNE	9.1	0.8	0
11-Feb-20	29.9	15.5	68.4	23.1	NNE	9.3	0.6	0
12-Feb-20	31.5	16.2	58.4	21.6	WNW	6.8	0.6	0
13-Feb-20	32.2	18.3	61.3	23.4	SSW	8.2	0.6	0
14-Feb-20	31.9	20.8	69.8	24.9	NNE	14.3	0.7	0
15-Feb-20	32.3	20.1	50.4	26.4	SW	12.3	1.1	0
16-Feb-20	34.3	18.5	51.4	25.1	WNW	8.7	1.1	0
17-Feb-20	29.8	18.2	56.8	28.4	WSW	10.2	1.0	0
18-Feb-20	34.5	15.3	55.1	28.2	SW	12.1	1.4	0
19-Feb-20	32.2	18.2	56.9	23.5	SSW	5.7	0.8	0
20-Feb-20	34.6	19.3	65.9	21.5	SE	8.9	0.6	0
21-Feb-20	34.2	18.3	70.8	23.5	SSE	8.3	0.6	0
22-Feb-20	32.5	19.9	70.8	23.5	SSW	6.7	0.6	0
23-Feb-20	30.5	19.6	68.9	23.8	SSW	11.3	3.9	0
24-Feb-20	28.4	19.3	63.5	27.1	ESE	14.3	1.3	2.2
25-Feb-20	30.5	18.1	72.3	49.5	SSW	10.4	1.5	2.6
26-Feb-20	29.9	18.3	86.5	43.5	NW	10.8	1.1	2.0
27-Feb-20	30.6	19.2	89.9	27.8	SW	11.2	0.8	0
28-Feb-20	30.1	18.8	57.8	23.5	ENE	8.5	0.5	0
29-Feb-20	30.2	18.6	65.8	27.8	ENE	9.4	0.8	0

For Visiontek Consultancy Services Pvt.Ltd.



Ref: Envlab/19/R-7909

Date: 05.02.20

NOISE MONITORING REPORT – NOVEMBER 2019

- Name of Industry : M/s Hindalco Industries Ltd., (Unit-Aditya Aluminium); Lapanga
- Sample Collected By : VCSPL Representative in presence of Aditya Birla's Representative

Day Time Noise Monitoring Results (Noise Level in dB (A) November 2019

TIME (6.00AM to 10.00PM)	N-1: Gunkarma (04.11.2019)	N-2: Ghichamura (04.11.2019)	N-3: Bomaloi (11.11.2019)	N-4: Tileimal (11.11.2019)	N-5: Thekolli (18.11.2019)	N-6: Lapanga (18.11.2019)	N-7: Lapanga Railway Station (25.11.2019)	N-8: Jangala (25.11.2019)
6:00 AM	54.4	51.8	44.4	42.5	50.1	42.5	40.5	41.5
7:00 AM	55.6	52.4	45.1	43.4	52.5	43.4	42.6	43.4
8:00 AM	56.2	54.2	47.6	45.9	53.8	45.7	44.5	44.9
9:00 AM	57.2	46.1	49.8	48.2	51.2	48.8	47.4	46.8
10:00 AM	58.8	47.6	49.4	47.4	54.4	49.9	48.1	48.2
11:00 AM	60.2	46.8	48.2	43.5	54.6	47.6	50.1	50.1
12:00 Noon	61.4	53.2	43.3	42.6	51.7	53.4	53.2	53.0
1:00 PM	64.2	52.4	47.5	43.8	50.4	54.5	52.6	51.4
2:00 PM	66.2	53.6	51.8	44.2	51.2	42.6	43.8	42.4
3:00 PM	68.1	44.8	45.4	45.4	53.0	44.4	46.7	44.5
4:00 PM	68.4	46.2	48.6	47.6	54.1	45.5	48.6	46.6
5:00 PM	50.2	48.1	49.1	48.9	46.5	49.1	48.6	48.8
6:00 PM	49.2	47.5	47.2	49.1	47.0	50.2	49.4	49.9
7:00 PM	46.6	46.0	45.5	50.2	46.6	47.3	47.9	45.1
8:00 PM	45.8	53.4	43.6	45.1	45.4	45.5	45.5	54.2
9:00 PM	43.2	53.1	42.4	44.3	53.8	44.1	44.2	43.3
Avg.	53.6	49.8	46.8	45.8	51.0	47.2	46.8	47.1

55

Night time Noise Monitoring Results (Noise Level in dB (A) November 2019

TIME (10.00PM to 6.00AM)	N-1: Gunkarma (04.11.2019)	N-2: Ghichamura (04.11.2019)	N-3: Bomaloi (11.11.2019)	N-4: Tileimal (11.11.2019)	N-5: Thekolli (18.11.2019)	N-6: Lapanga (18.11.2019)	N-7: Lapanga Railway Station (25.11.2019)	N-8: Jangala (25.11.2019)
10:00 PM	39.9	44.4	43.5	43.4	45.6	40.4	41.9	43.6
11:00 PM	32.8	42.8	42.4	42.6	44.4	41.5	39.8	42.5
12:00 PM	36.4	40.9	39.9	43.9	42.8	42.9	42.5	46.8
1:00 AM	44.1	41.6	38.6	44.5	41.9	43.2	44.2	44.4
2:00 AM	49.4	39.7	42.5	45.8	42.4	45.3	46.4	45.2
3:00 AM	42.2	43.6	42.4	40.5	40.5	44.5	48.3	41.1
4:00 AM	48.8	44.2	43.4	38.5	40.6	40.7	49.5	38.4
5:00 AM	50.2	45.4	45.5	40.4	39.4	39.9	43.4	40.6
Avg.	43.0	42.8	42.3	43.1	43.8	42.3	44.5	42.8

45

Standard as per CPCB





Ref: Em/ab/19/R-7904

Date: 05.02.20

SOIL QUALITY ANALYSIS REPORT-NOVEMBER 2019

1. Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
 2. Date of Sampling : 25.11.2019
 3. Sampling Location : S-1: Project Site; S-2: Thekoloi; S-3: Ghichamura; S-4: Lapanga; S-5: Bamloi; S-6: Tileimal; S-7: Jangala; S-8: Gurupali; S-9: Gumkarama; S-10: Bhadarpali.
 4. Date of Analysis : 26.11.2019 TO 04.12.2019
 5. Sample Collected By : VCSPL representative in Presence of Aditya Aluminium representative

Sl.No.	Parameters	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10
1	pH	6.82	6.97	7.02	6.88	6.96	6.92	7.05	6.74	7.18	6.94
2	Conductivity	146.2	128.2	118.4	144.6	136.8	124.8	136.8	124.6	118.0	112.8
3	Soil Texture	Sandy Loamy	Clay Loamy	Clay Loamy	Sandy Loamy	Sandy Loamy	Clay Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Clay Loamy
4	Sand (%)	46.2	26.0	30.6	40.0	42.2	20.5	22.6	30.8	40.2	26.8
5	Silt (%)	14.6	20.8	20.2	21.6	18.8	16.2	18.4	21.2	20.8	22.6
6	Clay (%)	39.2	53.2	49.2	38.4	39	63.3	59	48	39	50.6
7	Bulk Density (gm/cc)	1.52	1.44	1.46	1.51	1.48	1.44	1.54	1.38	1.42	1.44
8	Exchangeable Calcium as Ca (%)	40.6	38.0	40.8	40.0	44.0	44.0	40.0	44.0	44.6	43.2
9	Exchangeable Magnesium as Mg (%)	52.8	52.6	54.2	52.4	51.8	56.0	55.2	56.4	61.8	58.0
10	Available Sodium as Na(%)	0.012	0.018	0.022	0.024	0.026	0.032	0.036	0.031	0.028	0.030
11	Available Potassium as K (%)	0.061	0.052	0.054	0.048	0.046	0.042	0.044	0.048	0.052	0.054
12	Available phosphorous as P (%)	0.026	0.032	0.028	0.022	0.024	0.018	0.012	0.018	0.024	0.028
13	Available Nitrogen as N (%)	0.24	0.28	0.24	0.26	0.32	0.34	0.32	0.28	0.24	0.21
14	Organic Matter (%)	3.6	3.8	3.2	3.4	3.6	4.4	4.2	4.4	3.2	4.1
15	Organic Carbon (%)	1.56	1.62	1.64	1.72	1.56	1.58	1.92	1.94	1.92	2.12
16	Water soluble Chlorides as Cl (%)	0.28	0.32	0.24	0.26	0.30	0.28	0.24	0.22	0.26	0.22
17	Water soluble Sulphates as SO ₄ (%)	0.22	0.21	0.24	0.24	0.26	0.18	0.18	0.14	0.16	0.18
18	Sodium Absorption Ratio (%)	0.184	0.177	0.156	0.161	0.152	0.164	0.166	0.156	0.158	0.166
19	Aluminium as Al (%)	0.00012	0.00014	0.00016	0.00012	0.00014	0.00016	0.00013	0.00011	0.00015	0.00014
20	Total Iron as Fe (%)	0.12	0.058	0.052	0.088	0.082	0.068	0.074	0.048	0.042	0.044
21	Manganese as Mn (%)	0.018	0.0022	0.0024	0.0038	0.0032	0.0034	0.0028	0.0030	0.0024	0.0036
22	Boron as B (%)	0.00018	0.00024	0.00032	0.00035	0.00041	0.00028	0.00036	0.00034	0.00042	0.00028
23	Zinc as Zn (%)	0.00038	0.00042	0.00032	0.00033	0.00026	0.00028	0.00032	0.00024	0.00034	0.00018
24	SiO ₂ (%)	6.6	6.6	6.8	6.2	6.8	7.4	6.6	7.1	7.6	6.8
25	Fe ₂ O ₃ (%)	0.056	0.048	0.046	0.038	0.034	0.028	0.032	0.034	0.038	0.034
26	CaO (%)	30.6	31.2	32.2	34.2	32.2	31.6	32.8	32.2	38.0	34.2



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ISO 9001 : 2008

ISO 14001 : 2015
OHSAS 18001 : 2007

Ref.: Em/lab/19/R-7904

Date: 05.02.20

27	MgO (%)	28.0	26.0	25.2	21.6	24.0	20.8	31.2	30.6	30.2	21.2
28	Al ₂ O ₃ (%)	0.058	0.00018	0.00044	0.00042	0.00044	0.00042	0.00056	0.00038	0.00048	0.00044
29	FeO (%)	0.056	0.0118	0.062	0.038	0.034	0.0190	0.0134	0.0196	0.0212	0.0214
30	MnO (%)	0.0066	0.0021	0.0024	0.0025	0.0046	0.0026	0.0018	0.0018	0.0016	0.0028
31	K ₂ O (%)	0.0611	0.0448	0.0436	0.0510	0.0514	0.0487	0.0434	0.0524	0.0487	0.0516
32	P ₂ O ₅ (%)	0.0098	0.0086	0.0084	0.0082	0.0086	0.0090	0.0092	0.0112	0.0088	0.0084
33	Fluoride as F (%)	0.00018	0.00028	0.0036	0.00041	0.00046	0.00044	0.00040	0.00036	0.00038	0.00032

ND: Not Detected.





Ref: Envlab/19/R-7903

Date: 05.02.20

SURFACE WATER QUALITY ANALYSIS REPORT-NOVEMBER 2019

M/sHindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga

SW-1: Hirakud Reservoir; SW-2: Lapanga Pond;

SW-3: Matwadinadi -U/S, SW-4: Bamloi Pond;

SW-5: Bhedan river

25.11.2019

26.11.2019 to 04.12.2019

VCSPL Representative in presence of Aditya Aluminium Representative

- Name of Industry
- Sampling location
- Date of sampling
- Date of analysis
- Sample collected by

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	7.38	7.36	7.44	7.46	7.48
2	Colour	APHA 2120 B, C	Hazen	300	CL	CL	CL	CL	CL
3	Taste	APHA 2160 C	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	--	4.2	4.4	4.2	4.6	3.8
6	Total Dissolved Solids	APHA 2540 C	mg/l	1500	124.0	132.0	140.0	124.0	132.0
7	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	--	56.0	52.0	50.0	48.0	48.0
8	Total Alkalinity	APHA 2320 B	mg/l	--	44.8	42.6	45.2	46.8	15.8
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	17.0	16.2	15.5	14.3	3.6
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	3.3	2.8	2.8	3.0	ND
11	Residual, free Chlorine	APHA 4500Cl ₂ B	mg/l	--	ND	ND	ND	ND	<0.01
12	Boron (as B)	APHA 4500B, B	mg/l	600	<0.01	<0.01	<0.01	<0.01	26.0
13	Chloride (as Cl ⁻)	APHA 4500Cl ⁻ B	mg/l	400	34.0	32.0	36.0	7.54	7.82
14	Sulphate (as SO ₄)	APHA 4500SO ₄ ²⁻ E	mg/l	1.5	7.1	7.4	7.6	0.26	0.22
15	Fluoride (as F ⁻)	APHA 4500F ⁻ C	mg/l	50	0.16	0.18	0.24	1.32	1.34
16	Nitrate (as NO ₃)	APHA 4500NO ₃ ⁻ E	mg/l	50	1.62	1.44	1.26	9.2	9.4
17	Sodium as Na	APHA3500-Na	mg/l	--	9.6	9.4	9.8	2.1	2.2
18	Potassium as K	APHA 3500-K	mg/l	--	1.8	2.4	2.2	<0.001	<0.001
19	Phenolic Compounds (as C ₆ H ₅ OH)	APHA 5530 B,D	mg/l	0.005	<0.001	<0.001	<0.001	ND	ND
20	Cyanide (as CN)	APHA 4500 CN ⁻ C,D	mg/l	0.05	ND	ND	ND	<0.2	<0.2
21	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	1.0	<0.2	<0.2	<0.2	<0.001	<0.001
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	<0.05	<0.05
24	Copper (as Cu)	APHA 3111 B,C	mg/l	1.5	<0.05	<0.05	<0.05	<0.05	<0.05



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Ref: Envlab/19/R-7903

Date: 05.02.20

25	Lead (as Pb)	APHA 3111 B,C	mg/l	0.1	<0.001	<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	<0.005
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.5	0.11	0.14	0.09	0.09	0.11	0.11
28	Chromium (as Cr ⁶⁺)	APHA 3500Cr B	mg/l	0.05	<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	<0.001
30	Zinc (as Zn)	APHA 3111 B,C	mg/l	15	<0.05	<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	<0.001
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	--	<0.001	<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	<0.001
34	Pesticides	APHA 6630 B,C	mg/l	--	Absent	Absent	Absent	Absent	Absent	Absent
35	E.Coli	APHA 9221-F	MPN/ 100 ml	--	Absent	Absent	Absent	Absent	Absent	Absent
36	Total Coliforms	APHA9221-B	MPN/ 100 ml	5000	440.0	540.0	440.0	440.0	280.0	280.0

Note: Cl:Colourless, AL:Agreeable,, ND: Not detected.





Ref: Env/11ab/19/R-7902

Date: 05-02-20

SURFACE WATER QUALITY ANALYSIS REPORT-NOVEMBER 2019

- 1. Name of Industry : M/sHindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
- 2. Sampling location : SW-6: Bhedan river near Katikela, SW-7: Matwadinadi-D/S; SW-8: Hirakud reservoir near Gurupali village; SW-9: Salepali village; SW-10: Sanamal.
- 3. Date of sampling : 25.11.2019
- 4. Date of analysis : 26.11.2019 TO 04.12.2019
- 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	7.48	7.12	7.28	7.42	7.26
2	Colour	APHA 2120 B, C	Hazen	300	CL	CL	CL	CL	CL
3	Taste	APHA 2160 C	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	--	2.8	2.6	3.9	3.2	2.8
6	Total Dissolved Solids	APHA 2540 C	mg/l	1500	138.0	146.0	142.0	138.0	146.0
7	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	--	56.0	60.0	62.0	54.0	62.0
8	Total Alkalinity	APHA 2320 B	mg/l	--	50.2	54.0	48.0	50.0	48.0
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	15.6	17.2	18.4	15.4	19.0
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	4.1	4.2	4.0	3.9	3.6
11	Residual, free Chlorine	APHA 4500Cl ₂ 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	28.0	30.0	26.0	24.0	28.0
14	Sulphate (as SO ₄)	APHA 4500SO ₄ ²⁻ E	mg/l	400	7.1	7.4	6.8	6.6	7.1
15	Fluoride (as F)	APHA 4500F ⁻ C	mg/l	1.5	0.28	0.31	0.26	0.24	0.22
16	Nitrate (as NO ₃)	APHA 4500 NO ₃ ⁻ E	mg/l	50	3.2	3.6	3.2	2.8	3.0
17	Sodium as Na	APHA 3500-K	mg/l	--	9.1	9.6	10.2	10.6	9.8
18	Potassium as K	APHA 3500-Na	mg/l	--	3.6	3.4	4.2	4.6	4.2
19	Phenolic Compounds (as C ₆ H ₅ OH)	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	0.10	0.12	0.11	0.12	0.12



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ISO 9001 : 2008

ISO 14001 : 2015

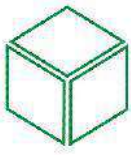
OHSAS 18001 : 2007

Ref: Envlab/19/R-7902

Date: 05.02.20

28	Chromium (as Cr ⁺⁶)	APHA 3500Cr-B	mg/l	0.05	<0.05	<0.05	<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	<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	<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	<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	<0.001	<0.001	<0.001
33	Mineral Oil	APHA 5220 B	mg/l	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
34	Pesticides	APHA 6630 B,C	mg/l	--	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
35	E.Coli	APHA 9221-F	MPN/ 100 ml	--	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
36	Total Coliforms	APHA9221-B	MPN/ 100 ml	5000	440.0	520.0	420.0	420.0	420.0	420.0	540.0	540.0





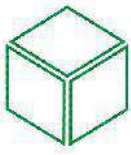
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-1 (Gumkarama)**
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 (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _X (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	47.8	34.2	17.3	25.8	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	48.2	33.9	16.8	26.1	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	44.3	31.7	17.6	23.2	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	43.5	30.6	17.2	24.6	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	45.2	32.2	18	25.2	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	44.7	30.8	17.4	29.9	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	47.8	32.8	17.9	25.6	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	54.3	36.6	18.6	27.4	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	50.6	37.4	18.8	23.8	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	51.9	26.9	19.2	24.6	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	58.3	41.4	20.1	27.1	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	52.9	38.5	18.4	25.2	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	59.6	40.8	20.1	27.4	<4.0	0.23	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	55.4	36.9	19.6	26.5	<4.0	0.2	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	53.2	35.8	18.4	26.2	<4.0	0.2	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	58.1	39.2	20.2	26	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	61.8	41.4	21.1	27.2	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	57.5	38.7	19.6	25.5	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	54.2	35.2	17.8	23.8	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	51.8	36.6	16.2	23.4	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	55.6	39.3	18.4	21.7	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	52.9	37.6	17.6	24.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	48.4	35.4	17.2	23.6	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	45.8	31.8	16.7	24.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	48.3	32.6	18.2	25.5	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	50.2	34.12	18.6	26.2	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	51.63	35.48	18.35	25.38	<4.0	0.20	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



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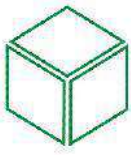
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
2. Sampling Location : Monitoring Station No.- AAQMS-2 (Ghichamura)
3. Monitoring Instruments : RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by : VCSPL representative in presence of Aditya Aluminium representative

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _X (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	48.8	29.8	9.6	13.4	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	48.2	28.2	9.2	13.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	46.2	27.7	8.6	13.4	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	46.4	27.8	9.1	12.8	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	42.8	25.6	8.4	12.6	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	41.6	24.8	8.9	12.4	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	40.8	24.4	8.6	13.1	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	45.2	27	10.8	14.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	49.7	26.8	12.2	14.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	54.2	26.5	13.1	16.6	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	53.8	26.8	12.6	15.1	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	49.6	26.1	10.9	14.1	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	52.8	25.6	12.2	15.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	51.2	24.7	12.4	14.4	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	50.6	24.3	11.6	13.8	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	53.8	24.8	11.8	15.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	54.2	26.5	12.2	16.8	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	52.8	25.8	10.6	15.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	47.6	25.6	11.8	15.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	43.2	25.2	10.6	15.6	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	43.8	26.2	9.8	16.1	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	41.2	24.7	9.6	16.2	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	42.2	25.3	11.2	16.8	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	44.6	24.6	12.4	14.2	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	42.8	24.4	12.8	14.6	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	41.8	25.1	11.9	13.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	47.30	25.93	10.88	14.52	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



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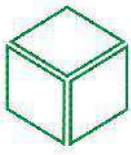
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-3 (Tileimal)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VCSPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	45.8	20.8	9.1	18.8	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	46.8	21.5	10.2	18.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	44.2	20.9	9.6	16.6	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	44.6	23.1	9.8	17.8	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	51.2	24.5	11.6	17.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	50.8	27.4	11.2	18.1	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	53.2	26.1	12.2	18.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	48.6	26.7	11.4	17.2	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	55.2	29.2	13.3	18.6	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	53.6	26.6	12.5	17.8	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	61.2	31.2	14.1	19.5	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	63.4	32.4	14.6	20.4	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	58.8	30.8	13.4	19.7	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	59.6	31.6	14.1	18.9	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	53.2	28.5	12.2	17.8	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	58.8	26.8	13.1	17.6	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	54.6	26.6	12.4	16.9	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	56.8	25.48	14.2	16.6	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	52.6	23.36	13.6	15.2	<4.0	0.17	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	47.2	27.12	11.4	16.6	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	44.8	26.88	10.9	14.4	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	48.6	26.16	10.2	17.1	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	43.2	25.92	8.6	16.1	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	41.6	24.96	9.4	15.8	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	41.2	24.72	9.8	15.6	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	42.8	25.68	8.9	16.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	50.86	26.35	11.61	17.42	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



For Visiontek Consultancy Services Pvt.Ltd



Ref : Envlab/19/R- 9812

Date: 10.01.2020

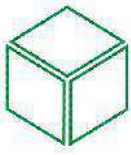
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-4 (Bomaloi)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VCSPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	46.6	32.1	15.4	22.2	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	48.2	32.2	16.6	23.4	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	45.8	32.8	15.7	22.6	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	47.2	33.1	15.1	22.8	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	51.2	31.2	17.2	24.2	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	49.2	30.7	17.6	23.6	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	50.6	30.3	16.4	23.9	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	54.8	31.8	18.2	25.7	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	52.1	29.6	15.9	24.8	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	57.4	30.8	18.6	26.2	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	60.4	32.2	20.2	27.1	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	63.8	37.4	21.2	27.5	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	66.2	32.2	22.1	28.3	<4.0	0.23	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	61.2	38.1	22.4	26.6	<4.0	0.23	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	68.8	42.6	22.2	27.9	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	63.9	41.7	21.4	26.8	<4.0	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	58.6	38.4	20.4	24.2	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	61.4	41.4	19.2	26.4	<4.0	0.36	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	54.8	36.8	18.4	23.6	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	51.4	33.2	17.2	22.8	<4.0	0.33	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	52.8	31.9	18.3	24.4	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	48.6	31.5	16.1	22.2	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	51.4	30.4	15.8	23.8	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	54.8	31.8	16.1	23.2	<4.0	0.33	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	51.9	28.3	15.2	21.4	<4.0	0.36	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	53.6	31.56	17.2	22.6	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	54.87	33.62	18.08	24.55	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



For Visiontek Consultancy Services Pvt. Ltd



Ref : Envlab/19/R- 9813

Date: 10.01.2020

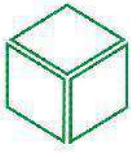
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-5 (Karpulus)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VC SPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C ₆ H ₆ ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu\text{g}/\text{m}^3$)	As (ng/m^3)	F ($\mu\text{g}/\text{m}^3$)
02.10.2019	41.8	23.2	10.2	15.8	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	40.6	23.7	10.4	16.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	39.2	23.5	10.8	16.6	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	42.4	23.6	11.2	17.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	46.2	28.6	11.6	16.8	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	44.4	26.4	12.1	17.4	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	49.8	25.8	12.6	17.6	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	52.2	27.3	13.4	18.2	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	47.6	25.5	11.8	17.1	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	54.8	31.6	12.2	17.8	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	52.5	30.2	11.6	15.2	<4.0	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	55.2	33.5	12.8	16.4	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	57.2	40.1	13.2	16.8	<4.0	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	45.8	38.8	11.4	14.6	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	51.2	39.5	12.9	14.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	55.1	41.2	14.4	13.8	<4.0	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	59.2	41.1	14.6	13.2	<4.0	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	53.8	40.8	12.8	14.8	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	54.6	24.7	13.2	14.6	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	49.8	23.6	12.1	13.8	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	52.1	20.4	12.8	14.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	54.6	20.7	13.6	14.1	<4.0	0.13	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	47.2	19.4	11.2	14.4	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	45.2	24.1	11.4	13.8	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	42.8	24.4	12.8	13.2	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	43.6	25.6	11.6	13.6	<4.0	<0.10	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	49.19	28.74	12.26	15.44	<4.0	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



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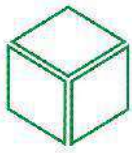
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-6 (Phulchanghal)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VCSPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	49.2	27.72	19.8	25.6	<4.0	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	48.1	27.66	20.6	26.2	<4.0	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	42.2	30.12	18.1	25.4	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	47.2	28.52	19.4	25.6	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	46.3	25.98	17.2	24.8	<4.0	0.25	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	43.6	26.16	18.8	23.4	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	44.8	26.88	19.2	23.8	<4.0	0.25	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	49.2	30.12	21.6	25.2	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	45.6	27.36	18.8	24.8	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	48.8	29.28	20.2	25.4	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	56.6	36.36	22.1	26.2	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	54.2	37.72	21.6	25.6	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	65.8	41.08	23.9	25.5	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	61.2	40.12	23.4	27.8	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	62.6	43.56	22.9	28.2	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	57.8	38.68	21.2	26.4	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	58.6	35.36	21.4	26.8	<4.0	0.34	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	53.2	36.72	20.6	25.1	<4.0	0.34	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	58.8	33.28	22.1	26.6	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	51.2	30.52	21.1	25.2	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	50.4	29.64	20.5	23.8	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	49.2	29.52	17.8	23.6	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	52.8	29.28	18.9	24.6	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	47.6	28.56	17.2	23.2	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	47.2	28.32	18.4	23.8	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	54.6	30	18.9	25.2	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	51.80	31.87	20.22	25.30	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



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Ref : Envlab/19/R- 9815

Date: 10.01.2020

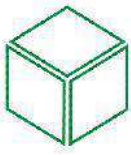
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-7 (Khadiapalli)**
3. Monitoring Instruments : **RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler**
4. Sample collected by : **VC SPL representative in presence of Aditya Aluminium representative**

Date	Parameters												
	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	44.80	20.80	13.80	18.60	<4	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	45.60	23.30	15.10	18.20	<4	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	45.20	24.10	15.60	19.40	<4	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	44.20	21.50	14.20	19.80	<4	0.11	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	44.80	21.80	15.40	17.20	<4	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	45.10	23.00	16.10	17.60	<4	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	44.20	26.50	14.20	17.10	<4	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	48.80	26.20	16.90	19.80	<4	0.19	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	46.50	24.50	16.60	19.20	<4	0.20	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	48.80	29.40	17.20	20.60	<4	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	44.60	24.90	15.40	17.90	<4	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	47.20	28.70	18.30	21.20	<4	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	54.20	30.50	19.20	23.60	<4	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	58.60	34.70	18.60	25.10	<4	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	62.80	39.60	19.10	24.60	<4	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	58.20	37.90	17.70	24.80	<4	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	53.10	36.80	15.80	23.20	<4	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	60.60	41.30	17.90	24.50	<4	0.21	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	54.80	40.40	16.50	21.20	<4	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	47.20	32.70	15.80	19.20	<4	0.16	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	41.80	28.80	13.60	17.80	<4	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	42.60	25.50	13.80	17.20	<4	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	42.80	25.60	14.30	18.40	<4	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	44.60	23.70	13.40	19.10	<4	0.15	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	45.20	27.10	15.70	20.70	<4	0.12	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	45.80	24.40	16.40	20.20	<4	0.14	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	48.54	28.60	16.02	20.24	<4	0.18	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



For Visiontek Consultancy Services Pvt. Ltd



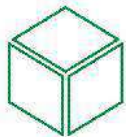
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga**
2. Sampling Location : **Monitoring Station No.- AAQMS-8 (Thelkoloi)**
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 (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	O ₃ (µg/m ³)	CO (mg/m ³)	NH ₃ (µg/m ³)	C ₆ H ₆ (µg/m ³)	BaP (ng/m ³)	Ni (ng/m ³)	Pb (µg/m ³)	As (ng/m ³)	F (µg/m ³)
02.10.2019	47.80	26.70	23.60	28.30	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.10.2019	45.60	26.40	21.80	27.70	<4.0	0.26	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
09.10.2019	49.20	27.60	22.40	30.60	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.10.2019	53.40	29.30	24.90	31.20	<4.0	0.30	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
16.10.2019	52.40	26.80	22.20	29.60	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.10.2019	53.80	30.90	23.80	33.90	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.10.2019	56.20	34.20	25.20	32.80	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.10.2019	63.40	36.40	28.60	34.20	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.10.2019	58.20	35.20	26.80	32.70	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
01.11.2019	57.20	34.80	22.50	31.90	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
05.11.2019	59.60	36.50	25.70	33.80	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
08.11.2019	63.20	37.20	27.40	35.40	<4.0	0.34	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.11.2019	66.00	40.80	36.10	37.60	<4.0	0.35	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.11.2019	62.80	39.40	26.80	34.80	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.11.2019	64.60	42.70	25.70	33.60	<4.0	0.32	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.11.2019	60.20	41.50	24.90	31.20	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.11.2019	63.80	38.80	26.20	32.80	<4.0	0.31	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.11.2019	62.60	37.50	25.80	33.10	<4.0	0.30	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
03.12.2019	61.10	38.30	23.40	29.90	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
06.12.2019	59.40	37.04	22.60	30.80	<4.0	0.24	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
10.12.2019	62.20	37.32	25.40	33.60	<4.0	0.29	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
13.12.2019	57.20	33.20	22.80	31.10	<4.0	0.25	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
17.12.2019	54.80	31.40	20.40	28.80	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
20.12.2019	60.20	33.10	24.20	32.20	<4.0	0.27	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
24.12.2019	56.40	31.40	22.60	29.10	<4.0	0.25	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
27.12.2019	53.60	28.20	21.20	26.20	<4.0	0.22	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
Average	57.88	34.33	24.73	31.80	<4.0	0.28	<20	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01



For Visiontek Consultancy Services Pvt. Ltd



Ref: Envlab/19/R-7901

Date: 05.02.2020

FORAGE FLOURIDE ANALYSIS REPORT-NOVEMBER-2019

1	Name of Industry	:	M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga
2	Date of Sampling	:	18.11.2019 & 19.11.2019
3	Name of the Sample	:	Vegetation Sample
4	Sampling Location	:	Thekoli, Lapanga, Gurupali, Jangala, Bhadarpali, Bamloi, Tilamal, Gumkarama, Ghichamura, Plant Site
5	Sample Collected By	:	VCSPL Representative in presence of Clients representative
6	Date of Analysis	:	20.11.2019 TO 27.11.2019

SL · No.	Date of Sampling	Name of the Location	Type of Species	Method of Analysis	Result (PPM)
					Fluoride
1	18.11.2019	Thekoli	Grass (Cynodon dactylon)	AOAC 975.04	1.66
2	18.11.2019	Lapanga	Neam Leaf (Azadirachta indica)	AOAC 975.04	1.58
3	18.11.2019	Gurupali	Onion leaf (Allium Sepa)	AOAC 975.04	0.84
4	18.11.2019	Jangala	Grass (Cynodon dactylon)	AOAC 975.04	1.32
5	18.11.2019	Bhadarpali	Karanja Tree Leaf (Millettia pinnata)	AOAC 975.04	1.24
6	19.11.2019	Bamloi	Charoli Leaf (Buchanania lanzan)	AOAC 975.04	1.68
7	19.11.2019	Tilamal	Lemon Leaf (Citrus limon)	AOAC 975.04	1.10
8	19.11.2019	Gumkarama	Brinjal Leaf (Solanum Melongena)	AOAC 975.04	1.42
9	19.11.2019	Ghichamura	Drumsticks(MoringaOleifera)	AOAC 975.04	1.16
10	19.11.2019	Plant Site	Grass (Cynodon dactylon)	AOAC 975.04	2.12


Prepared by




Verified by





No : Envlab/20/R-232

Date : 06.03.2020

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	Name of the Sample	:	Vegetation Sample
5	Sampling Location	:	Thelkoli, Lapanga, Gurupali, Jangala, Bhadarpali, Bamloi, Tilamal,Gumkarama, Ghichamura, Plant Site
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	20.02.2020	Thelkoli	Grass (Cynodondaetylon)	AOAC 975.04	1.31
2	20.02.2020	Lapanga	Karanja Tree Leaf (Millettia pinnata)	AOAC 975.04	1.42
3	20.02.2020	Gurupali	Curry Tree (Murraya Koenigii)	AOAC 975.04	1.05
4	20.02.2020	Jangala	Brinjal(Solanum Melongena)	AOAC 975.04	1.24
5	20.02.2020	Bhadarpali	Cucumber(Cucumis Sativus)	AOAC 975.04	1.32
6	20.02.2020	Bamloi	Tomato Leaf (Solanum lycopersicum)	AOAC 975.04	1.34
7	20.02.2020	Tilaimal	Bottle Gourd(Lagenaria Siceraria)	AOAC 975.04	0.92
8	20.02.2020	Gumkarama	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 (Cynodondaetylon)	AOAC 975.04	1.80



For Visiontek Consultancy Services Pvt.Ltd.



Ref: Envlab/19/R-7906

Date: 05-02-20

GROUND WATER QUALITY ANALYSIS REPORT-NOVEMBER 2019

- 1. Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga.
- 2. Sampling Location : GW-1: Lapanga Village; GW-2: Pandoloi Village; GW-3: Bamloi Village; GW-4: Tilaimal Village; GW-5: Thekoloi Village; GW-6: Ghichamura Village; GW-7: Gumkarama Village; GW-8: Chaltikra Village
- 3. Date of Sampling : 25.11.2019
- 4. Date of Analysis : 26.11.2019 TO 03.12.2019
- 5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative

Sl. No.	Parameter	Testing Methods	Unit	Standard as per IS-10500:2012	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6	GW-7	GW-8
1	pH Value	APHA 4500H ⁺ B	--	6.5-8.5	7.26	7.44	7.58	6.98	7.08	7.34	7.46	7.18
2	Colour	APHA 2120 B, C	Hazen	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
3	Taste	APHA 2160 C	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6	Total Dissolved Solids	APHA 2540 C	mg/l	500	248.0	192.0	210.0	206.0	218.0	196.0	220.0	208.0
7	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	200	74.0	66.0	62.0	62.0	70.0	62.0	68.0	64
8	Total Alkalinity	APHA 2320 B	mg/l	200	60.0	62.0	58.0	48.0	52.0	50.0	52.0	50.8
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	75	19.4	17.4	15.9	16.8	19.2	16.7	19.2	18.4
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	30	6.2	5.5	5.4	4.9	5.4	4.8	4.9	4.5
11	Residual, free Chlorine	APHA 4500Cl ₂ B	mg/l	0.2	ND	ND	ND	ND	ND	ND	ND	ND
12	Boron (as B)	APHA 4500B, B	mg/l	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
13	Chloride (as Cl)	APHA 4500Cl ⁻ B	mg/l	250	30.2	32.0	24.2	32.0	30.0	26.0	24.0	22.0
14	Sulphate (as SO ₄)	APHA 4500 SO ₄ ²⁻ E	mg/l	200	6.8	6.2	5.6	6.6	6.6	5.6	5.44	5.32
15	Fluoride (as F)	APHA 4500F ⁻ C	mg/l	1.0	0.31	0.34	0.38	0.44	0.42	0.34	0.32	0.34
16	Nitrate (as NO ₃)	APHA 4500 NO ₃ ⁻ E	mg/l	45	2.6	2.8	2.4	3.1	3.2	2.6	2.4	2.2
17	Sodium as Na	APHA 3500-Na	mg/l	--	14.8	13.6	12.8	10.6	10.8	11.4	12.4	13.2
18	Potassium as K	APHA 3500-K	mg/l	--	3.1	3.6	4.2	4.4	4.2	4.6	4.4	4.8
19	Phenolic Compounds (as C ₆ H ₅ OH)	APHA 5530 B, D	mg/l	0.001	<0.001	<0.001	<0.001	<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	ND	ND	ND
21	Anionic Detergents (as MBAS)	APHA 5540 C	mg/l	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
22	Cadmium (as Cd)	APHA 3111 B, C	mg/l	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
23	Arsenic (as As)	APHA 3114 B	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
24	Copper (as Cu)	APHA 3111 B, C	mg/l	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
25	Lead (as Pb)	APHA 3111 B, C	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	APHA 3500Mn B	mg/l	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.3	0.24	0.19	0.22	0.21	0.24	0.20	0.23	0.22



Ref: Envtab/19/R-7900

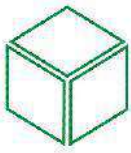
Date: 05.02.20

METEOROLOGICAL DATA FOR OCTOBER 2019

- Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga .
- Sampling Location : Near Raw Water Reservoir
- Sample collected by : VCSPL representative in presence of Aditya Aluminium representative.

Date	Temperature(°C)		Relative Humidity (%)		Wind Speed m/sec		Wind Direction	Rain fall (mm)
	Max	Min	Max	Min	Max	Min		
1-Oct-19	27.8	18.6	72.1	30.8	8.9	2.5	WSW	0.3
2-Oct-19	27.3	19.6	68.8	29.8	5.9	1.6	SW	0.0
3-Oct-19	27.6	21.4	72.0	26.7	4.3	1.2	WSW	0.0
4-Oct-19	27.9	22.8	70.9	24.5	4.0	1.1	WSW	0.0
5-Oct-19	28.0	24.6	69.5	22.6	3.2	0.9	WSW	0.0
6-Oct-19	27.9	22.8	68.2	24.7	2.8	0.8	ESE	0.6
7-Oct-19	27.3	22.6	66.9	28.4	2.9	0.8	E	0.3
8-Oct-19	27.4	21.4	68.1	25.3	5.7	1.6	E	0.7
9-Oct-19	27.4	20.8	68.5	27.7	2.3	0.6	ENE	0.2
10-Oct-19	27.4	21.6	65.8	23.8	4.2	1.2	ESE	0.0
11-Oct-19	27.3	20.82	67.7	25.9	3.8	1.1	ESE	0.9
12-Oct-19	27.1	22.4	69.9	22.8	6.1	1.7	ENE	0.9
13-Oct-19	27.1	25.1	67.7	26.4	5.4	1.5	ENE	0.0
14-Oct-19	27.5	18.4	63.2	27.3	4.8	1.3	ESE	0.0
15-Oct-19	27.1	19.6	62.4	26.5	2.2	0.6	ENE	0.0
16-Oct-19	27.0	21.6	67.8	25.8	3.6	1.0	ENE	0.0
17-Oct-19	27.2	20.8	69.4	30.5	3.1	0.8	ENE	0.0
18-Oct-19	26.9	20.2	67.1	26.7	3.0	0.8	ENE	0.4
19-Oct-19	27.6	21.1	64.7	27.5	3.9	1.1	SSW	0.0
20-Oct-19	27.1	19.8	65.7	28.6	3.2	0.9	SSE	0.0
21-Oct-19	27.0	18.9	68.1	30.3	5.1	1.4	SW	0.3
22-Oct-19	27.2	20.4	63.4	48.6	2.3	0.6	SE	0.0
23-Oct-19	26.4	21.2	71.2	43.5	6.2	1.7	ENE	0.5
24-Oct-19	24.7	20.8	71.8	34.1	15.8	4.4	ESE	1.8
25-Oct-19	24.7	20.2	71.3	37.1	15.2	4.2	ESE	0.2
26-Oct-19	26.1	21.2	71.4	34.1	5.5	1.5	ENE	0.0
27-Oct-19	28.3	21.4	66.2	36.1	3.4	0.9	ESE	0.4
28-Oct-19	27.0	20.6	65.7	55.2	4.9	1.4	ENE	0.0
29-Oct-19	27.6	19.8	64.1	48.2	3.9	1.1	ENE	0.0
30-Oct-19	27.8	20.6	64.6	41.1	2.4	0.7	SSE	0.0
31-Oct-19	27.5	21.4	58.5	40.8	2.7	0.8	SW	0.0





Ref.: Envlab/20/R-231

Date: 06.03.2020

METEOROLOGICAL DATA FOR FEBRUARY-2020

1. Name of the Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga
2. Sampling Location : Near Raw Water Reservoir
3. Sample Collected By : VCSPL representative in presence of Aditya Aluminium representative.

Date	Temperature(°C)		Relative Humidity (%)		Wind Direction	Wind Speed (km/h)		Rain Fall (mm)
	Max	Min	Min	Max		Min	Max	
01-Feb-20	29.8	15.3	55.1	28.2	NNW	15.8	1.0	0
02-Feb-20	28.3	14.5	52.6	28.3	NNE	15.8	1.0	0
03-Feb-20	28.7	14.5	60.1	31.3	SSW	11.6	0.6	0
04-Feb-20	26.3	16.5	75.5	51.3	ENE	11.8	0.5	0
05-Feb-20	28.3	18.7	86.5	40.3	ENE	11.2	1.1	0
06-Feb-20	27.3	17.3	63.4	31.4	NE	11.8	0.8	0
07-Feb-20	23.4	15.8	78.1	63.8	SE	12.3	3.7	3.4
08-Feb-20	27.5	16.8	88.1	58.3	NNE	10.5	1.0	1.1
09-Feb-20	27.9	14.3	85.7	31.4	WSW	11.5	1.1	0
10-Feb-20	29.6	14.9	62.3	22.5	NNE	9.1	0.8	0
11-Feb-20	29.9	15.5	68.4	23.1	NNE	9.3	0.6	0
12-Feb-20	31.5	16.2	58.4	21.6	WNW	6.8	0.6	0
13-Feb-20	32.2	18.3	61.3	23.4	SSW	8.2	0.6	0
14-Feb-20	31.9	20.8	69.8	24.9	NNE	14.3	0.7	0
15-Feb-20	32.3	20.1	50.4	26.4	SW	12.3	1.1	0
16-Feb-20	34.3	18.5	51.4	25.1	WNW	8.7	1.1	0
17-Feb-20	29.8	18.2	56.8	28.4	WSW	10.2	1.0	0
18-Feb-20	34.5	15.3	55.1	28.2	SW	12.1	1.4	0
19-Feb-20	32.2	18.2	56.9	23.5	SSW	5.7	0.8	0
20-Feb-20	34.6	19.3	65.9	21.5	SE	8.9	0.6	0
21-Feb-20	34.2	18.3	70.8	23.5	SSE	8.3	0.6	0
22-Feb-20	32.5	19.9	70.8	23.5	SSW	6.7	0.6	0
23-Feb-20	30.5	19.6	68.9	23.8	SSW	11.3	3.9	0
24-Feb-20	28.4	19.3	63.5	27.1	ESE	14.3	1.3	2.2
25-Feb-20	30.5	18.1	72.3	49.5	SSW	10.4	1.5	2.6
26-Feb-20	29.9	18.3	86.5	43.5	NW	10.8	1.1	2.0
27-Feb-20	30.6	19.2	89.9	27.8	SW	11.2	0.8	0
28-Feb-20	30.1	18.8	57.8	23.5	ENE	8.5	0.5	0
29-Feb-20	30.2	18.6	65.8	27.8	ENE	9.4	0.8	0

For Visiontek Consultancy Services Pvt.Ltd.



Ref: Envlab/19/R-7909

Date: 05.02.20

NOISE MONITORING REPORT – NOVEMBER 2019

- Name of Industry : M/s Hindalco Industries Ltd., (Unit-Aditya Aluminium); Lapanga
- Sample Collected By : VCSPL Representative in presence of Aditya Birla's Representative

Day Time Noise Monitoring Results (Noise Level in dB (A) November 2019

TIME (6.00AM to 10.00PM)	N-1: Gunkarma (04.11.2019)	N-2: Ghichamura (04.11.2019)	N-3: Bomaloi (11.11.2019)	N-4: Tileimal (11.11.2019)	N-5: Thekoli (18.11.2019)	N-6: Lapanga (18.11.2019)	N-7: Lapanga Railway Station (25.11.2019)	N-8: Jangala (25.11.2019)
6:00 AM	54.4	51.8	44.4	42.5	50.1	42.5	40.5	41.5
7:00 AM	55.6	52.4	45.1	43.4	52.5	43.4	42.6	43.4
8:00 AM	56.2	54.2	47.6	45.9	53.8	45.7	44.5	44.9
9:00 AM	57.2	46.1	49.8	48.2	51.2	48.8	47.4	46.8
10:00 AM	58.8	47.6	49.4	47.4	54.4	49.9	48.1	48.2
11:00 AM	60.2	46.8	48.2	43.5	54.6	47.6	50.1	50.1
12:00 Noon	61.4	53.2	43.3	42.6	51.7	53.4	53.2	53.0
1:00 PM	64.2	52.4	47.5	43.8	50.4	54.5	52.6	51.4
2:00 PM	66.2	53.6	51.8	44.2	51.2	42.6	43.8	42.4
3:00 PM	68.1	44.8	45.4	45.4	53.0	44.4	46.7	44.5
4:00 PM	68.4	46.2	48.6	47.6	54.1	45.5	48.6	46.6
5:00 PM	50.2	48.1	49.1	48.9	46.5	49.1	48.6	48.8
6:00 PM	49.2	47.5	47.2	49.1	47.0	50.2	49.4	49.9
7:00 PM	46.6	46.0	45.5	50.2	46.6	47.3	47.9	45.1
8:00 PM	45.8	53.4	43.6	45.1	45.4	45.5	45.5	54.2
9:00 PM	43.2	53.1	42.4	44.3	53.8	44.1	44.2	43.3
Avg.	53.6	49.8	46.8	45.8	51.0	47.2	46.8	47.1

55

Night time Noise Monitoring Results (Noise Level in dB (A) November 2019

TIME (10.00PM to 6.00AM)	N-1: Gunkarma (04.11.2019)	N-2: Ghichamura (04.11.2019)	N-3: Bomaloi (11.11.2019)	N-4: Tileimal (11.11.2019)	N-5: Thekoli (18.11.2019)	N-6: Lapanga (18.11.2019)	N-7: Lapanga Railway Station (25.11.2019)	N-8: Jangala (25.11.2019)
10:00 PM	39.9	44.4	43.5	43.4	45.6	40.4	41.9	43.6
11:00 PM	32.8	42.8	42.4	42.6	44.4	41.5	39.8	42.5
12:00 PM	36.4	40.9	39.9	43.9	42.8	42.9	42.5	46.8
1:00 AM	44.1	41.6	38.6	44.5	41.9	43.2	44.2	44.4
2:00 AM	49.4	39.7	42.5	45.8	42.4	45.3	46.4	45.2
3:00 AM	42.2	43.6	42.4	45.6	40.5	44.5	48.3	41.1
4:00 AM	48.8	44.2	43.4	38.5	40.6	40.7	49.5	38.4
5:00 AM	50.2	45.4	45.5	40.4	39.4	39.9	43.4	40.6
Avg.	43.0	42.8	42.3	43.1	43.8	42.3	44.5	42.8

45

Standard as per CPCB





Ref: Em/ab/19/R-7904

Date: 05.02.20

SOIL QUALITY ANALYSIS REPORT-NOVEMBER 2019

1. Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
 2. Date of Sampling : 25.11.2019
 3. Sampling Location : S-1: Project Site; S-2: Thekoloi; S-3: Ghichamura; S-4: Lapanga; S-5: Bamloi; S-6: Tileimal; S-7: Jangala; S-8: Gurupali; S-9: Gumkarama; S-10: Bhadarpali.
 4. Date of Analysis : 26.11.2019 TO 04.12.2019
 5. Sample Collected By : VCSPL representative in Presence of Aditya Aluminium representative

Sl.No.	Parameters	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10
1	pH	6.82	6.97	7.02	6.88	6.96	6.92	7.05	6.74	7.18	6.94
2	Conductivity	146.2	128.2	118.4	144.6	136.8	124.8	136.8	124.6	118.0	112.8
3	Soil Texture	Sandy Loamy	Clay Loamy	Clay Loamy	Sandy Loamy	Sandy Loamy	Clay Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Clay Loamy
4	Sand (%)	46.2	26.0	30.6	40.0	42.2	20.5	22.6	30.8	40.2	26.8
5	Silt (%)	14.6	20.8	20.2	21.6	18.8	16.2	18.4	21.2	20.8	22.6
6	Clay (%)	39.2	53.2	49.2	38.4	39	63.3	59	48	39	50.6
7	Bulk Density (gm/cc)	1.52	1.44	1.46	1.51	1.48	1.44	1.54	1.38	1.42	1.44
8	Exchangeable Calcium as Ca (%)	40.6	38.0	40.8	40.0	44.0	44.0	40.0	44.0	44.6	43.2
9	Exchangeable Magnesium as Mg (%)	52.8	52.6	54.2	52.4	51.8	56.0	55.2	56.4	61.8	58.0
10	Available Sodium as Na(%)	0.012	0.018	0.022	0.024	0.026	0.032	0.036	0.031	0.028	0.030
11	Available Potassium as K (%)	0.061	0.052	0.054	0.048	0.046	0.042	0.044	0.048	0.052	0.054
12	Available phosphorous as P (%)	0.026	0.032	0.028	0.022	0.024	0.018	0.012	0.018	0.024	0.028
13	Available Nitrogen as N (%)	0.24	0.28	0.24	0.26	0.32	0.34	0.32	0.28	0.24	0.21
14	Organic Matter (%)	3.6	3.8	3.2	3.4	3.6	4.4	4.2	4.4	3.2	4.1
15	Organic Carbon (%)	1.56	1.62	1.64	1.72	1.56	1.58	1.92	1.94	1.92	2.12
16	Water soluble Chlorides as Cl (%)	0.28	0.32	0.24	0.26	0.30	0.28	0.24	0.22	0.26	0.22
17	Water soluble Sulphates as SO ₄ (%)	0.22	0.21	0.24	0.24	0.26	0.18	0.18	0.14	0.16	0.18
18	Sodium Absorption Ratio (%)	0.184	0.177	0.156	0.161	0.152	0.164	0.166	0.156	0.158	0.166
19	Aluminium as Al (%)	0.00012	0.00014	0.00016	0.00012	0.00014	0.00016	0.00013	0.00011	0.00015	0.00014
20	Total Iron as Fe (%)	0.12	0.058	0.052	0.088	0.082	0.068	0.074	0.048	0.042	0.044
21	Manganese as Mn (%)	0.018	0.0022	0.0024	0.0038	0.0032	0.0034	0.0028	0.0030	0.0024	0.0036
22	Boron as B (%)	0.00018	0.00024	0.00032	0.00035	0.00041	0.00028	0.00036	0.00034	0.00042	0.00028
23	Zinc as Zn (%)	0.00038	0.00042	0.00032	0.00033	0.00026	0.00028	0.00032	0.00024	0.00034	0.00018
24	SiO ₂ (%)	6.6	6.6	6.8	6.2	6.8	7.4	6.6	7.1	7.6	6.8
25	Fe ₂ O ₃ (%)	0.056	0.048	0.046	0.038	0.034	0.028	0.032	0.034	0.038	0.034
26	CaO (%)	30.6	31.2	32.2	34.2	32.2	31.6	32.8	32.2	38.0	34.2



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ISO 9001 : 2008

ISO 14001 : 2015

OHSAS 18001 : 2007

Ref.: Em/lab/19/R-7904

Date: 05.02.20

27	MgO (%)	28.0	26.0	25.2	21.6	24.0	20.8	31.2	30.6	30.2	21.2
28	Al ₂ O ₃ (%)	0.058	0.00018	0.00044	0.00042	0.00044	0.00042	0.00056	0.00038	0.00048	0.00044
29	FeO (%)	0.056	0.0118	0.062	0.038	0.034	0.0190	0.0134	0.0196	0.0212	0.0214
30	MnO (%)	0.0066	0.0021	0.0024	0.0025	0.0046	0.0026	0.0018	0.0018	0.0016	0.0028
31	K ₂ O (%)	0.0611	0.0448	0.0436	0.0510	0.0514	0.0487	0.0434	0.0524	0.0487	0.0516
32	P ₂ O ₅ (%)	0.0098	0.0086	0.0084	0.0082	0.0086	0.0090	0.0092	0.0112	0.0088	0.0084
33	Fluoride as F (%)	0.00018	0.00028	0.0036	0.00041	0.00046	0.00044	0.00040	0.00036	0.00038	0.00032

ND: Not Detected.





Ref: Envlab/19/R-7903

Date: 05.02.20

SURFACE WATER QUALITY ANALYSIS REPORT-NOVEMBER 2019

M/sHindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga

SW-1: Hirakud Reservoir; SW-2: Lapanga Pond;

SW-3: Matwadinadi -U/S, SW-4: Bamloi Pond;

SW-5: Bhedan river

25.11.2019

26.11.2019 to 04.12.2019

VC SPL Representative in presence of Aditya Aluminium Representative

- Name of Industry
- Sampling location
- Date of sampling
- Date of analysis
- Sample collected by

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	7.38	7.36	7.44	7.46	7.48
2	Colour	APHA 2120 B, C	Hazen	300	CL	CL	CL	CL	CL
3	Taste	APHA 2160 C	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	--	4.2	4.4	4.2	4.6	3.8
6	Total Dissolved Solids	APHA 2540 C	mg/l	1500	124.0	132.0	140.0	124.0	132.0
7	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	--	56.0	52.0	50.0	48.0	48.0
8	Total Alkalinity	APHA 2320 B	mg/l	--	44.8	42.6	45.2	46.8	48.0
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	17.0	16.2	15.5	14.3	15.8
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	3.3	2.8	2.8	3.0	3.6
11	Residual, free Chlorine	APHA 4500Cl ₂ B	mg/l	--	ND	ND	ND	ND	ND
12	Boron (as B)	APHA 4500B, B	mg/l	600	<0.01	<0.01	<0.01	<0.01	<0.01
13	Chloride (as Cl)	APHA 4500Cl B	mg/l	400	34.0	32.0	36.0	28.0	26.0
14	Sulphate (as SO ₄)	APHA 4500SO ₄ ²⁻ E	mg/l	400	7.1	7.4	7.6	7.54	7.82
15	Fluoride (as F)	APHA 4500F C	mg/l	1.5	0.16	0.18	0.24	0.26	0.22
16	Nitrate (as NO ₃)	APHA 4500NO ₃ E	mg/l	50	1.62	1.44	1.26	1.32	1.34
17	Sodium as Na	APHA3500-Na	mg/l	--	9.6	9.4	9.8	9.2	9.4
18	Potassium as K	APHA 3500-K	mg/l	--	1.8	2.4	2.2	2.1	2.2
19	Phenolic Compounds (as C ₆ H ₅ OH)	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



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ISO 9001 : 2008

ISO 14001 : 2015

OHSAS 18001 : 2007

Ref: Envlab/19/R-7903

Date: 05.02.20

25	Lead (as Pb)	APHA 3111 B,C	mg/l	0.1	<0.001	<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	<0.005
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.5	0.11	0.14	0.09	0.09	0.11	0.11
28	Chromium (as Cr ⁶⁺)	APHA 3500Cr B	mg/l	0.05	<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	<0.001
30	Zinc (as Zn)	APHA 3111 B,C	mg/l	15	<0.05	<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	<0.001
32	Mercury (as Hg)	APHA 3500 Hg	mg/l	-	<0.001	<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	<0.001
34	Pesticides	APHA 6630 B,C	mg/l	-	Absent	Absent	Absent	Absent	Absent	Absent
35	E.Coli	APHA 9221-F	MPN/ 100 ml	-	Absent	Absent	Absent	Absent	Absent	Absent
36	Total Coliforms	APHA9221-B	MPN/ 100 ml	5000	440.0	540.0	440.0	440.0	280.0	280.0

Note: Cl:Colourless, AL:Agreeable,, ND: Not detected.





Ref: Env/11ab/19/R-7902

Date: 05-02-20

SURFACE WATER QUALITY ANALYSIS REPORT-NOVEMBER 2019

- 1. Name of Industry : M/sHindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga
- 2. Sampling location : SW-6: Bhedan river near Katikela, SW-7: Matwadinadi-D/S; SW-8: Hirakud reservoir near Gurupali village; SW-9: Salepali village; SW-10: Sanamal.
- 3. Date of sampling : 25.11.2019
- 4. Date of analysis : 26.11.2019 TO 04.12.2019
- 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	7.48	7.12	7.28	7.42	7.26
2	Colour	APHA 2120 B, C	Hazen	300	CL	CL	CL	CL	CL
3	Taste	APHA 2160 C	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	APHA 2150 B	--	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	APHA 2130 B	NTU	--	2.8	2.6	3.9	3.2	2.8
6	Total Dissolved Solids	APHA 2540 C	mg/l	1500	138.0	146.0	142.0	138.0	146.0
7	Total Hardness (as CaCO ₃)	APHA 2340 C	mg/l	--	56.0	60.0	62.0	54.0	62.0
8	Total Alkalinity	APHA 2320 B	mg/l	--	50.2	54.0	48.0	50.0	48.0
9	Calcium (as Ca)	APHA 3500Ca B	mg/l	--	15.6	17.2	18.4	15.4	19.0
10	Magnesium (as Mg)	APHA 3500Mg B	mg/l	--	4.1	4.2	4.0	3.9	3.6
11	Residual, free Chlorine	APHA 4500Cl ₂ 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	28.0	30.0	26.0	24.0	28.0
14	Sulphate (as SO ₄)	APHA 4500SO ₄ ²⁻ E	mg/l	400	7.1	7.4	6.8	6.6	7.1
15	Fluoride (as F)	APHA 4500F ⁻ C	mg/l	1.5	0.28	0.31	0.26	0.24	0.22
16	Nitrate (as NO ₃)	APHA 4500 NO ₃ ⁻ E	mg/l	50	3.2	3.6	3.2	2.8	3.0
17	Sodium as Na	APHA 3500-K	mg/l	--	9.1	9.6	10.2	10.6	9.8
18	Potassium as K	APHA 3500-Na	mg/l	--	3.6	3.4	4.2	4.6	4.2
19	Phenolic Compounds (as C ₆ H ₅ OH)	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	0.1	<0.005	<0.005	<0.005	<0.005	<0.005
27	Iron (as Fe)	APHA 3500Fe, B	mg/l	0.5	0.10	0.12	0.11	0.12	0.12



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Date: 05.02.20

28	Chromium (as Cr ⁺⁶)	APHA 3500Cr-B	mg/l	0.05	<0.05	<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	<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	<0.05	<0.05
31	Aluminium as(Al)	APHA 3500Al B	mg/l	--	<0.001	<0.001	<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	<0.001	<0.001
33	Mineral Oil	APHA 5220 B	mg/l	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
34	Pesticides	APHA 6630 B,C	mg/l	--	Absent	Absent	Absent	Absent	Absent	Absent	Absent
35	E.Coli	APHA 9221-F	MPN/ 100 ml	--	Absent	Absent	Absent	Absent	Absent	Absent	Absent
36	Total Coliforms	APHA9221-B	MPN/ 100 ml	5000	440.0	520.0	420.0	420.0	420.0	540.0	

