

Letter Ref.: AA/E&S/EC/2018/410

Date: 27/11/2018

To,

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

Sub: Submission of Six Monthly Compliance from April - 2018 to September - 2018.

Ref: Environmental Clearance Letter No.J-11011/136/2009-IA.I(1), dated 29.11.2012 & J-11011/136/2009-IA.II(1), dated 14 June 2013.

Dear Sir,

As a part of the compliance to the Environmental Clearance accorded by MoEFCC to Aditya Aluminium for 0.72 MTPA Smelter and 1650 MW CPP at Lapanga in Sambalpur district, please find enclosed herewith the six monthly compliance reports of Aluminium Smelter and Captive Power Plant for the period April – 2018 to September – 2018.

Kindly acknowledge receipt of the reports.

Thanking you,

Yours Faithfully, For Aditya Aluminium

(Kailash Nath Pandey) President & Unit Head

Encl.: As Above

Copy for kind information to:

- The Member Secretary, SPCB, Bhubaneswar
- The Regional Director, Zonal Office of CPCB, Kolkata
- The Regional Officer, SPCB, Sambalpur

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 29<sup>th</sup> November 2012 & J-11011/136/2009-IA.II (1), Dated 14 June 2013 From MOEF, 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 in not being disturbed.		
ii)	Alumina shall be obtained from those refineries, which have been accorded environmental clearance by the Ministry of Environment and Forests.	have been accorded environmental clearance		
iii)	The gaseous emissions (PM, SO2, NOx, PAH, HC, VOCs and Fluoride) from various process units shall confirm to the standards prescribed by the concerned authorities from time to time. The SPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the Industry and its size and location. At no time the emissions level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.  The particulate emissions from the bake oven plant shall not exceed 50 mg/Nm³.	Online Monitoring equipments have been installed at the outlet of following stacks for monitoring of particulate matter and gaseous emissions. The online data has been connected to the Servers of OSPCB and CPCB.  a) Smelter GTC 1 & 2- 2 Nos. b) Smelter FTC 1 & 2 - 2 Nos. c) CPP Unit 1 to 6 - 6 Nos.  Particulate matter emission from the bake oven does not exceed the prescribed limit of 50 mg/Nm3. The summarized monitoring report w.r.t. particulate matter emission in bake oven stacks of stated below  Stack attached to PM (mg/Nm3) (Max) PM (mg/Nm3) (Avg) FTC 1 7.6 11.2 8.7		
		The stack monitoting report of Fume		
		treatment system is attached as annexure-1.		

iv)	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.	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 is stated below:  Stack Particulte Particulte Particulte			Treatment itoring of te Matter ssion from within the direport is
		attached to	Fluoride (mg/Nm3) (Min) 0.1	Fluoride (mg/Nm3) (Max) 0.18	Fluoride (mg/Nm3) (Avg) 0.13
			GTC 2 0.16 0.2 0.17  The average fugitive fluoride emission from pot rooms during april 18 to Sept 18 is 0.93 mg/Nm3.		
		The monitoring report of stack emission from Gas Treatment Centre stacks is attached as Annexure-2.			
v)	The poly aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) should not exceed 2 mg/Nm <sup>3</sup> . The data on PAH should be monitored quarterly and report submitted regularly to the Ministry/Regional Office at Bhubaneswar and SPCB.	the carbon plant (anode bake oven) are being monitored on quarterly basis and found within the standard. (Ref: Annexure 1).			are being
vi)	In plant, control measures like fume extraction and dust extraction system for controlling fugitive emissions from all the materials handling/transfer points shall be provided to control dust emissions.  Fugitive Fluoride emissions from the pot room and in the forage around the smelter complex and the data submitted regularly to the Ministry Regional Office at Bhubaneswar and SPCB.  Further dry scrubbing system to control the emissions from the pot lines should be provided.	furnace, Gas Treatment Plant (GTC) in potline and bag filters in raw material handling, GA Anode Baking, Roding areas, bath recycling carbon recycling area, butts recycling area cathode sealing shop etc in smelter area and coal handing, ash handling plant in captive power plant is installed to control fugitive due emissions.  HF analyzer installed for Fugitive fluoride monitoring in potrooms for monitoring of Hydrogen Fluoride, the monitoring results attached as Annexure-3. Forage analys around the smelter is being monitored of quarterly basis and the analysis report attached as Annexure-4.		in potlines dling, GAP, recycling, cling area, rarea and in captive gitive dust e fluoride itoring of ng results e analysis hitored on report is	

vii)	Electrostatic Precipitators (ESP) will be provided to Captive Power Plant (CPP) to control particulate emissions below 50 mg/Nm3.	Electrostatic Precipitators(ESP) of adequate efficiency is installed in Captive Power Plant (CPP) to restrict particulate emissions below 50 mg/Nm <sup>3</sup> .
	The company shall provide bag filters, dry scrubbing system and dust suppression system to control all the emissions including fluoride emissions from all melting and casting units. Tar, Dust and fluoride in the fumes shall be controlled in baking furnace by providing dry scrubber.  The emissions shall conform to the standards prescribed by the Ministry CPCB/SPCB whichever is more stringent.	Gas Treatment Centres (GTC) installed attached to each pots in potrooms, 180 nos of pots connected to each GTCs. Bag filters installed in all the material handling & transfer points in Smelter. Fume treatment centre (FTC) installed in Anode Baking Furnace 1 & 2 to treat the tar fumes, dust, gaseous and particulate fluorides in the fumes generated from Anode Baking Furnace.  The standards prescribed by the Ministry/ CPCB/ SPCB is being adhered.
viii)	Provision for installation of FGD shall be provided for future use.	Provisional Space has been kept for installation of FGDin future, if required.
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 <sub>2</sub> , NO <sub>x</sub> , and PM <sub>10</sub> .	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 construction activities.  Continuous emission monitoring system (CEMS) installed for monitoring of SO <sub>2</sub> , NOx, and PM in all the units of CPP.
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 <sup>th</sup> 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 and utilizing it for development of low lying areas with ash inside the Plant with prior approval of SPCB, Odisha. The lowlying 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 Ash utilization in 2014-15, 2015-16, 2016-17 was 100%. In the year 2017-18 we have achived 73.1% ash utilization. We have prepared the action plan to achive 100% ash utilization in coming years. The action plan is briefly stated below:

 Increase supply to Cement Plants like M/s Ultratech, Jharsuguda unit; M/s ACC, Bargarh Unit; M/s OCL, Rajgangpur Unit by 80 to 90%. Installation of brick manufacturing Unit. Presently, the unit is commissioned and running. Increased Supply to the local brick manufacturing Units (expecting to be doubled) We have constituted a Team for exploring more areas of Ash utilization like Road making, Abandoned mines/quarry filling, infrastructure projects etc. The Collector & DM, Sambalpur has been requested to provide us permission for filling abandoned mines and voids available in the region. Status of ash utilization from April 18 to Sept 18 is enclosed as Annexure-5. xii) Fly ash shall be collected in dry form and Fly ash & bottom ash are collected in dry form storage facility (silos) shall be provided. and 3x2500 MT Fly ash silo and 1x3000 MT Unutilized ash shall be disposed-off in the ash bottom ash silo have been installed. We are exploring maximum utilization of Ash and pond in the form of slurry. Mercury and other heavy metals (Ag, Hg, Cr, Pbetc) will be unutilized ash is being dischatged to the Ash monitored in the bottom ash and also in the pond through High Concentration Slurry effluent emanating from the existing ash pond. Dsipsoal (HCSD) system, which is the most No ash shall be disposed-off in low laying area. 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-6. The ash filling in the low lying area inside the plant premises is being in line with the guideline for Reclamation Low Lying Areas and Abandoned Quarries with Ash after receipt of permission from SPCB, Odisha. Reclamation of low lying area and abandoned quarries with ash generated from thermal power plants is an acceptable method of utilization under the fly ash utilization of MOEFCC, GOI. (Ref: SPCB Resolution vide letter no. 11047/IND-IV-PCP-FARC-120, dated: 21/08/2017.). Fluoride (as F) consumption shall be less than The specific fluoride (as F) consumption for xiii) 10 kg/ton of Aluminium produced as specified the period April 18 to Sept 18 is 9.28 kg/ton of

	by the CREP.	Aluminium produced.	
xiv)	Anode butts generated from the pots shall be	Anode butts generated from the pots is being	
,	cleaned and recycled to the Anode Plant.	cleaned and recycled completely for making	
		gren anode in green anode plant.	
	The spent pot lining generated from the	gren anode in green anode plant.	
	smelter shall be properly treated in spent pot	The spent pot lining generated from the	
	lining treatment plant to remove fluoride and	smelter is having two parts, Carbon and	
	cyanide and disposed-off in secured landfill.	Refractory. Carbon part is being supplied to	
	cyanide and disposed-on in secured landini.	M/s Green Energy Limited, Sambalpur for	
		reprocessing and utilization, in this way the	
		carbon part is completely recycled.	
		carbon part is completely recycled.	
		The Refractory part (12.79 MT) is supplied to	
		CHWTSDF of M/s Ramky Enviro in Jajpur	
		district of Odisha state for joint trial in	
		presence of CPCB & SPCB and Industries. The	
		trial has been completed and we understand	
		that Protocol has been issued to M/s Ramky	
		for safe disposal in secured landfill area. M/s	
		Ramky is likely to lift the refractory SPL soon	
		after fulfilling the terms & conditions specified	
		in the Protocol.	
	The location and design of the land fill site		
	shall be approved by the SPCB as per the	The location and design of the land fill site has	
	Hazardous Waste (Management, Handling and	been prepared as per the Hazardous Waste	
	Trans-boundary Movement) Rules, 2008.	(Management, Handling and Trans-boundary	
	Leachate collection facilities shall be provided	Movement) Rules, 2008 and approved from	
	to the secured land fill facilities (SLF).	SPCB.	
		The dross recycling is being started since	
	The dross shall be recycled in the cast house.	July'17 in the in-house dross recycling unit	
		after receipt of required clerances from CPCB	
	STP sludge shall be utilized as manure for	& SPCB.	
	greenbelt development.		
	All the used oil and betteries shall be said to	STP is commissioned and is in operation at	
	All the used oil and batteries shall be sold to	township & Plant area separately, the sludge is	
	the authorized recyclers/ re-processors.	being used for greenbelt development.	
		The used oil and batteries are being sold to	
		authorized recyclers/reprocessors.	
xv)	As proposed, spent pot lining waste shall also	The Carbon part of the SPL which is being	
	be provided to cement and steel industries for	supposed to be sent to Cement and Steel	
	further utilization.	Industries, we are supplying to M/s Green	
		Energy Resources for detoxification and	
		complete ecycling.	
xvi)	Ash pond shall be lined with HDP/LDPE lining	The ash disposal area has been studied by the	
]	or any other suitable impermeable media such	Experts of NIT-Rourkela. The ash pond and	
	that no leachate takes place at any point of	water decantation system is constructed in line	
	time. Adequate safety measures shall also be	with the design & drawings provided by NIT.	
	implemented to protect the ash dyke from	The ash pond is provided with HDPE liner and	
	getting breached. Ash pond water shall be	adequate safety measures has been taken to	
I	Out to attend the period tracer shall be	programme and the second tander to	

	recirculated and reused.	avoid any kind of dyke breach. The ash disposal through HCSD system to the ash pond started from January 2017. The decanted water from the ash pond recycled back to ther plant for reuse in ash disposal.
xvii)	Cycle of concentration (CoC) of 5.0 shall be adopted.	Water Balance of CPP is being optimized and presently we are maintaing the CoC > 5.
xviii)	Regular monitoring of ground water shall be carried out by establishing a network of existing wells and constructing new piezometers.  Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg,	Regular monitoring of ground water is being carriedout through establishing a network of existing wells and constructing a new piezometer well around the ash pond area. The ground water analysis report is enclosed as Annexure-7.
	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.	Monitoring of heavy metals (Hg, Cr, As, Pb) around the Ash pond area is being carried and record maintained. The analysis report of the ground water quality around the ash pond area is mentioned in annexure-8.
xix)	Regular ground water monitoring shall be carried out by installing peizometers all around the secured land fill site in consultation with the SPCB, Central Ground Water Authority and State Ground Water Board and data submitted to the Ministry's Regional Office and SPCB.	Secured landfill site has not yet been established inside the plant. Ground water quality monitoring will be carried out by installing peizometers all around the secured landfill site after establishment of the SLF in consultation with the SPCB, Central Ground Water Authority and State Ground Water Board.
xx)	Total water requirement for the expansion from Hirakud Reservoir shall not exceed 5,200 m3/hr and prior permission for the existing and proposed expansion shall be obtained from the concerned department before commissioning of the plant.  All the effluent including from the cooling tower and de-mineralization plant shall be treated in the effluent treatment plant and treated effluent shall be recycled/reutilized in the process in smelter and CPP and also for fire protection, dust suppression, greenbelt development etc.  Domestic effluent shall be treated in sewage treatment plant (STP) and treated domestic waste water will be used for greenbelt development.	No additional fresh water will be sourced from Hirakud Reservoir for the proposed expansion. The water requirement estimated for the expansion is within 52.73 cusec, as approved.  The Effluent from the cooling towers and demineralization plant is being treated in Double Stage RO based effluent treatment plant and is being recycled/reutilized in the process of CPP.  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.
xxi)	No effluent shall be discharged outside the premises of smelter during non-monsoon period and shall be discharged during the	We are operating a Double Stage Reverse Osmosis based effluent treatment plant (ETP) of 300 m <sup>3</sup> /hr capacity and therefore no

	monsoon period only after treatment and	effluent water is being discharged to outside
xxii)	meeting the norms of the OSPCB/CPCB.  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.	without treatment from Smelter.  Aditya Aluminium has developed Greenbelt over 536 acres inside the Core plant & Township areas. Around 3,80,500 saplings planted till Sept 2018. The action plan for achiving 33% greenbelt is attached as annexure - 9).
xxiii)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is being done as per the Odisha Factories Act.
xxiv)	The company shall develop rain water structures in the township area for recharge of ground water in consultation with the Central Ground Water Authority/Board.	Rain water recharging arrangement is being made in the township buildings, besides a rain water harvesting pond is being established inside the township area which is being utilsed for gardening purposes. A rain water scheme submitted to CGWA for approval vide 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 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-10
xxvii)	The company shall adopt well laid down corporate policy and identified and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with environmental clearance, environmental laws and regulations.	The company has adopted a well laid down Corporate Environment Policy. The Environment Policy is being revised in 19 <sup>th</sup> November 2016 approved by the Board of Directors. Copy of the revised Environment Policy is attached as annexure -11.
xxviii)	All the commitments made to the public during public hearing /public consultation meeting held on 2 <sup>nd</sup> 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 <sup>nd</sup> march 2012 is under gradual implementation. (Status of implementation is enclosed as annexure-12).

xxix)	At least 5% of the total cost of the project shall	The expenses under Enterpise Social
	be earmarked for towards the Enterprise Social	Commitment (ESC) till September2018 is Rs
	Commitment and item-wise details along with	43.81 Crores.
	time bound action plan should be prepared	
	and submitted to the Ministry's office at	The details of the expenditure made under
	Bhubaneswar. Implementation of such	Enterpise Social Commitment (ESC) till
	program should be ensured accordingly in a	September 2018 is attached as annexure-13.
	time bound manner.	
xxx)	The company shall provide housing for	All necessary infrastructure and facilitiesare
	construction labour within the site with all	being provided to the workers from time to
	necessary infrastructure and facilities such as	time.
	fuel for cooking, mobile toilets, mobile STP,	
	safe drinking water, medical health care,	
	crèche etc. the housing may be in the form of	
	temporary structures to be ensured	
	accordingly in a time bound manner.	
xxxi)	The company shall submit within three months	The Corporate Environment Policy prepared
	their policy towards Corporate Environment	and approved by the company Board of
	Responsibility which should inter-alia address	Directors, Organizational Structure for Hindalco
	(i) standard operating process/procedure to	Corporate Environment, Deployment of
	being into focus any	Corporate Policy in manufacturing Plants &
	infringement/deviation/violation of	communication of Policy as regards Corporate
	environmental or forests norms/ conditions (ii)	Environment already submitted to MoEF.
	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.	
• 1	GENERAL CONDITIONS	Mrs. III falls a the attendance and the OCDCD
i)	The project authorities must strictly adhere to	We will follow the stipulations made by OSPCB
	the stipulations made by the OSPCB and the	and the State Government.
::\	State Government.	Me will not some out one ownering or
ii)	No further expansion or modification in the	We will not carry out any expansion or modification in the plant without prior
	plant shall be carried out without prior	
	approval of the Ministry of Environment and	approval of MoEFCC.
iii)	Forests.  The gaseous emissions from various process	We have noted and accepted the stipulated
''''	units shall conform to the load/mass based	condition.
	standards notified by this Ministry on 19 <sup>th</sup> May,	Condition.
	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.	
iv)	At least four number of ambient air quality	Installation of four (04) CAAQMStations
.,,	monitoring stations shall be established in the	completed and commissioned. Data
	downward direction as well as where	connectivity established with the servers of
<u> </u>	activitivata direction as well as where	connectivity established with the servers of

	maximum ground level concentration of SPM, SO <sub>2</sub> and NO <sub>x</sub> 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.	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 SPCBwithURL <a href="http://">http://</a> 117.239.117.27/ <a href="https://">ospcbrtdas/</a> &CPCB withURL <a href="http://">http://</a> <a href="http://">http://</a> <a href="http://">113.19.81.38/</a> cpcbrtdas/respectively.  The six-monthly compliance along with the monitoring data is being submitted to the concerned authorities regularly.
v)	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (nighttime).	The overall noise levels in and around the plant area is within the prescribed standards and it is made possible by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation.  The overall noise level is within the standard, regular monitoring is being done.  All necessary PPEs are provided to the workers and engineers working in the factory.
vi)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is being done as per the Factories Act.
vii)	The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	The company has developed surface water harvesting structures to the tune of 22 lakhs cum to store water in the lean season and it will harvest the rain water during rainy season in the same reservoirs.
viii)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA report. Further the company must undertake socioeconomic development activities in the surrounding villages like community development progammes, drinking water supply and health care etc.	We have noted and accepted all the conditions and will comply in a time bound manner. The economic development activities are going on regularly as a part of our corporate social responsibility. A team of personnel are 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-14.
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	Requisite fund has been spent & allotted towards capital cost and recurring cost/annum for environment pollution control measures and the fund will not be diverted for any other expenditure.

	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	
x)	be diverted for any other purpose.  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 displayedin our official website.
xi)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Bhubaneswar. The respective	The status of compliance to the EC conditions is being submitted to the Regional office of the MOEF regularly on 1 <sup>st</sup> June and 1 <sup>st</sup> Dec respectivelywith a copy to CPCB & OSPCB and the same is being uploaded into the Company website.
	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.	All the stack emission and ambient air monitoring stations are synchronized with the webserver of the SPCB & CPCB. The online monitoring data w.r.t. stack emission, ambient air quality and effluent water quality is being electrocically displayed at main entrance gate for information to the public.
xii)	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitoring data (both in hard & soft copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Offices of CPCB and the SPCB. The Regional office of this Ministry at	We are submitting the six monthly compliance reports of the stipulated environmental conditions (both in hard & soft copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Offices of CPCB and the SPCB.  The monitoring data in respect of AAQ, water,
xiii)	Bhubaneswar. CPCB/SPCB shall monitor the stipulated conditions.  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	soil, noise etc is enclosed as <i>Annexure-15</i> .  The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V is being submitted to the concerned authorities of SPCB and MoEF.
	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.	
xiv)	The project proponent shall inform the public	Information to Public has been madethrough

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.

advertisement of the environmental clearance in two widely circulated daily newspapers i.e. "The New Indian Express" on 04-12-2012 & "The Samaja" on 05-12-2012, within seven days of receiving the clearance letter.

The copy of the advertisement was submitted to the Ministry's Regional Office at Bhubaneswar vide our office letter no. AAP/E&F/786, dated 07-12-2012.

xv) The authorities shall inform the regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

Financial closure for Phase-1(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 completed for 0.36 MTPA Smelter and 6x150 MW CPP and operating 360 pots out of 360 pots in Smleter and 6 units (6x150 MW) in CPP.

Encl: As above

(Authorized Signatory)

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

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

1	a) Name of the Project	Aditya Aluminium (A Unit of Hindalco Industries Limited)
	b) Envt. /Forest Clearance Nos.	i. Env Clearance vide letter No: J-11011/136/2009-IA-I(I), Dated 29/11/2012 & J-11011/136/2009-IA.II (1), Dated 14 June 2013. ii. Forest Clearance vide letter No: 8-27/2009-FC, 10.02.2011
2	Location/ Block/ Sub-Divn./ Dist/	Aditya Aluminium
	State	(A Div. of Hindalco Industries Limited)
		At/Po- Lapanga, Dist- Sambalpur
		Pin - 768 212, Odisha6
3	Address for communication	Aditya Aluminium
<u> </u>		(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 arboria; Anthocephallus cadamba; Dalbergia latifolia; Azadiracta indica; Albizzia Lebbeck; Delonix regia; Ailanthus exelsa, Cassea siamea; Cassia fistula, etc
5	a) Species: (trees/shrubs/grasses/climbers)	Terminalia arjuna; Pongamia pinnata; Gmelina arboria; Anthocephallus cadamba; Dalbergia latifolia; Azadiracta indica; Albizzia Lebbeck; Delonix regia; Ailanthus exelsa, Cassea siamea; Cassia fistula, etc trees species available.
	b) Major prevalent species of each type:	Anthocephallus cadambaTerminalia arjuna, Peltoferrum ferrugenium, Gmelina arboria, Alberzia Lebbeck, Delonix regia etc are the prevalent species found.
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		536.15 acres covered under greenbelt till September 2018.
7	Plantations required to be carried of	out as per
	a) Conditions of Environmental Clearance in Ha/Nos.	33% of total project area
	<ul><li>b) Conditions of Forest Act (c)</li><li>Clearance in Ha/Nos.</li></ul>	25 % of total project area
	c. Voluntarily in Ha/Nos.	NA
	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 faciliti	phase- I facilities completed and Phase-II construction work not started. Till date 536.'15 acres					
of land has bee	en covered unde	r greenbelt and balar	ice will be covere	ed 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 & 2011	Terminalia arjuna; Pongamia pinnata; Gmelina arboria; Anthocephallus cadamba; Dalbergia latifolia; Azadiracta indica; Albizzia Lebbeck; Delonix regia; Ailanthus exelsa, Cassea siamea; Cassia fistula, etc	2*2	26'-29'	14.7 Ha	Plantation is being done in phased
2012		3*3	19'-23'	38.2 Ha	manner.
2013		3*3	16'-20'	11.2 Ha	
2014		3*3	14'-16'	16.8 Ha	
2015		4*4	12'-14'	24.36 Ha	
2016		2*2	9'-12'	20.0 Ha	
2017		2*2	5'-7'	46.8 Ha	
2018		2*2	2'- 3'	45 Ha	

#### c) Survival of Plantation:

Total Plantation (No.)	3, 80,500
Survival (No.)	3,42,450
Survival rate	Approx 90%

#### 9. Agency carrying out plantation and maintenance: NA

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

SI. No.	Year	Fund allocated (Rs)	Expenditure made (Rs)	Average cost of each surviving plant in Rs.
1	2010	81,62,000	81,62,000.00	245.00
2	2011			
3	2012	46,21,600	46,21,600.00	121.00
4	2013	13,62,500	13,62,500.00	121.00
5	2014	18,53,000	18,53,000.00	115.00
6	2015	18,65,000	18,65,000	109.00
7	2016	49,00,000	49,00,000	100.00
8	2017	68,00,000	68,00,000	71.00
9	2018 (till Sep 2018)	70,00,000	41,000,00	41.00

#### 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

No. of villages affected : 11
 Families Affected : 1450

Families affected	SC	ST	ОТН	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

а	No. of families rehabilitated				
i	Name of the Site	Aditya Alum	inium		NO.
ii	i Families rehabilitated	SC	ST	OTH	Total
		08	387	18	413
b	Families yet to be rehabilitated				
i	Name of the Site(s)	Aditya Alum	inium		
ii	No. of families (Total -433)	SC	ST	OTH	Total
	100	00	19	1	20

7. Any other information : Nil

(Signature)



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ISO 14001 : 2004

OHS 48 18001 : 2007

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Ref: Envlab/18/R-837

Date: 05 |05 |18

#### STACK EMISSION MONITORING REPORT FOR APRIL-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 24.04.2018

3. Sampling Location

: ST-7: Stack attached to ABF-1 - FTC-1

4. Name of sampling Instrument

: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 30.04.2018 TO 03.05.2018

			Emission	Analysis Results
	Unit of Measurement	Methodology	Prescribe Standard (OSPCB)	ST-7
Stack Temperature	°C	Stack Sampler		110
Velocity of Flue Gas	m/sec	Stack Sampler		10.65
Quantity of Gas Flow	Nm³/Hr	Stack Sampler		101767
Barometric Pressure	mm of Hg	Barometer	-	741
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	11.25
Sulphur dioxide as SO <sub>2</sub>	mg/Nm³	IPA- Thorin method		284.16
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)	-	67.85
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method	-	0.18
Gaseous Fluoride	mg/Nm³	Ion Electrode method	=	0.40
Total Fluoride as F	mg/Nm³	Calculation		0.58
Tar Fumes	mg/Nm³	Extraction followed by Gas Chromatography	-	ND
Poly Aromatic Hydrocarbon as PAHs Note: ND: Nat Detected	μg/Nm³	Gas Chromatography	_	ND

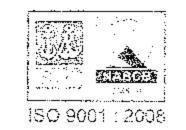
Note: ND: Not Detected.

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ISO 14001:2004 OHSAS 18001 : 2007

Ref.: EnWab/18/R-838

Date: 05/05/18

#### STACK EMISSION MONITORING REPORT FOR APRIL-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 24.04.2018

3. Sampling Location

: ST-8: Stack attached to ABF II - FTC - 2

4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

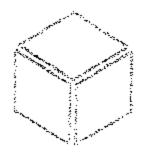
: 30.04.2018 TO 03.05.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-8
Stack Temperature	°C	Stack Sampler		108.0
Velocity of Flue Gas	m/sec	Stack Sampler	-	10.25
Quantity of Gas Flow	Nm³/Hr	Stack Sampler		97962.0
Barometric Pressure	mm of Hg	Barometer		742.0
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	8.69
Sulphur dioxide as SO <sub>2</sub>	mg/Nm³	IPA- Thorin method	NO.	196.24
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)		105.04
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method	-	0.17
Gaseous Fluoride	mg/Nm³	Ion Electrode method	-	0.40
Total Fluoride as F	mg/Nm³	Calculation	-	0.57
Tar Fumes	mg/Nm³	Extraction followed by Gas Chromatography	_	ND
Poly Aromatic Hydrocarbon as PAHs	μg/Nm³	Gas Chromatography	_	ND

Note: ND: Not Detected.

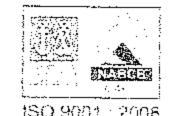
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ISO 14001 : 2004 OHSAS 18001 : 2007

Ref.: Emulab 18 R-4207

Date: 4/04/18

### STACK EMISSION MONITORING REPORT FOR MAY-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 26.05.2018

3. Sampling Location

: ST-7: Stack attached to ABF-1 - FTC-1

4. Name of sampling Instrument

: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

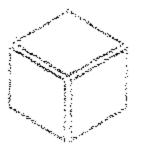
: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 28.05.2018 TO 04.06.2018

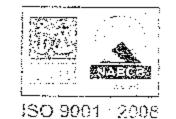
	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-7
Stack Temperature	<sup>0</sup> C	Stack Sampler		116.0
Velocity of Flue Gas	m/sec	Stack Sampler		10.15
Quantity of Gas Flow	m <sup>3</sup> /hr	Stack Sampler	_	46102.0
Barometric Pressure	mm of Hg	Barometer	-	742.0
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	10.06
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA- Thorin method		291.54
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm <sup>3</sup>	Modified Jacob & Hochheiser (Na-Arsenite)	ed:	42.65
Particulate Fluoride	mg/Nm <sup>3</sup>	Distillation followed by Ion Electrode method	<b>-</b>	0.13
Gaseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method		0.5
Total Fluoride as F	mg/Nm <sup>3</sup>	Calculation		<u> </u>
Tar Fumes	mg/Nm³	Extraction followed by Gas Chromatogrphy	400	0.63 ND
Poly Aromatic Hydrocarbon as PAHs  Vote: ND: Not Detected.	mg/Nm3	Gas Chromatography	-	ND

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ISO 14001: 2004 OHSAS 18001: 2007

Ref.: Emiles 18 R-4208

Date: 4/04/18

### STACK EMISSION MONITORING REPORT FOR MAY-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 26.05.2018

3. Sampling Location

: ST-8: Stack attached to ABF II - FTC - 2

4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 28.05.2018 TO 04.06.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-8
Stack Temperature	°C	Stack Sampler	<u>.</u>	113.0
Velocity of Flue Gas	m/sec	Stack Sampler		10.36
Quantity of Gas Flow	m³/hr	Stack Sampler	_	44011.0
Barometric Pressure	mm of Hg	Barometer	-	740.0
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Gravimetric	<i>E</i> 0	742.0 9.54
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA- Thorin method	50	
Oxides of Nitrogen as	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)		158.65
articulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method	-	0.19
aseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method	E2-	0.28
otal Fluoride as F	mg/Nm <sup>3</sup>	Calculation		·
ar Fumes	mg/Nm³	Extraction followed by Gas Chromatogrphy	-	0.47 ND
oly Aromatic lydrocarbon as PAHs Note: ND: Not Detected.	μg/Nm³	Gas Chromatography	in the same of the	ND

Note: ND: Not Detected.

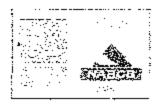
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#### (An Enviro Engineering Consulting Cell)



ISO 14001 : 2004 OHSAS 18001 - 2007

Ref.: [Mlab/ 18 | R-5555

Date: 05 07/19

#### STACK EMISSION MONITORING REPORT FOR JUNE-2018

1. Name of Industry

: Ws Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 25.06.2018

3. Sampling Location

: ST-7: Stack attached to ABF-1 - FTC-1

4. Name of sampling Instrument

: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 28.06.2018 TO 02.07.2018

	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-1
Stack Temperature	$^{0}\mathrm{C}$	Stack Sampler		112
Velocity of Flue Gas	m/sec	Stack Sampler		. 9.89
Quantity of Gas Flow	Nm³/Hr	Stack Sampler	_	94014
Barometric Pressure	mm of Hg	Barometer	-	741
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	7.86
Sulphur dioxide as SO <sub>2</sub>	mg/Nm³	IPA- Thorin method	-	241.65
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)	-	52.65
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm³	Ion Electrode method	_	0.40
Total Fluoride as F	mg/Nm³	Calculation	-	0.55
Tar Fumes	mg/Nm³	Extraction followed by Gas Chromatogrphy	-	ND
Poly Aromatic  Hydrocarbon as PAHs  Note: ND: Not Detected	µg/N <i>m</i> ³	Gas Chromatography	-	ND

Note: ND: Not Detected.

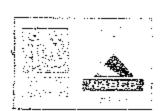
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(An Enviro Engineering Consulting Cell)



ISO 14001 : 2004 OHSAS 18001 : 2007

Ref.: Emlab 18 R-5556

Date: 05/07/19

### STACK EMISSION MONITORING REPORT FOR JUNE-2018

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling : 25.06.2018

3. Sampling Location : ST-8: Stack attached to ABF II - FTC - 2

4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2

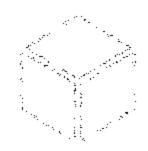
5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis : 28.06.2018 TO 02.07.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-2
Stack Temperature	°C	Stack Sampler	-	112
Velocity of Flue Gas	m/sec	Stack Sampler	-	10.42
Quantity of Gas Flow	Nm³/Hr	Stack Sampler	_	59835
Barometric Pressure	mm of Hg	Barometer	<u> </u>	742
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	9.28
Sulphur dioxide as SO <sub>2</sub>	$mg/Nm^3$	IPA- Thorin method		211.96
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm <sup>-3</sup>	Modified Jacob & Hochheiser (Na-Arsenite)		134.87
Particulate Fluoride	mg/Nm <sup>3</sup>	Distillation followed by Ion Electrode method	_	0.16
Gaseous Fluoride	mg/Nm³	Ion Electrode method		0.30
Total Fluoride as F	mg/Nm³	Calculation	-	0.46
Tar Fumes	mg/Nm³	Extraction followed by Gas Chromatogrphy		ND
Poly Aromatic  Hydrocarbon as PAHs  Note: ND: Not Detected.	µg/Nm³	Gas Chromatography	-	ND

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Date: 04 08 2115

#### STACK EMISSION MONITORING REPORT FOR JULY-2018

1 Name of Industry : M/s Hindaleo Industries Ltd (Unit-Aditya Aluminium): Lapanga

2. Date of Sampling (14.03.2018)

3. Sampling Location ST-7: Stack attached to ABF-1 - FTC-1

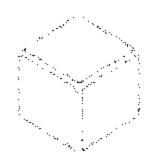
4. Name of sampling Instrument ... Vavubedlam Stack Sampler VSS 2

6 Date of Analysis 27 07:2018 TO 31:07:2018

· · · · · · · · · · · · · · · · · · ·	Unit of Measurement	Medhadisha	Finission Prescribe Standard (OSPCB)	Analysis Results ST-1
Milate is any partition		Stack Sampler	· · · · · · · · · · · · · · · · · · ·	; 13
Velocity of Fluc Cas	HI NOU	l Stack Sampler	i	9.82
Quantity of Cas Flow	Nm <sup>3</sup> Hir	Stack Sampier		1/20 File
Barometric Pressure	num of Hg	Birmanuler	: : : : : : : : : : : : : : : : : : :	
Concentration of Particulate Matter as PM	in the second se	Ciray ametric	50	8 1
Sulphur diesale as 80;	mp.Nes	1PA-Thoris method	· · · · · · · · · · · · · · · · · · ·	7.16.3
Oxides of Nitrogen as NO.	m <u>u</u> /Nn	Meddfied Jacob X Hechheiser (Na-Arsenite)		A 1 4
Particulate Phonide	mb/Sm.	1995 Harion Followed by Ion bleatrode method	- ;	₹J. [\$1
Conscions Unionide	mg Nm	har Electrode wethod		
	220 <u>c. (</u>	Elakulution	•	11,511
	mg/Nm <sup>1</sup>	T straction followed by tins Chromatogaphy		\()
Poly Areamatic  Hydrodiaphon as PAHs  Note: Not Described	au Nin	Chas Christianography	· · · · · · · · · · · · · · · · · · ·	NG C

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Dane: 04-65 2018

#### STACK EMISSION MONITORING REPORT FOR JULY 2018

1. Name of Industry - Mis Hindalco Industries Ltd (Unit-Aditya Aluminiam): Lapanga

2. Date of Sampling 34.07.3038

3 Sumpling Lacution : ST-8: Stuck attached to ABF H - FTC - 2

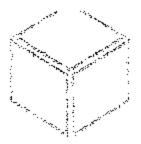
4. Name of sampling instrument of Vacabodhan Stack Sampler VSS ?

5. Sample Collected by T. VCSPL Representative in presence of Aditya Alumnian Representative

6 Date of Analysis 27 07 2018 10 31 a) 2018

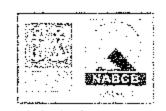
<sup>†</sup> Paktanes1€3€1%	Unit of Measurement	Medandoing,	Prescribe Standard (OSPCB)	12031118 12031118
Stack Tennochature	;	Stack Sampler	• • • • • • • • • • • • • • • • • • • •	
Valority of Phastins	ny '∻ಲಾ	Mark Sangia	-	
Onantity of Gas How	Sm 41r	Stack Sumpler		58954
Summerme Pressure	mm of Hg	: Barande:		
Concestimon of Particulate Matter as PM	mg/Nm	Charlenenic	: · · · · · · · · · · · · · · · · · · ·	
Sulphur dioxide as 80	mg/Nm	TA-Thermodyle	· -	
* Nides of Ninogen as	ang: Sm	Modaffed Jonah & Historiersan (Na-Assembe)	-	1.13,6
Parlicolar flamba	11357 <b>- 1</b> 24.	Wistillation Editorest  by hospitalists		11
Massama Physids	$m_{\rm E} N_{\rm B}$	Liton Electrosic method	· · · · · · · · · · · · · · · · · · ·	0.34
conditional act	mg/Nm	Calculation	·	0.5.
13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11112 (No. 11)	Exaction fellowed by Chromotographs	•	
Poly Arometic  Mydrocarbon as PATE  Note: NOt Not Denoted.	Hg Nn	Kaas E hoomatsepoppins	manasa a a a a a a a a a a a a a a a a a	: N ( )





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ISO 14001 : 2004 OHSAS 18001 : 2007

Ref.: Envlab/18/R-8546

Date: 30 | 08 | 18

### STACK EMISSION MONITORING REPORT FOR AUGUST-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 13.08.2018

3. Sampling Location

: ST-7: Stack attached to ABF-1 - FTC-1

4. Name of sampling Instrument

: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 14.08.2018 TO 18.08.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-1
Stack Temperature	$^{0}\mathrm{C}$	Stack Sampler	-	111.0
Velocity of Flue Gas	m/sec	Stack Sampler	<del>-</del>	9.87
Quantity of Gas Flow	Nm³/Hr	Stack Sampler		93894.0
Barometric Pressure	mm of Hg	Barometer	-	742.0
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	7.9
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA- Thorin method	-	239.1
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)		52.4
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method	_	0.12
Gaseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method	-	0,47
Total Fluoride as F	mg/Nm <sup>3</sup>	Calculation	<b>-</b>	0,59
Tar Fumes	mg/Nm³	Extraction followed by Gas Chromatography		ND
Poly Aromatic	μg/Nm³	Gas Chromatography		ND

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# Visiomtek Consultancy Services Pvt. Ltd.

### (An Enviro Engineering Consulting Cell)



ISO 14001:2004 OHSAS 18001 - 2007

Ref.: Envlab/18/R-8547

Date: 30 | 08 | 18

# STACK EMISSION MONITORING REPORT FOR AUGUST-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 13.08.2018

3. Sampling Location

: ST-8: Stack attached to ABF II - FTC - 2

4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

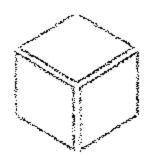
: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 14.08.2018 TO 18.08.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard	Analysis Results
Stack Temperature	<sup>0</sup> C	Stack Sampler	(OSPCB)	ST-2
Velocity of Flue Gas	m/sec	Stack Sampler	<u></u>	0.011
Quantity of Gas Flow	Nm³/Hr	Stack Sampler		10.32
Barometric Pressure	mm of Hg	Barometer	······································	59380.0
Oncentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Gravimetric		742.0
Sulphur dioxide as SO2	mg/Nm <sup>3</sup>	IPA- Thorin method		9.20
Oxides of Nitrogen as	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)		123.6
articulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method		0.18
aseous Fluoride otal Fluoride as F	mg/Nm <sup>3</sup>	Ion Electrode method	<u> </u>	0.41
		Calculation		
ur Fumes	mg/Nm³	Extraction followed by Gas Chromatography		0.57 ND
Aromatic drocarbon as PAHs of e: ND: Not Detected.	2.3	Gas Chromatography		ND

For Visiontek Consultancy Services Pvt. Ltd.



# Visioniek Consultancy Services Pvt. Lid.

(An Enviro Engineering Consulting Cell)



ISO 14001 : 2004 OHSAS 18001 : 2007

### Ref.: Enwlock 18/R - 8668 STACK EMISSION MONITORING REPORT FOR SEPTEMBER-2018

1. Name of Industry

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

2. Date of Sampling

: 27.09.2018

3. Sampling Location

: ST-7: Stack attached to ABF-1 - FTC-1

4. Name of sampling Instrument

Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

VCSPL Representative in presence of Aditya Aluminium Representative

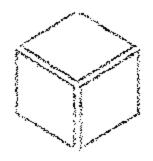
6. Date of Analysis

: 29.09.2018 TO 01.10.2018

	Unit of Measurement	Methodology	Emission Prescribe Standard	Analysis Results
		IS 11255: Part 3:1985	(OSPCB)	ST-7
Stack Temperature	°C	(Reaff 2008)		112
· · · · · · · · · · · · · · · · · · ·		IS 11255: Part 3:1985		
Velocity of Flue Gas	m/sec	(Reaff 2008)	and constitution of the second	9.83
		IS 11255: Part 3:1985	_	·
Quantity of Gas Flow	Nm³/Hr	(Reaff 2008)		93569
		IS 11255: Part 3:1985	-	
Barometric Pressure	mm of Hg	(Reaff 2008)	And Andrews and An	742
Composition of		IS 11255: Part 1:1985		
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	(Reaff 2003)	50	7.6
Sulphur dioxide as SO <sub>2</sub>	mg/Nm³	EPA Method 6C	20	245.6
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	EPA Method 7E		53.6
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method		0.14
Gaseous Fluoride	mg/Nm³	Ion Electrode method	447	0.49
Total Fluoride as F	mg/Nm <sup>3</sup>	Calculation		0.63
Tar Fumes	mg/Nm <sup>3</sup>	Extraction followed by Gas Chromatogrphy	_	NO
Poly Aromatic Hydrocarbon as PAHs	μg/Nm³	Gas Chromatography	-	ND

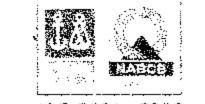
Note: ND: Not Detected.

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# Visioniek Consultancy Services Pvt. Lid.

(An Enviro Engineering Consulting Cell)



2SO 14001:2004 OHSAS 18001: 2007

Ref.: Envlade/18/R-8669

Date: 03/10/18

#### STACK EMISSION MONITORING REPORT FOR SEPTEMBER-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 27.09.2018

3. Sampling Location

: ST-8: Stack attached to ABF II - FTC - 2

4. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

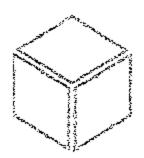
6. Date of Analysis

: 29.09.2018 TO 01.10.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-8
		IS 11255: Part 3:1985	(OSI CS)	13 X - C3
Stack Temperature	°C	(Reaff 2008)	-	in the state of th
		IS 11255: Part 3:1985		
Velocity of Flue Gas	m/sec	(Reaff 2008)	1	10.2
	7	IS 11255: Part 3:1985	-	
Quantity of Gas Flow	Nm³/Hr	(Reaff 2008)		5 <b>853</b> 6
		IS 11255: Part 3:1985		
Barometric Pressure	mm of Hg	(Reaff 2008)	To Not the Control of	742
Concentration of		IS 11255: Part 1:1985		***************************************
Particulate Matter as PM	mg/Nm <sup>3</sup>	(Reaff 2003)	<b>5</b> ()	9.3
Sulphur dioxide as SO <sub>2</sub>	mg/Nm³	EPA Method 6C	=	234
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	EPA Method 7E	_	125
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method		0.17
Gaseous Fluoride	mg/Nm <sup>3</sup>	lon Electrode method	140	0.43
Total Fluoride as F	mg/Nm <sup>3</sup>	- Calculation	-	0.60
Tar Fumes	mg/Nm³	Extraction followed by Gas Chromatogrphy		ND
Poly Aromatic  Hydrocarbon as PAHs  Note: No. Not Detected	μg/Nm³	Gas Chromatography		ND

Note: ND: Not Detected,

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ISO 9001 : 2008

(An Enviro Engineering Consulting Cell)

ISO 14001 : 2004 OHSAS 18001: 2007

Envlas/18/R-839 **È EMISSION MONITORING REPORT FOR APR** 

1. Name of Industry

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

2. Date of Sampling

: 25.04.2018

3. Sampling Location

: ST-9: Stack attached to GTC-1 (Pot room)

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

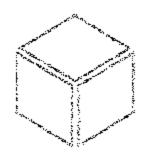
6. Date of Analysis

: 30.04.2018 TO 03.05.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results
				ST-9
Stack Temperature	<sup>θ</sup> C	Stack Sampler	-	105.0
Velocity of Flue Gas	m/sec	Stack Sampler	-	8.47
Quantity of Gas Flow	Nm³/Hr	Stack Sampler	<u> </u>	2084094.0
Barometric Pressure	mm of Hg	Barometer	<u>u</u>	746.0
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	11.25
Sulphur dioxide as SO <sub>2</sub>	mg/Nm³	IPA-Thorin method	_	83.0
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)		ND
Particulate Fluoride	mg/Nm <sup>3</sup>	Distillation followed by Ion Electrode method		0.16
Gaseous Fluoride	mg/Nm³	Ion Electrode method	_	0.46
Total Fluoride	mg/Nm³	Calculation	_	0.62

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ISO 9001: 2008

ISO 14001:2004 OHSAS 18001: 2007

Ref.: Enwab/18/R-840

Date: 05/05/18

### STACK EMISSION MONITORING REPORT FOR APRIL-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga

2. Date of Sampling

: 25.04.2018

3. Sampling Location

: ST-10: Stack attached to GTC-2

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

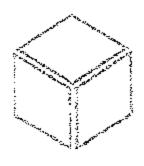
: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 30.04.2018 TO 03.05.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-10
Stack Temperature	°C	Stack Sampler	-	102.0
Velocity of Flue Gas	m/sec	Stack Sampler	_	8.86
Quantity of Gas Flow	Nm <sup>3</sup> /Hr	Stack Sampler		2208709.0
Barometric Pressure	mm of Hg	Barometer	_	745.0
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Gravimetric	50	6.58
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA-Thorin method	_	79.0
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)		ND
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method	-	0.15
Gaseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method	-	0.46
Total Fluoride	mg/Nm³	Calculation		0.61

For Visiontek Consultancy Services Pvt. Ltd.



# Visiomerk Comsultancy Services Pvt. Lid.

ISO 14001 : 2004 OHSAS 18001: 2007

(An Enviro Engineering Consulting Cell)

Ref.: Envlab/18/R-4209

Date: 05/06/18

## STACK EMISSION MONITORING REPORT FOR MAY-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 29.05.2018

3. Sampling Location

: ST-9: Stack attached to GTC-1 (Pot room)

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

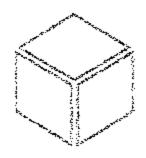
6. Date of Analysis

30.05.2018 TO 04.06.2018

	Unit of			Analysis Results
Parameters	Measurement	Methodology	Emission Prescribe Standard (OSPCB)	ST-9
Stool Tomperature	$^{0}\mathrm{C}$	Stack Sampler		114.0
Stack Temperature  Velocity of Flue Gas	m/sec	Stack Sampler	<del></del>	8.65
Quantity of Gas Flow	M <sup>3</sup> /sec	Stack Sampler	<del>-</del>	954865.0
Barometric Pressure	Mm of Hg	Barometer	-	745.0
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Gravimetric	50	10.24
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA-Thorin method		67.0
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm <sup>3</sup>	Modified Jacob & Hochheiser (Na-Arsenite)	Dell	42.0
Particulate Fluoride	mg/Nm <sup>3</sup>	Distillation followed by Ion Electrode method	_	0.14
Gaseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method		0.5
Total Fluoride	mg/Nm <sup>3</sup>	Calculation	-	0.64
Tar Fumes	mg/Nm <sup>3</sup>	Extraction followed by Gas Chromatogrphy		ND
Poly Aromatic Hydrocarbon as PAHs	μg/Nm³	Gas Chromatography		ND

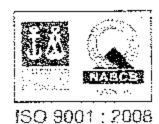
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(An Enviro Engineering Consulting Cell)



ISO 14001 : 2004

OHS AS 18001: 2007

Ref: Envlab/18/R-4210

Date: 05/06/18

### STACK EMISSION MONITORING REPORT FOR MAY-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga

2. Date of Sampling

: 29.05.2018

3. Sampling Location

: ST-10: Stack attached to GTC-2

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 30.05.2018 TO 04.06.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-10
Stack Temperature	$^{0}\mathrm{C}$	Stack Sampler		108.0
Velocity of Flue Gas	m/sec	Stack Sampler	<b>⊢</b>	8.13
Quantity of Gas Flow	M <sup>3</sup> /sec	Stack Sampler	щ	926008.0
Barometric Pressure	Mm of Hg	Barometer		746.0
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Gravimetric	50	6.17
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA-Thorin method		57.0
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm <sup>3</sup>	Modified Jacob & Hochheiser (Na-Arsenite)	-	43.0
Particulate Fluoride	mg/Nm <sup>3</sup>	Distillation followed by Ion Electrode method	_	0.19
Gaseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method		0.43
Total Fluoride	mg/Nm <sup>3</sup>	Calculation		0.62
Tar Fumes	mg/Nm³	Extraction followed by Gas Chromatogrphy	<u> </u>	ND
oly Aromatic Hydrocarbon as AHs	μg/Nm³	Gas Chromatography	· •	ND

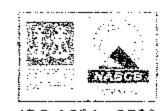
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### Visiontel Consultancy Services Pvt. Lad.

(An Enviro Engineering Consulting Cell)



1SO 14001: 2004 OHSAS 18001: 2007

Ref.: Envlab/18/R-555.7

Date: 05/07/18

### STACK EMISSION MONITORING REPORT FOR JUNE-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 27.06.2018

3. Sampling Location

: ST-9: Stack attached to GTC-1 (Pot room)

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

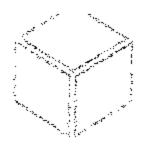
: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

: 28.06.2018 TO 02.07.2018

Parameters	Unit of	Methodology		Analysis Results
	Measurement	Ivicinumunugy	Emission Prescribe Standard (OSPCB)	ST-I
Stack Temperature	°С	Stack Sampler		118
Velocity of Flue Gas	m/sec	Stack Sampler	-	8.34
Quantity of Gas Flow	Nm³/Hr	Stack Sampler		2009477
Barometric Pressure	mm of Hg	Barometer		746
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Gravimetric	50	8.96
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA-Thorin method		51
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)		47
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method		0.16
Gaseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method	Au	0.46
Total Fluoride	mg/Nm <sup>3</sup>	Calculation	_	0.62

For Visiontek (Insultancy Services Pvt. Ltd.



### Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 14001: 2004 OHSAS 18001: 2007

Ref.: Emvlab/18/ R-5558

Date: 05/07/18

### STACK EMISSION MONITORING REPORT FOR JUNE-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga

2. Date of Sampling

: 27.06.2018

3. Sampling Location

: ST-10: Stack attached to GTC-2

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

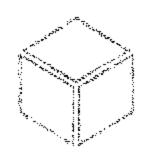
6. Date of Analysis

: 28.06.2018 TO 02.07.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-2
Stack Temperature	°C	Stack Sampler	-	112
Velocity of Flue Gas	m/sec	Stack Sampler	-	8.13
Quantity of Gas Flow	Nm³/Hr	Stack Sampler	_	1980413
Barometric Pressure	mm of Hg	Barometer	_	745
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Gravimetric	50	7.96
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA-Thorin method	-	49
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)		38
Particulate Fluoride	mg/Nm <sup>3</sup>	Distillation followed by Ion Electrode method	-	0.20
Gaseous Fluoride	mg/Nm³	Ion Electrode method	-	0.35
Total Fluoride	mg/Nm <sup>3</sup>	-Calculation	- !	0.55

For Visiontek Consultancy Services Pvt. Ltd.

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### Visioniek Consultancy Services Pvi. Lid.



(An Enviro Engineering Consulting Cell)

180 (40% 2004 (48A8 (806) 7007

Ref.: Enviol/18/R. 5563

Date: 04 . 08 2018

### STACK EMISSION MONITORING REPORT FOR JULY-2018

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium): Lapanga

2. Date of Sampling 23.07.2018

3. Sampling Location ST-9: Stack attached to GTC-1 (Pot room)

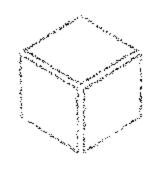
4. Name of sampling Instrument: Vayabodhan Stack Sampler VSS 2

5. Sample Collected by CSPU Representative on presence of Aditya Aluminium Representative

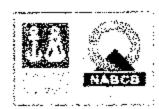
6. Date of Analysis : 27.07.2018 TO 31.07.2018

Parameters	1 nit of	Methodology		Analysis Results
	Measurement	*** **	Emission Prescribe Standard (OSPCB)	ST-1
Stack Temperature	C	Stack Sampler		115
Velocity of Plue Gas	m/sec	Stack Sampler		8.71
Quantity of Gas Flow	No Hr	Stack Sampler		2528323
Barometric Pressure	nm of Hg	Barometer		746
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Cravinactric	501	4.34
Sulphur dioxide as 80-	mg/Nm³	IPA-Thorin method		<u>5</u> (3
Oxides of Nitrogen as NO.	mg/Nan <sup>3</sup>	Modlified Jacob  & Hochheiser (Na-Arsenite)	- · · · · · · · · · · · · · · · · · · ·	
Particulate Humide	eng.\mr <sup>2</sup>	Distillation followed by lon Flectrode method		() ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )
Gascous Pluoride	mg/Nm	for hiestrode method		0.48
Total Fluoride	ng/Na	Caiculation	· · · · · · · · · · · · · · · · · · ·	0.67

For Visiontek Consultancy Services Per. Ltd.



### Visiontek Consultancy Services Pvt. Ltd.



3SO 9001 : 2008

(An Enviro Engineering Consulting Cell)

ISO 14001 ; 2004 OHSAS 18001 : 2007

Ref.: FOVIOD/18/R- 5569

Date: 04-08-2018

#### STACK EMISSION MONITORING REPORT FOR JULY-2018

1. Name of Industry : M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga

2. Date of Sampling : 23.07.2018

3. Sampling Location : ST-10: Stack attached to GTC-2

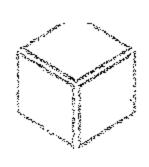
4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis : 27.07.2018 TO 31.07.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-2
Stack Temperature	; <sup>1)</sup> C	Stack Sampler	-	100
Velocity of Flue Gas	m/sec	Stack Sampler	<u>-</u>	8.27
Quantity of Gas Flow	Nm <sup>3</sup> /Hr	Stack Sampler	<u> </u>	2049796
Barometric Pressure	mm of Hg	Barometer	· · · · · · · · · · · · · · · · · · ·	745
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	Gravimetric	50	6.9
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA-Thorin method	- :	51
Oxides of Nitrogen as NO <sub>8</sub>	mg/Nm <sup>3</sup>	Modified Jacob & Hochheiser (Na-Arsenite)	· · · · · · · · · · · · · · · · · · ·	36
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method	<u>-</u>	0.21
Gaseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method	• · · · <u>· · · · · · · · · · · · · · · ·</u>	()_39
Total Fluoride	mg/Nm <sup>2</sup>	Calculation	· ····· · · · · · · · · · · · · · · ·	0.60

For Visiontek Consultancy Services Pvt. Ltd.



### Visiontek Consultancy Services Pvt. Ltd.

OHSAS 18001 · 2007

(An Enviro Engineering Consulting Cell)

Ref.: Enulab/18/R-8548

### STACK EMISSION MONITORING REPORT FOR AUGUST-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 10.08.2018

3. Sampling Location

: ST-9: Stack attached to GTC-1 (Pot room)

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

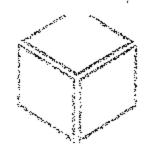
: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

14.08.2018 TO 18.08.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-1
Velocity of Flue Gas	m/sec	Stack Sampler		8.82
Quantity of Gas Flow	Nm³/Hr	Stack Sampler	_	2153933.0
Barometric Pressure	mm of Hg	Barometer	<del>-</del>	746.0
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	9.42
Sulphur dioxide as SO <sub>2</sub>	mg/Nm³	IPA-Thorin method	-	59.0
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	Modified Jacob & Hochheiser (Na-Arsenite)	- ··· ·· ·· ·· ·· ·· ·· · · · · · · · ·	43.0
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method	-	0.22
Gaseous Fluoride	mg/Nm³	Ion Electrode method		0.46
Total Fluoride	mg/Nm <sup>3</sup>	Calculation	-	0.68

For Visiontek Consultanes Services Pvt. Ltd.



### Visiontek Consultancy Services Pvt. Ltd.

ISO 14001: 2004

(An Enviro Engineering Consulting Cell)

Ref.: Enulab/2018/R-8549

Date: 30/08/18

OHSAS 18001 - 2007

### STACK EMISSION MONITORING REPORT FOR AUGUST-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga

2. Date of Sampling

: 10.08.2018

3. Sampling Location

: ST-10: Stack attached to GTC-2

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

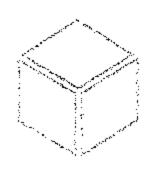
: VCSPL Representative in presence of Aditya Aluminium Representative

6. Date of Analysis

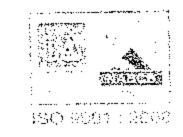
: 14.08.2018 TO 18.08.2018

Parameters	Unit of Measurement	Methodology	Emission Prescribe Standard (OSPCB)	Analysis Results ST-2
Stack Temperature	$^{0}\mathrm{C}$	Stack Sampler	-	111.0
Velocity of Flue Gas	m/sec	Stack Sampler		8.42
Quantity of Gas Flow	Nm³/Hr	Stack Sampler		2062966.0
Barometric Pressure	mm of Hg	Barometer		745.0
Concentration of Particulate Matter as PM	mg/Nm³	Gravimetric	50	6.3
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IPA-Thorin method		53.0
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm <sup>3</sup>	Modified Jacob & Hochheiser (Na-Arsenite)		41.0
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method		0.21
Gaseous Fluoride	mg/Nm³	Ion Electrode method	<u>-</u>	0.41
l'otal Fluoride	mg/Nm³	Calculation		0.62

For Visiontek Consultancy Services Pvt. Ltd.



# Wissing Consulting Cell)



ISO 14001 : 2004 OHSAS 18001 : 2007

Ref.: Emples/18/R-8782

Date: 03.10.18

### STACK EMISSION MONITORING REPORT FOR SEPTEMBER-2018

1. Name of Industry : M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling : 28.09.2018

3. Sampling Location : ST-9: Stack attached to GTC-1 (Pot room)

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by : VCSPL Representative in presence of Aditya Aluminium Representative :

6. Date of Analysis : 29.09.2018 TO 01.10.2018

	XI · · · · · ·			Analysis Results
Parameters	Unit of Measurement	Protocol	Emission Prescribe Standard (OSPCB)	ST-9
Stack Temperature	"C	IS 11255: Part 3:1985 (RA 2008)	-	1(),1,()
Velocity of Flue Gas	m/sec	IS 11255: Part 3:1985 (RA 2008)	-	8.85
Quantity of Gas Flow	Nm³/Hr	IS 11255: Part 3:1985 (RA 2008)	-	2225631.0
Barometric Pressure	mm of Hg	IS 11255: Part 3:1985 (RA 2008)	-	746
Concentration of Particulate Matter as PM	mg/Nm <sup>3</sup>	IS 11255: Part 1:1985 (RA 2003)	50	7.67
Sulphur dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	EPA Method 6C		63.0
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	EPA Method 7E	<u>-</u>	41.0
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method		0.23
Gaseous Fluoride	mg/Nm <sup>3</sup>	Ion Electrode method	-	0.46
Total Fluoride	mg/Nm³	Calculation		0,69

For Visiontek Consultancy Services Pvt. Ltd.

CIT.



# Wisionas (An Enviro Engineering Consulting Cell)



ISO 14001 : 2004 OHSAS 18001: 2007

Date: 83-10-16

Ref.: Emifabolis /R-5753

#### STACK EMISSION MONITORING REPORT FOR SEPTEMBER-2018

1. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Date of Sampling

: 28.09.2018

3. Sampling Location

: ST-10: Stack attached to GTC-2

4. Name of sampling Instrument: Vayubodhan Stack Sampler VSS 2

5. Sample Collected by

: VCSPL Representative in presence of Aditya Aluminium Representative

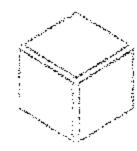
6. Date of Analysis

: 29.09.2018 TO 01.10.2018

Parameters	Unit of Measurement	Protocol	Emission Prescribe _ Standard (OSPCB)	Analysis Results ST-10
Stack Temperature	$^{0}\mathrm{C}$	IS 11255; Part 3 :1985 (RA 2008)	-	104.0
Velocity of Flue Gas	m/sec	IS 11255: Part 3 :1985 (RA 2008)		8.5
Quantity of Gas Flow	Nm³/Hr	IS 11255: Part 3 :1985 (RA 2008)	-	2127990.0
Barometric Pressure	mm of Hg	IS 11255: Part 3 :1985 (RA 2008)	-	745
Concentration of Particulate Matter as PM	mg/Nm³	IS 11255: Part 1 :1985 (RA 2003)	50	7.02
Sulphur dioxide as SO <sub>2</sub>	mg/Nm³	EPA Method 6C	<u>-</u>	59.0
Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm³	EPA Method 7E		42.0
Particulate Fluoride	mg/Nm³	Distillation followed by Ion Electrode method		0.23
Gascous Fluoride	mg/Nm³	Ion Electrode method	-	0.44
Total Fluoride	mg/Nm <sup>3</sup>	Calculation		0.67

For Visiontek Consultancy Services Pvt. Ltd.

					POTROG	M ONLINEFU	JGITIVE MON	ITORING(HF)	REPORT APR	L'28 TO SERT	EMBER'18																					
APRIL'18	Sunday	Monday	Tuesday	Wednesday	fhursday		Saturday		Monday		Wednesday	Thursday.	Friday	Eastladay	5d	Monday		100-01-0-0	T -:			<del></del>		<del></del>	<del></del>							
WLU1F TO	01-04-18	02-04-18	<del></del>	<del>}</del>	05-04-18				09-04-18	10-06-18	11-04-18	17.01.59	13.04.16	14.04.49	15.04.10	16-04-1B	tuesoav	Wednesday	Thursday		Saturday	Sunday	Monday	Tuesday		Thursday		Saturday	Sunday	Monday		Vg. in PPM
FUG. TIVE EMISSION CHE1 [B001-8090] HF   PPM	0.217	0.455	0.343	0.302	0.392	0.345	0.43	0.316	0.369	0.343	0.377	0.283	0.39	0.376	0.52€							22-04-18	<del>                                     </del>	<del></del>	•	26-04-18	<del></del>	28-04-18	Z9-04-18	30-04-18	^^	vg. in Peor
FUG TIVE EMISSION CHEZ [B091-8180] HE   PPM	0.179	0.402	0.441	0.24	0.235	0.211	0.325		0,211	0.247	0.23	0.467		0.378		0.214	0.303	0.369	0.499	0.355	0.409	0.321	0.484	0.427	0.376	0.27	0.387	0.399	0.247	0.22		0 352
FUGITIVE EM.SS ON CHIRA (A091-A180) HE   PAM	0.091	0.072	0.153	0.11	0.125	9.171	0.751	0.256	0.198	0.217	0.231	0.082	0.123	0.15	0.21		C.185	į	0.143	0.16	0.101	0.105	0,155	0.15\$	0.119	0.073	C. 123	0.098	0.112	0.142	Τ	0.217
FUGIT VE EMISSION CHIM (ACCOLACCO) HE PAM	0.173	0.234	0.571	0.182		0.162	<del></del>		0.272	0.217	0.027	0.016		0.032	0.129	0.119	0.097	0.113	0.111	0.179	0.215	0.044	0.011	0.106		0.092	0.109	0.098	0.102	0.023		0.132
			[			5.452	1		J.272		0.06.7	0.010		0.032	0.129	17.195	0.115	0.163	0.052	0.175	0.048	0	0	0.115	0.089	0.007	0.094	D.C81	0.32	0.256		0.246
							i				Ι,	į			ł					] :						1			Mon	thly Average(p	pm]	0.213
MAY18	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Yuesday	Wednesday	Thursday	Friday	Saturday	Sunday.			101-3	··· ·	- 4 - ''-		<u> </u>	· · · · · · · · · · · · · · · · · · ·	<u> </u>		<u> </u>		<u> </u>			Month	ly Average (me	/M3)	0.177
MAPLE	01-05-18	02-05-18	03-05-18		05-05-18	<del></del>	<del></del>	08-05-18	09-05-18	10.05.18	11-05-18	17.05.18	12.05.10	14.00.10	l lesday	Wednesday	Thursday	Fhday	Saturday	Sunday	Monday	Tuesday	Wednesday			Saturday			Tuesday	Wednesday	Thursday .	ve. in PPM
FUGITIVE EM 55 ON CIBIT (8001-8090) HF   PPM	0.255	0.363	0.351	0.385	0.388	0.322	0.43	0.282	0.434	D.307	0.161	0.319	0.372	0.181	0.424	16-05-18	17-05-28							24-05-18	25-09-18	25-05-18	27-05-18	28-05-16	29-05-1B	30-05-18	31-05-18	PE. III PPINT
FUGITIVE EM SS ON CH#2 (3091-B180) HF   PPM	0.168	0.126	0.235	0.109	0.074	0.048	0.035	0.037	0.056	0.042	0.097	0.079		<del></del>		0.384	0.242	0.34t	0.365	0.221		0.095	0.251	0.07€	0.135	0.449	0.322	0.288	0.332	D.277	0.162	0.298
FJGITIVE SMISSION CHAR (AUG), A180) HF PPM	0.1B2	0.08	0.137	0.127	<del>+</del>	0.108	n. 163	0.189	0.131	0.167	0.18	0.079	0.092 0.183	0.183	0.11	0.263	0.095	0.26		0.095	_0.302	0.125	0.13	0.087	0.15	0.072	0.091	0.214	0.058	0.102	0.52	0.113
FUGITIVE EMISSION CHII4 (A0D1-A090) HF PPM	0.243	0.251	0.275	0.169		0	0	0.103	0	0.521	0.166	0.248		0.103	0 234	0.302	0 199	0.059		0.122	0.331	0.211	0.281	0.08	0.201	0.119	0.118	0.18	0.051	0.045	0.115	0.158
					0.002	<del>                                     </del>	<del></del>	<del>] ∨</del>	<del>                                     </del>	2.724	0.100	0.248	0,242	0	0.111	0.352	0.165	0	0.213	0.095	0.014	0.082	0.00	0.062	0.083	0.252	0,272	0 23	0.084	0.111	0.056	0.138
								ļ			!								İ	1 1							ļ		Mont	hly Average(p	pm]	0.177
	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursefore	Friday	Saturday	Sunday	Monday	···~	NI de de la company			<u> </u>	i					L		<u> </u>	<u> </u>	<u> </u>	į l			y Average (mg		0.147
JUNE'18	01-06-18	02-06-18			6 05-06-18			08-06-18				12-06-18		Thursday		Saturday	Zunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wadnesday	Thursday -		Saturday		
FUGITIVE SMISSION CHAIT (BOOT-BOOD) HE SPPM	0.217	0.3	0.29	0.227	0.122	0.158	0.326	0.194								15-06-18				20-06-18			23-06-18	24-06-18	25-06-18	26-06-18	27-06-18	28-06-18	29-06-18	30-06-18	- A	vg. In PPM
FUGITIVE \$MISS ON CH#2 (8091-8160) HF (7PM)	0.151	0.085	0.084	0.076	0.124	D 037	0.057	0.054	0.221	0,147	0.183	0.142	0.162	0.281	0.201	0.31	0.228	0.937	0.264	0.342			0.379	0.384	0.404	U.36 b	0 191	0.333	0.291	0.345	i	0.265
FUG TIVE EMISSION CHES (A091-A180) HE   PPM	0.089	0.072	0.147		0.156	0.357	0.102	0.093	0.045 0.217	0.05	0.075	0.046	0.077	0.055	0.061	0.024	0.038	0.024	0.033	0.037	0.044		0.044	0.053	0,051	0.123	0.085	0.209	0.151	0.105	:	0.076
FUG:TIVE EMISSION CIRIA (A001-A090) HT   PPM	Q.04B	D.142	0.233	0.744	0.169		0.102	0.1	0.099	0.05	0.094	0.115	0.182	0.16	0.191	0.114	0.189	0.148	0.146	0.103	0.139		0.126	0.201	D.254	0.119	0.044	0.143	0.167	0.149		0.142
	0.010			1 . 37.7 44	0.103	<del>  0.333</del>	0.949	0.1	0.099	0.116	0.106	0.164	0	0.372	0.377	0.261	0.299	0.177	0.237	0 275	0.285	0.217	0.367	0.401	0.506	0.035	0	0.013	D	0.224	i -	0.230
				ļ						[										l f				ļ			!		Mont	hly Averaga(p)	om)	0,173
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	+	Wednesday									<u> </u>		L	<u> </u>	!	ſ	<u> </u>	ļ			y Average [mg		0.144
3LILY'18	01-07-18	02-07-18	<u> </u>	04-07-18		06-07-18			09-07-18	I Descay	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday		5aturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday .	
FUG TIVE EMISSION CHR1 (BOO1-3090) HE PPM	0.278	0.799	0.165	0.339	0.305	0.39	0.295	0.431	0.348	0 225	11-07-18					16-07-18			19-07-18	20-07-18	21-07-18	22-07-18	23-07-18	24-07-18	29-07-18	26-07-18	27-07-18	28-07-18	29-07-28	30-07-18	31-07-18	vg. in PPM
					1 0.303	J 435	0.253		12.4429	1 17.225 1	0.358	0.3	0.332		0.314	0.143	0.077	0.231	0.329	0.491	0.176	0.198	a	0	0	p	0	п 7	0	0	0	0.203
	<del></del>	<del> </del>			<del> </del>	D 12	13.226				0.000			0.276		<u>-</u> L									-			D 1				0.191
FUG TIVE EMISSION CHR2 (BG91-8180) HF PPM	0.132	0.174	<u> </u> В.28X	0.188	0.211	D.13	0.226	0.299	0.309	0.282	0.335	0.296	0.338	0.328	0.335	0.229	0.318	0.262		0.325	0.363	D.235	0	0	n	0	0	0	0	0		0.1911
FUG TIVE EMISSION CH#2 (6091-8180) HF PPM FUGITIVE FM SSION CH#3 (4091-4180) HF PPM	0.132 0.191	0.174 0.195	0.159	0.188 0.196	0.211 0.204	0.756	0.215	0.299 0.128	0.309 0.237	0.282 0.218	0.238	0.286 0.117	0.338 0.263	0.328 0.111	0.335 0.013	0.229 0.08	0.318 0.121	0.121	0.276	0.26)	0,363	0.125	0	0 0	n	0		0 0		0 0	0	
FUG TIVE EMISSION CHR2 (BG91-8180) HF PPM	0.132	0.174	<u> </u> В.28X	0.188	0.211		r-r	0.299 0.128	0.309	0.282		0.296	0.338	0.328	0.335	0.229	0.318		0.276			~ <del></del>					0		D	<del>- · · ·  </del>		0.121
FUG TIVE EMISSION CH#2 (6091-8180) HF PPM FUGITIVE FM SSION CH#3 (4091-4180) HF PPM	0.132 0.191	0.174 0.195	0.159	0.188 0.196	0.211 0.204	0.756	0.215	0.299 0.128	0.309 0.237	0.282 0.218	0.238	0.286 0.117	0.338 0.263	0.328 0.111	0.335 0.013	0.229 0.08	0.318 0.121	0.121	0.276	0.26)	0,033	0.125	0	C	0		<b>0</b>	0	0	<del>- · · ·  </del>	n 0	
*UG TIVE EMISSION CHR2 (B091-8180) HF PPM FUGITIVE EMISSION CHR3 (A091-A180) HF PPM FUGITIVE EMISSION CHR4 (A003-A0411) HF PPM	0.132 0.191 0.221	0.174 0.195 0.185	0.159 0.02	0.188 0.196 0.096	0.211 0.204 0.045	0,756 0,286	0.215 0.105	0.298 0.128 0.127	0.309 0.237 0.116	0.282 0.218 0.122	0.238 0.153	0.296 0.117 0.117	0.338 0.263 0.019	0.328 0.111 0.012	0.335 0.013 0.073	0.229 0.06 0.0223	0.318 0.121 0	0.121 0.033	0.276 0.013	0.26; 0.089	0,033	0.125 0.068	0	C	0	0	0	0	0 0 0 Monti	i) 0 hly Average (pr y Average (mg	n 0	0.121 0.062 0.144
FUG TIVE EMISSION CH#2 (6091-8180) HF PPM FUGITIVE FM SSION CH#3 (4091-4180) HF PPM	0.132 0.191 0.221 Wednesday	0.174 0.195 0.195 Thursday	0.159 0.02 Friday	0.185 0.196 0.096 Saturday	0.211 0.204 0.045 Sunday	0.756 0.286 Monday	0.215 0.105 Tuesday	0.299 0.128 0.127 Wednesday	0.309 0.237 0.116 Thursday	0.218 0.122 Friday	0.238 0.153 Saturday	0.296 0.117 0.117 Sunday	0.338 0.263 0.019 Monday	0.328 0.111 0.012	0.335 0.013 0.073 Wednesday	0.229 0.06 0.0223 Thursday	0.318 0.121 0	0.121 0.033 Saturday	0.276 0.013 Sunday	0.25) 0.089 Monday	0,033 0 Tuesday	0.125 0.068 Wednesday	O D Thursday	C	0	0	<b>0</b>	0	0 0 0 Monti	i) 0 hly Average (pr y Average (mg	0 (m) (M3)	0.121 0.062 0.144 0.126
FUGITIVE EMISSION CH#2 (5091-8180) HF	0.132 0.191 0.221 Wednesday 01-08-16	0.174 0.195 0.185 Thursday 02-08-16	0.159 0.02 0.02 Friday 03-08-18	0.185 0.196 0.096 Saturday 04-08-18	0.211 0.204 0.045 Sunday 05-08-18	0.756 0.286 Monday 06-08-18	0.215 0 105 Tuesday 07-08-18	0.298 0.128 0.127 Wednesday 08-08-18	0.309 0.237 0.416 Thursday 09-08-18	0.218 0.218 0.122 Friday 10-98-18	0.238 0.153 Saturday 11-08-18	0.296 0.117 0.117 Sunday 12-08-18	0.338 0.263 0.019 Monday 13-08-18	0.328 0.111 0.012 Tuesday 14-08-18	0.335 0.013 0.073 Wednesday 15-08-18	0.229 0.06 0.0223 Thursday 16-08-18	0.318 0.121 0 Friday 17-08-18	0.121 0.033 Saturday 18-08-18	0.276 0.013 Sunday 19-08-18	0.26j 0.089 Monday 20-08-28	0,033 0 Tuesday 21-08-18	0.125 0.068	O D Thursday	C O Friday	0 O Saturday	0	0	0 C Tuesday	0 0 0 Mont: Month! Wednesday	i) 0 hly Average (pr y Average (mg	0 om) /M3) Friday	0.121 0.062 0.144
FUGITIVE EMISSION CH#2 (B091-8180) HF	0.132 0.191 0.221 Wednesday 01-08-18 0.105	0.174 0.195 0.185 Thursday 02-08-16 0.087	0.159 0.02 0.02 Friday 03-08-18	0.196 0.196 0.096 Saturday 04-09-18 0.309	0.211 0.204 0.045 Sunday 05-08-18 0.166	0.756 0.286 Monday 06-08-18 0.115	0.215 0.105 Tuesday 07-08-18 0.054	0.298 0.128 0.127 Wednesday 08-08-18 0.055	0.309 0.237 0.416 Thursday 09-08-18:	0.218 0.218 0.122 Friday 10-08-18 0.209	0.238 0.153 Saturday 11-08-18 0.159	0.296 0.117 0.117 Sunday 12-08-18 0.092	0.338 0.263 0.019 Monday 13-08-18 0.135	0.328 0.111 0.012 7uesday 14-08-18 0.151	0.335 0.013 0.073 Wednesday 15-08-18 0.055	0.229 0.06 0.0223 Thursday 16-08-18 0.392	0.318 0.121 0 Friday 17-08-18 0.145	0.121 0.033 Saturday 18-08-18 0.157	0.276 0.013 Sunday 19-08-18 0.164	0.26; 0.089 Monday 20-08-28 0.083	0,033 0 Tuesday 21-08-18 0.727	0.125 0.068 Wednesday 22-08-18 0.210	O D Thursday	C O Friday	0 O Saturday	0 Sunday	0 0 0 Monday	0 C Tuesday	0 0 0 Mont: Month! Wednesday	0 hly Average [mg y Average [mg Thursday 30-08-18	0 om) /M3) Friday	0.121 0.062 0.144 0.126 /g. In PPM
#US TIVE EMISSION CH#2 (B091-8180) HF	0.132 0.191 0.221 Wednesday 01-08-18 0.105	0.174 0.195 0.185 Thursday 02-08-16 0.087	0.159 0.02 0.02 Friday 03-08-18 0.074	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.043	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136	0.756 0.286 Monday 06-08-18 0.014	0.215 0.105 Tuesday 07-08-18 0.054 0.023	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039	0.218 0.218 0.122 Friday 10-98-18 0.209 0.198	0.238 0.153 Saturday 11-08-18 0.159 0.21	0.296 0.117 0.117 5unday 12-08-18 0.092 0.164	0.338 0.263 0.019 Monday 13-08-18 0.135 0.179	0.328 0.111 0.012 Tuesday 14-08-18 0.151 0.156	0.335 0.013 0.073 Wednesday 15-08-18 0.055 0.188	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449	0.318 0.121 0 Friday 17-08-18 0.143 0.248	0.121 0.033 Saturday 18-08-18 0.157 0.26	0.276 0.013 Sunday 19-08-18 0.164 0.712	0.26j 0.089 Monday 20-08-28	0,033 0 Tuesday 21-08-18	0.125 0.068 Wednesday 22-08-18	0 0 Thursday 23-08-18	0 0 Friday 24-08-18	0 0 5aturday 25-08-18	0 Sunday 26-08-18 0.159	0 0 0 Monday 27-98-18	0 0 Tuesday 28-08-18	0 0 0 Month Monthl Wednesday 29-08-18	0 hly Average [mg y Average [mg Thursday 30-08-18	0 (m) /M3) Friday 31-08-28 (0 136	0.121 0.062 0.144 0.120 /g. in PPM 0.154
#US TIVE EMISSION CH#2 (B091-8180) HF	0.132 0.191 0.221 Wednesday 01-08-18 0.105	0.174 0.195 0.185 0.185 Thursday 02-08-16 0.087 0	0.159 0.02 6.02 Friday 03-08-18 0.074 0	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.048 0.333	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136	0.756 0.286 Monday 06-08-18 0.115 0.014 0.075	0.215 0.105 Tuesday 07-08-18 0.054	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006 0.074	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124	0.218 0.218 0.122 Friday 10-08-18 0.209 0.198 0.146	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125	0.296 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092	0.338 0.263 0.019 Monday 13-08-18 0.135 0.179 0.057	0.328 0.111 0.012 Tuesday 14-08-18 0.151 0.156 0.015	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.188	0.229 0.06 0.0223 Thursday 16-08-18 0.392	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307	0.121 0.033 Saturday 18-08-18 0.157 0.26 0.353	0.276 0.013 Sunday 19-08-18 0.164 0.212 0.295	0.26; 0.089 Monday 20-08-28 0.083 0.145 0.28	0,033 0 Tuesday 21-08-18 0,727 0.24 0,535	0.125 0.068 Wednesday 22-08-18 0.210	0 0 Thersday 23-08-13 0.26	C 0 Friday 24-08-18 0.224	0 0 5aturday 25-08-18 0.178	0 Sunday 26-08-18 0.159 0.198	0 0 0 Monday 27-98-18 0.08	0 0 Tuesday 28-08-18 0.106	0 0 0 Mont: Month! Wednesday 29-08-18 0.164	i) 0 hty Average(py y Average [mg Thursday 30-08-12 0.184 0.249	0 (M3) Friday Av 31-08-28 (0 136 0.142	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.154
#US TIVE EMISSION CH#2 (B091-8180) HF	0.132 0.191 0.221 Wednesday 01-08-18 0.105	0.174 0.195 0.185 Thursday 02-08-16 0.087	0.159 0.02 0.02 Friday 03-08-18 0.074	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.043	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136	0.756 0.286 Monday 06-08-18 0.014	0.215 0.105 Tuesday 07-08-18 0.054 0.023	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039	0.218 0.218 0.122 Friday 10-98-18 0.209 0.198	0.238 0.153 Saturday 11-08-18 0.159 0.21	0.296 0.117 0.117 5unday 12-08-18 0.092 0.164	0.338 0.263 0.019 Monday 13-08-18 0.135 0.179	0.328 0.111 0.012 Tuesday 14-08-18 0.151 0.156	0.335 0.013 0.073 Wednesday 15-08-18 0.055 0.188	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449	0.318 0.121 0 Friday 17-08-18 0.143 0.248	0.121 0.033 Saturday 18-08-18 0.157 0.26	0.276 0.013 Sunday 19-08-18 0.164 0.712	0.26; 0.089 Monday 20-08-28 0.083 0.145	0.033 0 Tuesday 21-08-18 0.727 0.24	0.125 0.068 Wednesday 22-08-18 0.210 0.29	0 0 0 Thursday 23-08-18 0.26 0.22	C 0 Friday 24-08-18 0.224 0.292	0 0 5aturday 25-08-18 0.178 9.208	0 Sunday 26-08-18 0.159 0.198	0 0 0 Monday 27-08-18 0.08 0.22ē	0 0 0 Tuesday 28-08-18 0.106 0.22	0 0 0 Month Wednesday 29-08-18 0.164 0.256	i) 0 hty Average(py y Average [mg Thursday 30-08-12 0.184 0.249	0 (m) /M3) Friday 31-08-28 (0 136	0.121 0.062 0.144 0.120 vg. In PPM 0.154 0.169 0.241
PUGITIVE EMISSION CH#2 (B091-8180) HF PPM FUGITIVE EMISSION CH#4 (A003-A091) HF PPM FUGITIVE EMISSION CH#4 (A003-A091) HF PPM  AUGUST'18  FUGITIVE EMISSION CH#1 (8001-8090) HF PPM FUGITIVE EMISSION CH#1 (8001-8090) HF PPM FUGITIVE EMISSION CH#2 (8091-8180) HF PPM FUGITIVE EMISSION CH#3 (A091-A180) HF PPM	0.132 0.191 0.221 Wednesday 01-08-18 0.105	0.174 0.195 0.185 0.185 Thursday 02-08-16 0.087 0	0.159 0.02 6.02 Friday 03-08-18 0.074 0	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.048 0.333	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136	0.756 0.286 Monday 06-08-18 0.115 0.014 0.075	0.215 0.105 Tuesday 07-08-18 0.054 0.023	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006 0.074	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124	0.218 0.218 0.122 Friday 10-08-18 0.209 0.198 0.146	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125	0.296 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092	0.338 0.263 0.019 Monday 13-08-18 0.135 0.179 0.057	0.328 0.111 0.012 Tuesday 14-08-18 0.151 0.156 0.015	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.188	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307	0.121 0.033 Saturday 18-08-18 0.157 0.26 0.353	0.276 0.013 Sunday 19-08-18 0.164 0.212 0.295	0.26; 0.089 Monday 20-08-28 0.083 0.145 0.28	0,033 0 Tuesday 21-08-18 0,727 0.24 0,535	0.125 0.068 Wednesday 22-08-18 0.210 0.29	0 0 0 Thersday 23-08-13 0.26 0.22 0.65B	C 0 Friday 24-08-18 0.224 0.292	0 0 5aturday 25-08-18 0.178 0.208 0.353	0 Sunday 26-08-18 0.159 0.198 0.252	0 0 0 Monday 27-98-18 0.08 0.226 0.293	0 C Tuesday 28-08-18 0 0.106 0.22 0.272	0 0 0 Month Wednesday 29-08-18 0.164 0.258 0.456 0.101	0 hly Average [mg Y Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046	0 (m) (M3) (Friday Av (0.136 (0.142 (0.262 (0.136 (0.142 (0.142 (0.142 (0.142 (0.144 (	0.121 0.062 0.144 0.120 vg. In PPM 0.154 0.169 0.241 0.050
PUGITIVE EMISSION CH#2 (B091-8180) HF PPM FUGITIVE EMISSION CH#4 (A091-A180] HF PPM FUGITIVE EMISSION CH#4 (A003-A091) HF PPM  AUGUST 18  FUGITIVE EMISSION CH#1 (8001-8090) HF PPM FUGITIVE EMISSION CH#2 (8091-8180) HF PPM FUGITIVE EMISSION CH#3 (A091-A180) HF PPM FUGITIVE (MISSION CH#4 (A001-A090) HF PPM	0.132 0.191 0.221 Wednesday 01-08-18 0.105 0	0.374 0.195 0.185 0.185 Thursday 02-08-18 0.087 0	0.159 0.02 Friday 03-08-18 0.074 0	0.185 0.096 0.096 Saturday 04-08-18 0.309 0.048 0.333 0.343	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176	0,756 0.286 0.286 Monday 06-08-18 0.115 0.014 0.075	0.215 0 105 Tuesday 07-05-18 0.054 0.034 0.047	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006 0.074	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124	0.232 0.218 0.122 Friday 10-98-18 0.209 0.198 0.146 0.050	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125 0.111	0.296 0.117 0.117 0.117 Sunday 12-08-18 0.092 0.164 0.092	0.338 0.263 0.019 Monday 13-08-18 0.135 0.179 0.083	0.328 0.111 0.012 Tuesday 14-08-18 0.151 0.156 0.015 0.073	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.188 0.011	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052	0.121 0.033 Saturday 18-08-18 0.157 0.26 0.353 0.048	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.293 0.084	0.26) 0.089 Monday 20-08-28 0.083 0.145 0.28	0,033 0 Tuesday 21-08-18 0,727 0,24 0,535 0,154	0.125 0.068 Wednesday 22-08-18 0.219 0.29 0.518	0 0 0 Thersday 23-08-13 0.26 0.22 0.65B	C 0 Friday 24-08-18 0.224 0.292	0 0 5aturday 25-08-18 0.178 0.208 0.353	0 Sunday 26-08-18 0.159 0.198 0.252	0 0 0 Monday 27-98-18 0.08 0.226 0.293	0 C Tuesday 28-08-18 0 0.106 0.22 0.272	0 0 0 Month Wednesday 29-08-18 0.164 0.256 0.456 0.101 Mants	0 hly Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046 hly Average [mg Thursday 30-08-18 0.194 0.249 0.512 0.046 http://www.news.com/news/news/news/news/news/news/news/news	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153
PUGITIVE EMISSION CH#2 (B091-8180) HF PPM FUGITIVE EMISSION CH#4 (A003-A091) HF PPM FUGITIVE EMISSION CH#4 (A003-A091) HF PPM  AUGUST'18  FUGITIVE EMISSION CH#1 (8001-8090) HF PPM FUGITIVE EMISSION CH#1 (8001-8090) HF PPM FUGITIVE EMISSION CH#2 (8091-8180) HF PPM FUGITIVE EMISSION CH#3 (A091-A180) HF PPM	0.132 0.191 0.221 Wednesday 01-08-18 0.105 0	0.174 0.195 0.185 Thursday 02-08-18 0.087 0	0.159 0.02 Friday 03-08-18 0.074 0	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.048 0.333 0.343	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176	0,756 0.286 0.286 Monday 06-03-18 0.115 0.014 0.075 0	0.215 0 105 Tuesday 07-08-18 0.034 0.037 0.047	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.055 0.074 0	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124	0.232 0.218 0.122 Friday 10-98-18 0.209 0.193 0.146 0.050	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125 0.111	0.296 0.117 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092 0.094	0.338 0.263 0.019 Monday 13-08-18 0.135 0.179 0.083	0.328 0.111 0.012 7uestday 14-08-18 0.151 0.156 0.015 0.073	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.188 0.011 0.084	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335 0	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052	0.121 0.033 Saturday 18-08-18 0.157 0.26 0.353 0.038	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.293 0.084	0.26) 0.089 Monday 20-08-28 0.083 0.145 0.28 0	0,033 0 Tuesday 21-08-13 0,727 0,24 0,535 0,151	0.125 0.068 Wednesday 22-08-18 0.210 0.29 0.518 0	0 0 0 Thursday 23-08-13 0.26 0.22 0.65B 0.004	C 0 0 Friday 24-08-18 0.224 0.292 0.547 0	0 0 5aturday 25-08-18 0.178 0.208 0.353	0 Sunday 26-08-18 0.159 0.198 0.252	0 0 0 0 27-98-18 0.08 0.226 0.293	0 0 0 28-08-18 0.106 0.22 0.272 0	0 0 0 Month Wednesday 29-08-18 0.164 0.256 0.456 0.101 Mants	0 hly Average [mg Y Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153 0.128
#US TIVE EMISSION CH#2 (B091-8180) HF	0.132 0.191 0.221 Wednesday 01-08-18 0.103 0 0	0.174 0.195 0.185 0.185 Thursday 02-08-18 0.087 0 0 0	0.159 0.02 Friday 03-08-18 0.074 0 0 0 Monday 63-09-18	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.048 0.333 0.343	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176 Wednesday 05-09-18	0,756 0.286 0.286 Monday 06-08-18 0.014 0.075 0	0.215 0 105 0 105 Tuesday 07-05-18 0.054 0.031 0.047 0	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006 0.074 0	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124 Sunday 09-08-18	0.232 0.218 0.122 Friday 10-08-18 0.209 0.193 0.146 0.050 Monday 10-09-18	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125 0.111 Yuesday 11-09-18	0.286 0.117 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092 0.094 Wednesday 12-09-18	0.338 0.263 0.019 0.019 Monday 13-08-18 0.135 0.179 0.083 Thursday 13-09-18	0.328 0.111 0.012 Tuesday 14-08-18 0.151 0.156 0.015 0.073 Friday 14-09-18	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.186 0.011 0.084 Saturday 15-09-18	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335 0	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052 Monday 17-09-18	0.121 0.033 Saturday 18-08-18 0.157 0.26 0.353 0.038 Tuesday 18-09-18	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.295 0.084 Wednesday, 19-09-18	0.26) 0.089 Monday 20-08-28 0.083 0.145 0.28	0,033 0 Tuesday 21-08-13 0,727 0,24 0,535 0,151	0.125 0.068 Wednesday 22-08-18 0.210 0.29 0.518 0	0 0 0 Thursday 23-08-13 0.26 0.22 0.65B 0.004	C 0 0 Friday 24-08-18 0.224 0.292 0.547 0	0 0 5aturday 25-08-18 0.178 9.208 0.353 0	0 0 Sunday 26-08-18 0.159 0.198 0.252 0	0 0 0 0 27-98-18 0.08 0.226 0.293	0 0 0 28-08-18 0.196 0.22 0.272 0	0 0 0 Month Wednesday 29-08-18 0.164 0.256 0.456 0.101 Month	i)  0 hly Average [mg Y Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046 hly Average [mg Y Average [mg	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153
#US TIVE EMISSION CH#2 (B091-8180) HF	0.132 0.191 0.221 Wednesday 01-08-18 0.105 0 0 ( Saturday 01-09-18 0.164	0.174 0.195 0.185 0.185 Thursday 02-08-18 0.087 0 0 0 Stinday 02-09-18 0.148	0.159 0.02 Friday 03-08-18 0.074 0 0 Monday 63-09-18 0.193	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.048 0.333 0.343 Tuesday 04-09-18 0.252	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176 Wednesday 05-09-18 0.143	0,756 0.286 0.286 Monday 06-03-18 0.115 0.014 0.075 0	0.215 0 105 0 105 0 105 0 105 0 1054 0 1034 0 1047 0 0 Friday 0 7-89-18 0 124	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006 0.074 0 Saturday 08-09-18 0.367	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124 Sunday 09-08-18	0.232 0.218 0.122 Friday 10-08-18 0.209 0.193 0.146 0.050 Monday 10-09-18 0.418	0.238 0.153 0.153 11-08-18 0.159 0.21 0.125 0.111 Yuesday 11-09-18 0.32	0.296 0.117 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092 0.094 Wednesday 17-09-18 0.309	0.338 0.263 0.019 0.019 Monday 13-08-18 0.135 0.179 0.083 Thursday 13-09-18 0.476	0.328 0.111 0.012 7uestday 14-08-18 0.151 0.156 0.015 0.073 Friday 14-09-18 0.261	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.188 0.011 0.084 Saturday 15-09-18 0.373	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335 0	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052 Monday 17-09-18 0.329	0.121 0.093 Saturday 18-08-18 0.157 0.26 0.353 0.048 Tuesday 18-09-18 0.784	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.295 0.084 Wednesday, 19-09-18 0.361	0.26; 0.089 Monday 20-08-28 0.083 0.145 0.28 0 Thursday 20-09-18 0.147	0,033 0 Tuesday 21-08-18 0.727 0.24 0.535 0.151 \$Filday 21-09-18 0.081	0.125 0.068 Wednesday 22-08-18 0.210 0.29 0.518 0	0 0 0 Thursday 23-08-13 0.26 0.22 0.65B 0.004	C 0 0 Friday 24-08-18 0.224 0.292 0.547 0	0 0 5aturday 25-08-18 0.178 9.208 0.353 0	0 0 Sunday 26-08-18 0.159 0.198 0.252 0	0 0 0 0 27-98-18 0.08 0.226 0.293 0	0 0 0 28-08-18 0.196 0.22 0.272 0	0 0 Month Wednesday 29-08-18 0.164 0.256 0.456 0.101 Month Saturday	I)  O hly Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046 hly Average [mg	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153 0.128 /g. In PPM
### PPM   PP	0.132 0.191 0.221 Wednesday 01-08-18 0.105 0 0 ( Saturday 01-09-18 0.164 0.236	0.174 0.195 0.185 Thursday 02-08-18 0.087 0 0 5unday 02-09-18 0.148 0.148	0.159 0.02 Friday 03-08-18 0.074 0 0 0 Monday 03-09-18 0.193 0.237	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.048 0.333 0.343 Tuesday 04-09-18 0.252 0.333	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176 Wednesday 05-09-18 0.143 0.357	0,756 0.286 0.286 0.086 0.004 0.015 0.014 0.075 0 0.075 0 0.0948 0.186 0.334	0.215 0 105 0 105 0 105 0 1084 0 034 0 047 0 0 Friday 0 7-99-18 0 24 0 345	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006 0.074 0 Saturday 08-09-18 0.367 0.42	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124 Sunday 09-08-18 0.349 0-365	0.282 0.218 0.122 Friday 10-08-18 0.209 0.193 0.146 0.050 Monday 10-09-18 0.418 0.365	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125 0.111 Yuesday 11-09-18 0.32 0.335	0.296 0 117 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092 0.094 Wednesday 12-09-18 0.309 0.314	0.338 0.263 0.019 0.019 Monday 13-08-18 0.135 0.179 0.083 Thursday 13-09-18 0.476 0.409	0.328 0.111 0.012 7uestday 14-08-18 0.151 0.156 0.015 0.073 Friday 14-09-18 0.261	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.186 0.011 0.084 Saturday 15-09-18 0.373 0.451	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335 0 Sunday 16-09-18 0.327	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052 Monday 17-09-18 0.329 0.394	0.121 0.093 Saturday 18-08-18 0.157 0.26 0.353 0.098 Tuesday 18-09-18 0.784 0.398	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.295 0.084 Wednesday, 19-09-18	0.26; 0.089 Monday 20-08-28 0.083 0.145 0.28 0	0,033 0 Tuesday 21-08-18 0.727 0.24 0.535 0.151 \$Filday 21-09-18 0.081	0.125 0.068 Wednesday 22-08-18 0.219 0.518 0	0 0 0 Thersday 23-08-13 0.26 0.22 0.658 0.004 Sunday 23-09-18	C 0 0 Friday 24-08-18 0.224 0.292 0.547 0 Monday 24-09-18	0 0 0 25-08-18 0.178 0.208 0.353 0	9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 27-98-18 0.08 0.226 0.293 0	0 0 0 28-08-18 0.196 0.22 0.272 0	0 0 0 Month Wednesday 29-08-18 0.164 0.256 0.456 0.101 Month Saturday 29-09-18	i)  0 hly Average [mg Y Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046 hly Average [mg Y Average [mg Sunday 30-09-18	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153 0.128 /g. In PPM
### PPM   PP	0.132 0.191 0.221 0.221 Wednesday 01-08-18 0.103 0 0 ( Saturday 01-09-18 0.164 0.236 0.389	0.174 0.195 0.185 0.185 Thursday 02-08-18 0.087 0 0 0 Stinday 02-09-18 0.148 0.148 0.305	0.159 0.02 Friday 03-08-18 0.074 0 0 0 Monday 03-09-18 0.193 0.237	0.185 0.196 0.096 5aturday 04-08-18 0.309 0.048 0.333 0.343 Tuesday 04-09-18 0.252 0.323 0.349	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176 Wednesday 05-09-18 0.143 0.357	0,756 0.286 0.286 0.086 0.004 0.015 0.014 0.075 0 0.075 0 0.0948 0.186 0.334 0.195	0.215 0 105 0 105 0 105 0 1084 0.034 0.047 0 0 Friday 07-09-18 0.345 0.345	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.074 0 Saturday 08-09-18 0.367 0.42	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124 Sunday 09-09-18 0.349 0-345 0-345 0-343	0.282 0.218 0.122 Friday 10-08-18 0.209 0.193 0.146 0.050 Monday 10-09-18 0.418 0.365 0.575	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125 0.111 Yuesday 11-09-18 0.32 0.335 0.441	0.296 0.117 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092 0.094 Wednesday 12-09-18 0.309 0.314 0.555	0.338 0.263 0.019 0.019 13-08-18 0.135 0.179 0.083 Thursday 13-09-18 0.476 0.409 0.538	0.328 0.111 0.012  Tuesday 14-08-18 0.151 0.156 0.015 0.073  Friday 14-09-18 0.261 0.331 0.459	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.188 0.011 0.084 Saturday 15-09-18 0.373 0.451 0.366	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335 0 Sunday 16-09-18 0.327 0.329	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052 Monday 17-09-18 0.329 0.394 0.454	0.121 0.093 Saturday 18-08-18 0.157 0.26 0.353 0.098 Tuesday 18-09-18 0.784 0.494	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.295 0.084 Wednesday, 19-09-18 0.361	0.26; 0.089 Monday 20-08-28 0.083 0.145 0.28 0 Thursday 20-09-18 0.147	0,033 0 Tuesday 21-08-18 0.727 0.24 0.535 0.151 \$Filday 21-09-18 0.081	0.125 0.068 Wednesday 22-08-18 0.219 0.518 0 Saturday 22-09-18 0.151	0 0 0 Thersday 23-08-13 0.26 0.22 0.658 0.004 Sunday 23-09-18 0.163	C 0 0 Friday 24-08-18 0.224 0.547 0 Monday 24-09-18 0.221	5aturday 25-08-18 0.178 9.208 0.353 0	5unday 26-08-18 0.159 0.198 0.252 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 28-08-18 0.196 0.22 0.272 0 Friday 28-09-18 0.163	0 0 0 Month Wednesday 29-08-18 0.164 0.256 0.456 0.101 Month Saturday 29-09-18 0.264	1) 0 hly Average [mg Y Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046 hly Average [mg Average [mg Sunday 30-09-18 0.15	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153 0.128 /g. In PPM 0.242 0.316
#UG TIVE EMISSION CH#2 (B091-8180) HF	0.132 0.191 0.221 Wednesday 01-08-18 0.105 0 0 ( Saturday 01-09-18 0.164 0.236	0.174 0.195 0.185 0.185 Thursday 02-08-18 0.087 0 0 0 Stinday 02-09-18 0.148 0.148 0.305	0.159 0.02 Friday 03-08-18 0.074 0 0 0 Monday 03-09-18 0.193 0.237	0.185 0.196 0.096 Saturday 04-08-18 0.309 0.048 0.333 0.343 Tuesday 04-09-18 0.252 0.333	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176 Wednesday 05-09-18 0.143 0.357	0,756 0.286 0.286 0.086 0.004 0.015 0.014 0.075 0 0.075 0 0.0948 0.186 0.334	0.215 0 105 0 105 0 105 0 1084 0 034 0 047 0 0 Friday 0 7-99-18 0 24 0 345	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.006 0.074 0 Saturday 08-09-18 0.367 0.42	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124 Sunday 09-08-18 0.349 0-365	0.282 0.218 0.122 Friday 10-08-18 0.209 0.193 0.146 0.050 Monday 10-09-18 0.418 0.365 0.575	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125 0.111 Yuesday 11-09-18 0.32 0.335	0.296 0 117 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092 0.094 Wednesday 12-09-18 0.309 0.314	0.338 0.263 0.019 0.019 Monday 13-08-18 0.135 0.179 0.083 Thursday 13-09-18 0.476 0.409	0.328 0.111 0.012 7uestday 14-08-18 0.151 0.156 0.015 0.073 Friday 14-09-18 0.261	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.186 0.011 0.084 Saturday 15-09-18 0.373 0.451	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335 0 Sunday 16-09-18 0.327	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052 Monday 17-09-18 0.329 0.394	0.121 0.093 Saturday 18-08-18 0.157 0.26 0.353 0.098 Tuesday 18-09-18 0.784 0.398	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.295 0.084 Wednesday, 19-09-18 0.361 0.478	0.26; 0.089 0.089 20-08-28 0.083 0.145 0.28 0 Thursday 20-09-18 0.147 0.327	0,033 0 Tuesday 21-08-18 0,727 0.24 0.535 0.154 Friday 21-09-18 0.081 0.416	0.125 0.068 Wednesday 22-08-18 0.219 0.518 0 Saturday 22-09-18 0.151	0 0 0 Thersday 23-08-13 0.26 0.22 0.658 0.004 Sunday 23-09-18 0.163 0.184	C 0 0 Friday 24-08-18 0.224 0.547 0 Monday 24-09-18 0.221 0.328	0 0 0 25-08-18 0.178 0.208 0.353 0 Toesday 25-09-18 0.176 0.171	0 0 Sunday 26-08-18 0.159 0.198 0.252 0 Wednesday 26-09-18 0.189 0.271	Monday 27-98-18 0.08 0.226 0.293 0 Thursday 27-09-18 0.263 0.211	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 Month Wednesday 29-08-18 0.164 0.256 0.456 0.101 Month Saturday 29-09-18 0.264 0.278	0 hly Average [mg Y Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046 hly Average [mg Average [mg Junday 30-09-18 0.15 0.15	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153 0.128 /g. In PPM 0.242 0.346 0.333
### PPM   PP	0.132 0.191 0.221 0.221 Wednesday 01-08-18 0.103 0 0 ( Saturday 01-09-18 0.164 0.236 0.389	0.174 0.195 0.185 0.185 Thursday 02-08-18 0.087 0 0 0 Stinday 02-09-18 0.148 0.148 0.305	0.159 0.02 Friday 03-08-18 0.074 0 0 0 Monday 03-09-18 0.193 0.237	0.185 0.196 0.096 5aturday 04-08-18 0.309 0.048 0.333 0.343 Tuesday 04-09-18 0.252 0.323 0.349	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176 Wednesday 05-09-18 0.143 0.357	0,756 0.286 0.286 0.086 0.004 0.015 0.014 0.075 0 0.075 0 0.0948 0.186 0.334 0.195	0.215 0 105 0 105 0 105 0 1084 0.034 0.047 0 0 Friday 07-09-18 0.345 0.345	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.074 0 Saturday 08-09-18 0.367 0.42	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124 Sunday 09-09-18 0.349 0-345 0-345 0-343	0.282 0.218 0.122 Friday 10-08-18 0.209 0.193 0.146 0.050 Monday 10-09-18 0.418 0.365 0.575	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125 0.111 Yuesday 11-09-18 0.32 0.335 0.441	0.296 0.117 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092 0.094 Wednesday 12-09-18 0.309 0.314 0.555	0.338 0.263 0.019 0.019 13-08-18 0.135 0.179 0.083 Thursday 13-09-18 0.476 0.409 0.538	0.328 0.111 0.012  Tuesday 14-08-18 0.151 0.156 0.015 0.073  Friday 14-09-18 0.261 0.331 0.459	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.188 0.011 0.084 Saturday 15-09-18 0.373 0.451 0.366	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335 0 Sunday 16-09-18 0.327 0.329	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052 Monday 17-09-18 0.329 0.394 0.454	0.121 0.093 Saturday 18-08-18 0.157 0.26 0.353 0.098 Tuesday 18-09-18 0.784 0.494	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.295 0.084 Wednesday, 19-09-18 0.361 0.478 0.828	0.26) 0.089  Monday 20-08-28 0.083 0.145 0.28 0 Thursday 20-09-18 0.147 0.327 0.249	0,033 0 Tuesday 21-08-18 0,727 0.24 0.535 0.154 Friday 21-09-18 0.081 0.416 0.38	0.125 0.068 Wednesday 22-08-18 0.219 0.518 0 Saturday 22-09-18 0.151 0.375 0.422	0 0 0 Thersday 23-08-13 0.26 0.22 0.658 0.004 Sunday 23-09-18 0.163 0.184	C 0 0 Friday 24-08-18 0.224 0.547 0 Monday 24-09-18 0.221 0.328 0.222	0 0 0 25-08-18 0.178 0.208 0.353 0 Toesday 25-09-18 0.176 0.171 0.718	5unday 26-08-18 0.159 0.198 0.252 0 Wednesday 26-09-18 0.189 0.271	Monday 27-98-18 0.08 0.226 0.293 0 Thursday 27-09-18 0.263 0.211 0.146	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 hly Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046 hly Average [mg Thursday 30-09-18 0.15 0.173 0.172	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153 0.128 /g. In PPM 0.242 0.316
### PPM   PP	0.132 0.191 0.221 0.221 Wednesday 01-08-18 0.103 0 0 ( Saturday 01-09-18 0.164 0.236 0.389	0.174 0.195 0.185 0.185 Thursday 02-08-18 0.087 0 0 0 Stinday 02-09-18 0.148 0.148 0.305	0.159 0.02 Friday 03-08-18 0.074 0 0 0 Monday 03-09-18 0.193 0.237	0.185 0.196 0.096 5aturday 04-08-18 0.309 0.048 0.333 0.343 Tuesday 04-09-18 0.252 0.323 0.349	0.211 0.204 0.045 Sunday 05-08-18 0.166 0.136 0.127 0.176 Wednesday 05-09-18 0.143 0.357	0,756 0.286 0.286 0.086 0.004 0.015 0.014 0.075 0 0.075 0 0.0948 0.186 0.334 0.195	0.215 0 105 0 105 0 105 0 1084 0.034 0.047 0 0 Friday 07-09-18 0.345 0.345	0.298 0.128 0.127 Wednesday 08-08-18 0.055 0.074 0 Saturday 08-09-18 0.367 0.42	0.309 0.237 0.116 Thursday 09-08-18 0.134 0.039 0.124 0.124 Sunday 09-09-18 0.349 0-345 0-345 0-343	0.282 0.218 0.122 Friday 10-08-18 0.209 0.193 0.146 0.050 Monday 10-09-18 0.418 0.365 0.575	0.238 0.153 Saturday 11-08-18 0.159 0.21 0.125 0.111 Yuesday 11-09-18 0.32 0.335 0.441	0.296 0.117 0.117 0.117 5unday 12-08-18 0.092 0.164 0.092 0.094 Wednesday 12-09-18 0.309 0.314 0.555	0.338 0.263 0.019 0.019 13-08-18 0.135 0.179 0.083 Thursday 13-09-18 0.476 0.409 0.538	0.328 0.111 0.012  Tuesday 14-08-18 0.151 0.156 0.015 0.073  Friday 14-09-18 0.261 0.331 0.459	0.335 0.013 0.073 Wednesday 15-09-18 0.055 0.188 0.011 0.084 Saturday 15-09-18 0.373 0.451 0.366	0.229 0.06 0.0223 Thursday 16-08-18 0.392 0.449 0.335 0 Sunday 16-09-18 0.327 0.329	0.318 0.121 0 Friday 17-08-18 0.145 0.248 0.307 0.052 Monday 17-09-18 0.329 0.394 0.454	0.121 0.093 Saturday 18-08-18 0.157 0.26 0.353 0.098 Tuesday 18-09-18 0.784 0.494	0.276 0.013 Sunday 19-08-18 0.164 0.712 0.295 0.084 Wednesday, 19-09-18 0.361 0.478 0.828	0.26) 0.089  Monday 20-08-28 0.083 0.145 0.28 0 Thursday 20-09-18 0.147 0.327 0.249	0,033 0 Tuesday 21-08-18 0,727 0.24 0.535 0.154 Friday 21-09-18 0.081 0.416 0.38	0.125 0.068 Wednesday 22-08-18 0.219 0.518 0 Saturday 22-09-18 0.151 0.375 0.422	0 0 0 Thersday 23-08-13 0.26 0.22 0.658 0.004 Sunday 23-09-18 0.163 0.184	C 0 0 Friday 24-08-18 0.224 0.547 0 Monday 24-09-18 0.221 0.328 0.222	0 0 0 25-08-18 0.178 0.208 0.353 0 Toesday 25-09-18 0.176 0.171 0.718	5unday 26-08-18 0.159 0.198 0.252 0 Wednesday 26-09-18 0.189 0.271	Monday 27-98-18 0.08 0.226 0.293 0 Thursday 27-09-18 0.263 0.211 0.146	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 hly Average [mg Thursday 30-08-18 0.184 0.249 0.512 0.046 hly Average [mg Average [mg Junday 30-09-18 0.15 0.173 0.172	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.121 0.062 0.144 0.120 /g. In PPM 0.154 0.169 0.241 0.050 0.153 0.128 /g. In PPM 0.242 0.316 0.331 0.103



### Visionich Consuliancy Services Pyu Link



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ISO 14001 : 2004 OHSAS 18001 : 2007

Ref.: ERU ( a le / 18/2-9297

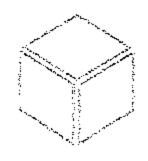
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#### FORAGE ANALYSIS REPORT

1,	Name of Industry		M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga
2.	Date of Sampling		01.03.2018
3.	Nature of Sample	<u>.</u>	Vegetation Sample
4.	Sampling Locations	1 .	Thelkoli; Lapanga; Gurupali; Jangala; Bhadarpali; Bamloi; Tilaimal; Gumkarama; Ghichamura; Plant site.
5.	Sample collected by	;	VCSPL Representative in Presence of Aditya Aluminum Representative
б.	Date of Analysis		03.03.2018 to 05.03.2018

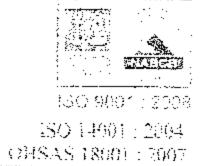
SI. No.			Type of Species	Method of Analysis	Results (ppm) Fluoride 1.08	
1			Brinja! leaf (Solanum Melongena)	AOAC 975.04		
2	01.03.2018	Lapanga	Tomato Leaf (Solanum lycopersicum)	AOAC 975.04	0.87	
3	01.03.2018	Gurupali	Onion leaf (Allium Sepa)	AOAC 975.04	0.75	
4	01.03.2018	Jangala	Flat Lima Beans leaf (Phaseolus Vulgaris)	AOAC 975.04	1.2	
5	01.03.2018	Bhadarpali	Kosala Saga (Amaranthus Leaves)	AOAC 975.04	1.2	
6	01.03.2018	Bomaloi	Charoli leaf (Buchanania lanzan)	AOAC 975.04	1.4	
7 .	01.03.2018	Tileimal	Flat Lima Beans leaf (Phaseolus Vulgaris)	AOAC 975.04	8.0	
8 :	01.03.2018	Gumkarma	Brinjal leaf (Solanum Melongena)	AOAC 975.04	1.05	
9 :	01.03.2018 Ghichamura Cabbage		Cabbage (Brassica Oleracea)	AOAC 975.04	j. <b>l</b>	
10	01.03.2018	Plant site	Bamboo leaf (Bambusa Vulgaris)	AOAC 975.04	1.2	

For Visiontek Consultantes Services Private Limited



### Visioniek Consultancy Sarvices Fve. Lin.

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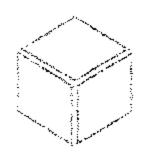
Date: 09.89.18

#### FORAGE ANALYSIS REPORT

gg.	Name of Industry	];	M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga
2.	Date of Sampling	;	03.09.2018 to 04.09.2018
3.	Nature of Sample	<u> </u> :	Vegetation Sample
4.	Sampling Locations		Thelkoli: Lapanga; Gurupali; Jangala; Bhadarpali; Bamloi; Tilaimal; Gumkarama; Ghichamura; Plant site.
5.	Sample collected by		VCSPL Representative in Presence of Aditya Aluminum Representative
6.	Date of Analysis		05.09.2018 to 08.09.2018

Sl. No.	Date of Sampling	. Name of the Location	Type of Species	Method of Analysis	Results (ppm)
	A2 AA AA18	771- a 11- a 11-			Fluoride
	03.09.2018	Thelkoli	Brinjal leaf (Solanum Melongena)	AOAC 975.04	1.3
2	03.09.2018	Lapanga	Tomato Leaf (Solanum lycopersicum)	AOAC 975.04	0.9
3	03.09.2018	Gurupali	Onion leaf (Allium Sepa)	AOAC 975.04	0.6
4	03.09.2018	Jangala	Flat Lima Beans leaf (Phaseolus Vulgaris)	AOAC 975.04	1.0
5	03.09.2018	Bhadarpali	Kosala Saga (Amaranthus Leaves)	AOAC 975.04	]_]
6 :	04.09.2018	Bomaloi	Charoli leaf (Buchanania lanzan)	AOAC 975.04	1.3
7	04.09.2018	Tileimal	Flat Lima Beans leaf (Phaseolus Vulgaris)	AOAC 975.04	0.8
8	04.09.2018	Gumkarma	Brinjal leaf (Solanum Melongena)	AOAC 975.04	1.0
9	04.09.2018	Ghichamura	Cabbage (Brassica Oleracea)	AOAC 975.04	(),9
10	04.09.2018	Plant site	Bamboo leaf (Bambusa Vulgaris)	AOAC 975.04	1.1

For Visiontek Consultancy Services Private Limited



### Visiontek Consultancy Bervices Fvt. Lid.

(An Enviro Engineering Consulting Cell)



ISO 9901 : 2008 ISO 14001 : 2004 IOHSAS 18001 : 2007

Ret. taufablis | R-9298

Date: 10 - Dt. 19

#### FORAGE ANALYSIS REPORT

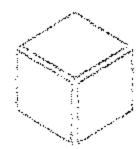
1.	Name of Industry	;	M/s Hindalco Industries Ltd, (Unit-Aditya Aluminium); Lapanga
2.	Date of Sampling	:	04.06.2018 to 05.06.2018
3.	Nature of Sample	:	Vegetation Sample
4.	Sampling Locations	-	Thelkoli; Lapanga; Gurupali; Jangala; Bhadarpali; Bamloi; Tilaimal; Gumkarama; Ghichamura; Plant site.
5.	Sample collected by	:	VCSPL Representative in Presence of Aditya Aluminum Representative
6.	Date of Analysis		06.06.2018 to 09.06.2018

Sl. No.	Date of Sampling	Name of the Location	Type of Species	Method of Analysis	Results (ppm) Fluoride
1	04.06.2018	Thelkoli	Brinjal leaf (Solanum Melongena)	AOAC 975.04	1.0
2	04.06.2018	Lapanga	Tomato Leaf (Solanum lycopersicum)	AOAC 975.04	0.9
3	04.06.2018	Gurupali	Onion leaf (Allium Sepa)	AOAC 975.04	0.75
4	04.06.2018	Jangala	Flat Lima Beans leaf (Phaseolus Vulgaris)	AOAC 975.04	1.0
5	04.06.2018	Bhadarpali	Kosala Saga (Amaranthus Leaves)	AOAC 975.04	1.3
6	05.06.2018	Bomaloi	Charoli leaf (Buchanania lanzan)	AOAC 975.04	1.1
7	05.06.2018	Tileimal	Flat Lima Beans leaf (Phaseolus Vuigaris)	AOAC 975.04	0.65
8	05.06.2018	Gumkarma	Brinjal leaf (Solanum Melongena)	AOAC 975.04	1 3
9	05.06.2018	Ghichamura	Cabbage (Brassica Oleracea)	AOAC 975.04	1.2
10	05.06.2018	Plant site	Bamboo leaf (Bambusa Vulgaris)	AOAC 975.04	1.4

For Visiontek Consultancy Services Private Limited

Total Rate of Bear Despite Conference of the

ANNEXURE-I	İ	atlon .						<u> </u>	
ANN		% of utilization	103.23	71.31	66.70	75.67	58:33	. 64.80	73.38
 		Total Ash Utilized (MT)	117072.36	55796.17	84001.14	95300.45	72788.92	83666.53429	548625.57
		Agnoulture/Horticu Iture Sector (V7)		•	0	a		0	0.00
	  -  -	Aggregates (MT)	0	6	0	; a		0	0.00
		Through HCSD to Ash Pond	4838	33681.60	41935,00	21453.60	51957.83	44035.03	197549.83
		Low Lying area filling/land development (MT)	6857.21	15718.05	16586.76	20251.09	13659.51	18345.71	91428.33
		Road Making (MT)	0	0	0	0	0	, 0	
		Utilization in Embenkrient/Dyke Raising (MT)	8500	0	٥	0	. 0	C	3500
	iber'18	Mine Void Filling	÷	0	۵		0	D	: : °
ALUMINIUM	FLY ASH AND BOTTOM ASH), From April'18 to September'18	Supplied to cement industries (M/s   Nutratech, M/s ACC & M/s OCL) in (MT)	102705.15	80078.12	67288.63	7508.91	59129.41	65320.82	448531.04
NAME OF THE INDUSTRY:- ADITYA ALUMINIUM	Y ASH AND BOTTON	Brick Manufacturing (MT)	0		125.75	20.45	0	0	166.2
NAME OF THE	SATUS OF UTILIZATION OF COAL ASH (FL	Disposal Method	Dry ash is being supplied to Cement Plants, fly ash Buicks unit and in low lying area development and remaining ash disposed through HCSD system to ash pond.	Dry 83h is being supplied to Cement Plants, fly 3sh Bricks unit and In Tow lying area development and remaining ask disposed through HCSD system to ash pond.	Dry ash is being supplied to Cement Flants, fly ash Bricks unit and in Low lying area development and remaining ash disposed through HCSD system to ash pond.	Dry ash is being supplied to Correct Plants, fly ash Bricks unit and in law lying area development and remaining ash disposed through HCSD system to ash pond.	Ory ash is being supplied to Cement Plants, fly ash Bricks unit and in low lying area development and remaining ash disposed through HCSD system to ash pend,	Dry ash is being supplied to Cement Plants, fly ash Bricks trust and in low lying area development and remaining ash disposed through HCSD system to ash pond.	
		Total Ash Generated (MT)	113410,0039	134338.72	125936.35	120069.27	124786.74	120118.93	747650.02
		Quantity of Bottom Ash generated (M-7)	4536.400138	5373.55	5037.45	4802.77	4991.47	5164.76	29006.40
		Qunatity of Fly Ash generated (NT)	108873.6037	128965.17	120898.90	115260.50	119795.27	123954.17	717753.61
		Power Generated (MWH)	648.35	653,64	654.79	. 654.51	45K	669.77	
	ľ	<b>∀</b> ≑ :				\$06	D05	006	_
		Power Installed Capacity (MWH)	DDG	006	806	б ; ; ;	o,	on .	
		Coal Consumption Power Installe (MT) Capporty (M)Wi	302433.56 900	343674 900	327524 900	332187	342163	95035	1995936.56



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ISO 14001 : 2004 OHSAS 18001 : 2007

(An Enviro Engineering Consulting Cell)

Ref.: Envfab/18/R-9300

Date: 05/07/18

#### ASH ANALYSIS REPORT

Name of Industry : M/s Hindalco Industries Limited

(Unit- Aditya Aluminium), Lapanga.

2. Sampling Location : FA-01: CPP Fly Ash Silo

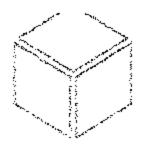
3. Date of Sampling : 06.06.2018

4. Date of Analysis : 07.06.2018 to 13.06.2018

5. Sample Collected By : VCSPL Representative in presence of Aditya Aluminium Representative.

Sl.	Parameters	Unit	Analysis Results
No.	rarameters	Oni	FA-01
A.	Chemical Analy	sis	
l	Na <sub>2</sub> O	%	0.16
2	MgO	9/0	0.88
3	Al <sub>2</sub> O <sub>3</sub>	%	22.4
4	SiO <sub>2</sub>	%	51.7
5	P <sub>2</sub> O <sub>5</sub>	9/6	0.017
6	SO <sub>3</sub>	9/0	1.2
7	K <sub>2</sub> O	%	0.73
8	CaO	%	3.4
9	TiO,	%	ND
10	MnO	%	0.12
11	Fe <sub>2</sub> O <sub>3</sub>	%	7.1
B. Hea	vy Metals Analys	is	771V8A 34-1.W
I	Hg	PPM	110.0
2	As	PPM	ND
3	Pb	PPM	ND
-1	Cr [	PPM	4400.0
5	V	PPM	ND
6	Fe	PPM	600.0
7	Со	PPM	870.0
8	Cu	PPM	510.0
9	Ni	PPM	ND
10	Zn	PPM	ND
I	Sr	PPM	ND
12	Ba	PPM	ND

For Visiontel Consultainer Services Pvt. Ltd.



### Visiontok Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 14001 : 2004 OHSAS 18001 : 2007

Ref. Envlab/18/R-9309

Date: 05/07/18

#### ASH ANALYSIS REPORT

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

: 06.06.2018

4. Date of Analysis

: 07.06.2018 to 13.06.2018

5. Sample Collected By

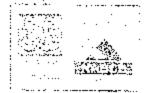
: VCSPL Representative in presence of Aditya Aluminium Representative.

Sl. No.	Parameters	11	Analysis Results
	r aramiciets	Unit	BA-01
A. Chemi	ical Analysis		, , , , , , , , , , , , , , , , , , , ,
1	Na <sub>2</sub> O	0/0	0.17
2	MgO	%	1.3
3	$Al_2O_3$	9/0	22.7
4	SiO <sub>2</sub>	9/6	55.1
5	$P_2O_5$	%	0.013
6	SO <sub>3</sub>	%	1.3
7	K <sub>2</sub> O	96	0.81
8	CaO	%	3.2
9	TiO₂	%	ND
10	MnO	9/0	0.11
1]	Fe <sub>2</sub> O <sub>3</sub>	%	7.2
B. Heavy	Metals Analysis		
	Fig	PPM	ND
2	As	PPM	ND
3	Pb	PPM	210,0
. 4	Cr	PPM ·	ND
5	V	PPM	ND
6	Fe	PPM	5200.0
7	Со	PPM	ND
8	Cu	PPM	390.0
9	Ni	PPM	860.0
10	Zn	PPM	600.0
- 11	Sr	PPM	ND
_12	Ba	PPM	ND

For Visionielo Consultancy Services Pvt. Ltd.



### Visionio i Donaciana i Sarabora Eran. Lag.



180 1400 THE OBSAS 18001 - 2007

(An Enviro Engineering Consulting Cell)

Rept. Enviolette R - 9320

Date: 06/57/18

#### GROUND WATER QUALITY ANALYSIS REPORT

Name of Industry

Sampling location

Date of sampling

Date of analysis

Sample collected by

M/s Hindalco Industries Ltd (Unit-Aditya Alaminium); Lapanga.

GW-1: Lapanga Village, GW-2: Pandad Village, GW-3:Bamfor Village, GW-4: Tilamai Village,

GW-5: Thelkolor Village, GW-6: Gnichamuta Village, GW-7: Gumkarama Village, GW-8: Chaltikra Village

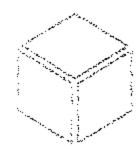
06.06 2018

07 06.2018 to 13 06 3018

VCSPI. Representative in presence of Adnya Alummium Representative

Si. No.	Parameter	Testing Methods	Unit	Standard as per IS							······································	· · - —
	pH Value	NOTE A PROPERTY OF		10500:2012	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6	GW-7	CW.
	Colour	APHA 4500H B	<u> </u>	6.5-8.5	7 ;	: 6.8	6.5	7.3	6.9	7.1	7.3	i
<del>-</del>	: Taste	APHA 2130 B. C	Hazen		2	3	<u> </u>	3	7 - 1 - 1	<del></del>		
-1	Odour	API(A 2160 C		Agreeable	AL	AL	AL.	Al.	Ac.	T AL	- <u></u>	· · · · · · · · · · · · · · · · · · ·
5		APHA 2150 B	<u>-</u>	U/O	0.0	0.00	7.0	10/0	1 00	1 00	<u> </u>	$\frac{1}{1}$ $\frac{\Delta 1}{2}$ .
5	Conductivity	APH 425[0 B	;is/cm		151 1	12.,2	130.4	34,7	151.2	·	UO	1.(.
·	Turbidity	APHA 2130 3	NPU		<2	1 - 2	<del></del>	7.5	1 128,4	134.3	169.5	<u> </u>
···	lotal Dissolved Solids	APUA 2540 (°	- $mgA$	500	2010	175.3	181.5	186.2	2014		+,-:	ļ
8 -6	Total Hardness ins CaCOs)	APH V 2340 C	mg/)	200	74.9	63.0	59 b	44.0	7211	179.5 49.0	202.4 58.0	58.0
	Fotal Alkalinio	APHA 2320 B	rug/]	290	610	58.0	59.5		·	<u></u>	· · · · ·	·····
_1 b 	Calemm (as Ca)	APHA 3500Ca B	mg/j	-5	7 31 02	15.7	<del></del>		<u> </u>	60.0	- 39 () 	1 330
<u> </u>	Magnesium (as wg)	APUA 3500Mg B	Fgra	30	41	5.2	10.8	14.7	18.3	13.7	? V.4	150
12	Residual, free Chiorine	APRA 4500CLB	j 2195[	0.2	· CN	I KU	19	38	<u>6 i</u>	<u> 3.5</u>	3.6	4.5
3	Boron (as B)	APHA 4500B, B	mgd	0.5	s0.01	301	ND -2 of	ND	<u>, ND</u>	ND ND	ND	Č.Z
1:1	Chloride (as Ci )	APHA 4500CLB	1024	256	17.0	· · · · · · · · · · · · · · · · · · ·	<0.01	3 (0.6)	<0.01	<u> </u>	, P0.00	1) ()
[5]	Sulphate (as SO <sub>3</sub> )	APEA 4500 SOLE	ngfl	300	8 1	<u> 18 0 </u>	210	17.0	33 (*	18,0	(9.0	
13	Phoeride (as F)	APITA 4500F C	nig 7	1.0	• ·		( ) ( )	<del>, _</del> 7!	7.2	6.2	7.2	
<u> </u>	Nittrate (as NO.)	APHA 4500 NO. 1	:00	45	<u>:                                    </u>	<u> </u>	3.37	0.27	031	0.22	0,3=	
18	Sediam as Na	AFHA3500.8a		42	1.1.		<u> </u>	1 12		<u>,                                     </u>	. ; '1 :	
i9 ]	Potassium as &	3971A 3500-K	· ·	······································	٠ <sup>-</sup> ر -	1.1.5	! <u>!</u>	£2.5	1 1	12:	11-1	
20	Planahe Compounds (as		1 112		-· · <u>-</u> '	<u></u>	! !	124		9.8		:::^` [. ]
:	C.H.OH	VSHA 5558 BJD	mg-i	100.0	-0 (RH	0.0(1	*i:(0.i)}	1.7.151			·	··
31	Cyanide (as CN)	APHA 4500 CM C.D.				<u></u> -i		! >1000} ⊆	0.001	$Area)\}$	18.00	#1 UI:
22	Arronic Delergents (as		<u>   med                                    </u>	0.05	NI)	ND	ND ND	ND	N13	ND	ND I	
{	MBAS)	APHA 5540 €	) mgd	0.2	10.2	146.2 P	<0.2			·		<u></u>
3	Cadmium (as Cd)	APHA 31 H B,C	ing.T	<u>-</u> ;		<u> </u>	-50,2	50.2	748.3	149 I - j	# D	9.7
<u> </u>	Arsenie (as As)	APHA 5114 B	?	0.003	<0.00 j	- 0.061	< 0.001	<0.001	100.00	10.607	J.50j	
· · · · · · · · · · · · · · · · · · ·	Copper (as Cu)	APHA SHI B.C	mgd	0.01	((0.01)	<0.001	<3) 30	<0.90:	-5000	(4.00) T	S(0.00)	<u>- 1500</u>
( <u></u>	Lead (as Ph)	APHA SHI IS C	fire -	0.63	0.034	110 000	-1g ñg	<0.001	30 500	- (* (16)		
7 1	Manganese (as Ma)	APHA 3500Mn B	filg l	0.01	10.00	10001 7	10010	- (),(3)	<0.001	* (0.00)	0.(0)	18 194
	Iton (ss Fe)	APRA 3700Fe B	1000	<u> </u>	<0.00)	~0.00	1.(11)(1)	₹0.001	÷.0 (9)	<del></del>	(0.00)	
/	Chromium (as Cr)			0.3	0.24	0.27	() 25	0.24	0.27	- <u>-0.007 i</u>	0.00)	$+\frac{2}{2}\frac{2}{3}\frac{6}{3}$
;	Selentum (55 Se)	APRA 35NC: B	17597	0.05	<0.05	5005	3) (18	10:05	0 05		0.34	
<u> </u>	Zinc (as Zn)	APHA 3114 B	<u>  ingel</u>	0.01	<0.601	40.001	+50,001	-30 007	· · · · · · · · · · · · · · · · · · ·		(1.05	<u>ii :45</u>
	Aluminium asi Al)	APHA 3111 B.C	<u></u>	5 1	<0.05	4(i)(t5	-0.05	<0.05	<0.00() [ · ·	-20 (61	50 00 p	0.36
}	Cereury (as Hg)	APITA 3500 ALB	<u> 199. l</u>	0.03	~0.061	400.0011	10000		<0.05	90.05	0.05	+0.07778
	Mineral On	APHA 3500 Hg	m2/i	0.001	<0.001	+ 0 G(4)	40 001	<u> 86.851 </u> {	40.001	ा प्रकृति	36.007	· · · · · · · · · · · · · · · · · · ·
<u>;                                     </u>		APHA 5220 B	माद्वर	0.5	0.681	- (1 (6))	40.001	$\frac{890\pi}{1000}$	<0.001	<u> </u>	-70,00	. 370
· · · · · · · ·	Pesticides	APHA 6630 B.C	արմ	Absent	Absent	Absent	;	. <u></u>	<u>-30 001</u>	**() (#) <sub>k</sub>	5 (1 (0))	.: .1/1
ļ	1			Shall not be		10301	Absent 1	Absent	Alsseni	Absent	Absent	Wagir
	1: Coh	APMA 9221-0	MPN/466 /td!	detectable in any 100 ml	Absent	Abson	Absent	Absent	Abseni	Absent	Absont	- Angel
	Total Colifornis	APEA9221-B	51PX 130	Shall not be detectable in any 100 ml	Absent	Absent	Thy on 1	Alosmi	Absent	Mison:	- I Visear	

For Visigniek Consultancy Services Pvs. Lin





(An Enviro Engineering Consulting Cell)

ISO 14001 : 2004 OHSAS 18001:2007

### GROUND WATER QUALITY ANALYSIS REPORT

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

Name of Industry Sampling location

GW-1: Ash Pond area Near Bore Well

Date of sampling

17.09.2018

Date of analysis

18.09.2018 TO 24.09.2018

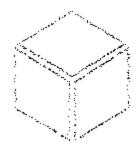
Sample collected by

VCSPL Representative

St. No.	Parameter	Unit	Standard as per IS-10500:2012	Testing Method	Analysis Results
					GW-1
Ĭ.	pH Value	<b></b>	6.5-8.5	APHA 4500 H <sup>+</sup> B	7.1
2.	Furbidity	NTU		APHA 2130B	0.37
3.	Conductivity	µs/cm	:	APHA 2510 B	251
₫,	Total Hardness (as CaCO <sub>2</sub> )	mg/l	200	APHA 2340 C	17.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0 079
6.	Chloride (as Cl)	mg/l	250	APHA 4500 CF B	31.2
7,	Dissolved Solids	mg/l	500	APHA 2540 C	148.0
8.	Calcium (as Ca )	mg/l	75	APHA 3500 Ca B	22.4
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	4.7
10.	Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	< 0.001
11.	Sodium (as Na)	ing/l		APHA 3500Na B	< 0.001
12.	Potassium (as K)	mg/l		APHA 3500 K B	< 0.001
13.	Manganese (as Mn)	mg/i	0.1	APHA 3111 B	< 0.005
14	Sulphate (as SO <sub>4</sub> )	mg/i	200	APHA 4500 SO <sub>4</sub> 2-E	5.1
15.	Nitrate (as NO <sub>3</sub> )	mg/I	45	APHA 4500 NO <sub>3</sub> B	0.48
16.	Fluoride (as F)	mg/i	1.0	APHA 4500 F D	0.43
17.	Phenolic Compounds (as C <sub>5</sub> H <sub>5</sub> OH)	mg/i	0.001	APILA 5530 C	<0.001
18.	: Mercury (as Hg)	mg/l	0.001	APHA 3112B	100.00
19.	Cadmium (as Cd)	mg/I	0.003	APHA 3111 B	<0.001
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	< 0.001
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	<0.001
22.	Cyanide (as CN)	mg/l	0.05	APHA 4500 CN C.D	ND
<u> 23.                                    </u>	Lead (as Pb)	mg/I	0.01	APHA 3111 B	<0.001
2-1.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	<0.005
_25	Chromium (as Cr)	mg/l	0.05	APITA 3500 Cr B	<0.005
<u> 26</u>	Alkalinity	mg/i	200	APHA 2320 B	38.0
27.	Aluminium as( Al)	mg/l -	0.03	APHA 3500 ALB	<0.001
_28	Boron (as B)  D: Not Detected BDL (Below	mg/l	0.5	LAPHA 4500 B	<0.001

For Fisjontek Consultancy Services Pvt.Ltd

Communication they are turn because, in-



### Visioniek Comeniusach Service Fra Lyd.



ISO 14001 : 2004 OHSAS 18007 : 7007

Enval 18/R-9803

### GROUND WATER QUALITY ANALYSIS REPORT

(An Enviro Engineering Consulting Cell)

Name of Industry

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

2. Sampling location

GW-2: Ash Disposal Site inside the plant Dug well

3. Date of sampling

17.09.2018

4. Date of analysis

18.09.2018 TO 24.09.2018

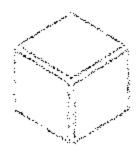
5. Sample collected by

VCSPL Representative

Sl.	Parameter	Unit	Standard as per	Testing Method	Analysis Results
No.	rarameter	C-1111	IS -10500:2012	a Config Trection	GW-2
1.	pH Value		6.5-8.5	APHA 4500 H B	7.4
2.	Turbidity	NTU	5	: APHA 2130B	0.35
· ,	Conductivity	us/cin	*→	APHA 2510 B	241
4.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	12.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0.071
6.	Chloride (as CI)	mg/l	250	APHA 4500 CLB	33.2
7.	Dissolved Solids	mg/l	500	APHA 2540 C	108.4
8.	Calcium (as Ca)	mg/l	75	APHA 3500 Ca B	7.4
9.	Magnesium (as Mg)	mg/I	30	APHA 3500 Mg B	0.71
10.	Copper (as Cu)	nig/I	0.05	APHA 3111Cu B	BDL
11.	Sodium (as Na)	mg/I		APHA 3500Na B	BDL
12.	Potassium (as K)	mg/l		APHA 3500 K B	BDL .
13.	Manganese (as Mn)	mg/l	0.1	APHA 3111 B	BDL
14	Sulphate (as SO <sub>2</sub> )	mg/I	200	APHA 4500 SO, E	2.3
15.	Nitrate (as NO <sub>5</sub> )	mg/l	45	APHA 4500 NO <sub>3</sub> TB	0.21
16.	Fluoride (as F)	mg/l	1.()	APHA 4500 P D	0.38
17.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	BDI.
18.	Mercury (as Hg)	mg/l	0.001	APHA STIEB	BDL
19.	Cadmium (as Cd)	mg/I	0.003	APHA 3111 B	BDL
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	BDL
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BDI.
22.	Cyanide (as CN)	mg/l	0.05	APHA 4500 CN C.D	ND
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	BDL
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	BDL
25.	Chromium (as Cr)	mg/l	0.05	APHA 3500 Cr B	0.004
26.	Alkalinity	mg/l	200	APHA 2320 B	37.0
37.	Aluminium as( Al)	mg/l	0.03	APHA 3500 ALB	BDL
28.	Boron (as B)	mg/l	0.5	APHA 4500 B	BDL

Note: ND: Not Detected, BDL (Below detection limit)

For Vasiontek Consultancy Services Pvt.Ltd



Visionick Committancy Services Pvi. List.



180 14001 : 2004 OHSAS 18001 : 2007

Enufat M 12-4304

### GROUND WATER QUALITY ANALYSIS REPORTate:

(An Enviro Engineering Consulting Cell)

04/10/18

1. Name of industry

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

Sampling location

GW-3: Ash Pond area Bore well

3. Date of sampling

17,09,2018

4. Date of analysis

18.09.2018 TO 24.09.2018

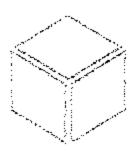
5. Sample collected by

VCSPL Representative

Si.	Parameter	Unit	Standard as per	Testing Method	Analysis Results
No.	7 41 41114.61	O HII	IS -10500:2012	:	DW-3
1.	pH Value		6.5-8.5	APHA 4500 H B	7.3
2.	Turbidity	NTU	5	- APHA 2130B	0.31
3.	Conductivity	μs/cm		APHA 2510 B	257
4.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	11.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0.08
6.	Chloride (as Cl.)	mg/l	250	APHA 4500 Cl <sup>-</sup> B	33.9
7.	Dissolved Solids	mg/l	500	APHA 2540 C	117
8.	Calcium (as Ca.)	mg/l	75	APHA 3500 Ca B	7.1
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	0.4
10.	Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	BDL
11.	Sodium (as Na)	mg/l	<b></b>	APHA 3500Na B	BDL
I2.	Potassium (as K)	mg/l		APHA 3500 K B	BDL
13.	Manganese (as Mn)	mg/l	0.1	APHA 3111 B	BDL
14	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO <sub>4</sub> E	4.0
15.	Nitrate (as NO <sub>5</sub> )	mg/l	45	APHA 4500 NOVB	0.39
16.	Fluoride (as F)	mg/l	1.0	APHA 4500 F D	0.31
17.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	BDŁ
18.	Mercury (as Hg)	mg/l	0.001	APHA 3112B	BDL
19.	- Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	BDL
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	BDL
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BDL
22.	Cyanide (as CN)	mg/l	0.05	: APHA 4500 CN C,D	BDL
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	BDL
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	BDL
25.	Chromium (as Cr)	mg/l	- 0.05	APHA 3500 Cr B	0.007
26.	Alkalinity	mg/l	200	APHA 2320 B	36.0
27.	Aluminium as( Al)	mg/l	9.03	APHA 3500 ALB	BDI.
28.	Boron (as B)	mg/l	0.5	APHA 4500 B TO	BDL.

Note: ND: Not Detected, BDL (Below detection limit)

For Visiontek Consustancy Services Pvt.Ltd



## Visiontek Consultancy Services Pyt. Liv.

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ISO 14001:2004 OHSAS ISO01:2007

Ref. trufab [18] R-9304(1)

Date: 04/10/18

#### GROUND WATER QUALITY ANALYSIS REPORT

(An Enviro Engineering Consulting Cell)

1. Name of Industry

: M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

2. Sampling location

GW-4: Ash Pond area Bore well (Bamaloi)

3. Date of sampling

17.09.2018

4. Date of analysis

18.09.2018 TO 24.09.2018

5. Sample collected by

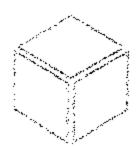
VCSPL Representative

SL No.	Parameter	Unit	Standard as per IS -10500:2012	Testing Method	Analysis Results
140.		······································	13-10,000,2012	1	DW-4
1.	pH Value	¬ •	6.5-8.5	APHA 4500 H B	7.2
2.	Turbidity	NTU	5	APHA 2130B	0.39
3.	Conductivity	μs/cm		APHA 2510 B	251
4.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	0.01
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0.09
6.	Chloride (as Cl)	mg/l	250	APHA 4500 Cl. B	31.9
7.	, Dissolved Solids	mg/l	500	APHA 2540 C	111
8.	Calcium (as Ca)	mg/l	75	APHA 3500 Ca B	6.7
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	0.5
10.	Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	BDL
11.	Sodium (as Na)	mg/I		: APHA 3500Na B	BDL
12.	Potassium (as K)	mg/l		APHA 3500 K B	BDL
13.	Manganese (as Mn)	mg/l	0.1	+ APHA 3111 B	BDL
[4	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO <sub>2</sub> 2 E	4.3
15.	Nitrate (as NO <sub>3</sub> )	mg/l	45	APHA 4500 NO <sub>3</sub> B	0.31
16.	Fluoride (as F)	mg/l	1.0	APHA 4500 F D	0.21
17.	Phenolic Compounds (as C <sub>o</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	BDI.
18.	Mercury (as Hg)	mg/l	0.001	APHA 3112B	BDL
19.	Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	BDL
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	BDL
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BDL
22.	Cyanide (as CN)	ing/l	0.05	APHA 4500 CN C,D	BDL
23.	Lead (as Pb)	mg/l	- 0.01	APHA 3111 B	BDL
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	BDL
25.	Chromium (as Cr)	mg/l	0.05	APHA 3500 Cr B	0.008
26.	Alkalinity	mg/l	200	APHA 2320 B	31.0
27.	Aluminium as( Al)	mg/l	0.03	APHA 3500 ALB	BDL
28	Boron (as B)	mg/l	0.5	APHA 4500-R	BDL

Note: ND: Not Detected, BDL (Below detection limit)

Fig. Visiontek Consultancy Services Pvt.Ltd

Enwarded Frederick Conferences



### Visioniek Consultancy Services Fyt. Log.

7**SO** 9091 1 2008

ISO 14001 : 2004 ORSAS 18001 : 2007

(An Enviro Engineering Consulting Cell)

Enufab/12/R-930-5

Name of Industry

### GROUND WATER QUALITY ANALYSIS REPORT

: M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

. Sampling location : GW-1:Ash Pond area (Bore Well)
. Date of sampling : 12.06.2018

4. Date of analysis : 13.06.2018 TO 16.06.2018

Sample collected by : VCSPL Representative

SI. No.	Parameter	Unit	Standard as per IS -10500:2012	Testing Method	Analysis Results
				; ;	GW-1
1	pH Value		6.5-8.5	APHA 4500 H/B	7.4
2.	Turbidity	NTU	5	APHA 2130B	0.25
3.	Conductivity	µs/cm		APHA 2510 B	254
4.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	19.0
5.	fron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0.085
6.	Chloride (as C1)	mg/l	250	APHA 4500 CF B	36.14
7.	Dissolved Solids	mg/l	500	APHA 2540 C	147.0
8.	Calcium (as Ca.)	mg/l	75	APHA 3500 Ca B	22.1
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	5.4
10,	*Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	< 0.001
11.	Sodium (as Na)	mg/l		APHA 3500Na B	< 0.001
<u>i2.</u>	Potassium (as K)	mg/l	:	APHA 3500 K B	< 0.001
13.	Manganese (as Mn)	mg/l	0.1	APHA 3111 B	< 0.005
14	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO₄2-E	5.6
15.	Nitrate (as NO <sub>3</sub> )	mg/l	45	APHA 4500 NO, B	0.51
16.	Fluoride (as P)	mg/l	1.0	APHA 4500 F D	0.42
17.	Phenotic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	<0.001
18.	Mercury (as Hg)	mg/l	0.001	APHA 3112B	<0.001
19.	Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	< 0.001
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	< 0.001
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	<0.001
22.	Cyanide (as CN)	mg/l	0.05	APHA 4500 CN <sup>+</sup> C.D	ND
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	< 0.001
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	< 0.005
25.	Chromium (as Cr)	mg/l	0.05	APHA 3500 Cr B	< 0.005
<u> 26.</u>	Alkalinity	mg/I	200	APHA 2320 B	41.0
<u> 27.</u>	Aluminium as( Al)	mg/l	0.03	APHA 3500 ALB	1.0(1,0)>
28	Boron (as B)	mg/l	0.5	APHA 1500 B.	; <0.001

Note: ND: Not Detected, BDL (Below detection limit)

For Visiontek Consultancy Services Pvt.Ltd



### Visiomek Consulting berages fys. Ltd. (An Enviro Engineering Consulting Cell)



180 9001 . 2006 180 14001 : 2004 OHSAS 18901 - 2007

*Re/.:* 

En Wab/18/R-9306
GROUND WATER QUALITY ANALYSIS REPORT

Name of Industry

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpar

Sampling location

GW-2: Ash Disposal Site inside the plant Dug well

Date of sampling

12.06.2018

Date of analysis

13.06,2018 TO 16,06,2018

Sample collected by

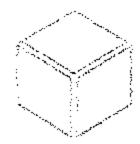
VCSPL Representative

SI. No.	Parameter	Unit	Standard as per IS -10500;2012	Testing Method	Analysis Results GW-2
1,	PH Value		6.5-8.5	APHA 4800 II B	7.4
2.	Turbidity	NTU	5	APHA 2130B	± (1.22
3.	Conductivity	μs/cm		APHA 2510 B	246
4.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	11.0
<u>3.</u>	Iron (as Fe)	mg/l	0.3	APHA 3500 FUB	0.07.3
6.	Chloride (as Cl)	mg/l	250	ÄPHA 4500 CLB	34.1
7.	Dissolved Solids	mg/l	500	APHA 2540 C	101.2
8.	Calcium (as Ca )	mg/l	75	APHA 3500 Ca B	8.6
9,	Magnesium (as Mg)	ing/l	30	APHA 3500 Mg B	$\frac{1}{0.76}$
10.	Copper (ås Cu)	mg/l	0.05	APHA 3111Cu B	BD1.
1.	Sodium (as Na)	mg/I	· · · · · · · · · · · · · · · · · · ·	APHA 3500Na B	8DL
12.	Potassium (as K)	mg/l	· · · · · · · · · · · · · · · · · · ·	APHA 3500 K B	BDL
<u> 13.</u>	Manganese (as Mn)	mg/l	0.1	APHA 3111 B	BDL
1-4	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO, FE	7
15.	Nitrate (as NO <sub>3</sub> )	mg/l	-£5	APHA 4500 NO. B	(f. 20
16.	Fluoride (as F)	mg/l	1.0	APHA 4500 F D	··   · · · · · · · · · · · · · · · · ·
17.	Phenolie Compounds (as C <sub>1</sub> H <sub>8</sub> OH)	mg/l	0.001	APHA 5530 C	BDL :
18.	Mercury (as Hg)	mg/l	0.001	APHA 3112B	BDL
19	Cadmium (as Cd)	mg/1	0.003	APHA,3111 B	BDL.
20	Selenium (as Se)	mg/l	0.01	APITA 3114 B	BDI.
31.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BDL -
22.	Cyanide (as CN)	mg/l	0.05	APHA 4500 CN C,D	T ND
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	BDI.
34. 35 :	Zine (as Zn)	mg/l	5.0	APHA 3111 B	BDI.
25 <u>.</u>	Chromium (as Cr)	mg/l	0.05	APHA 3500 Cr B	0.005
26. 27.	Alkafinity	mg/l	200	APHA 2320 B	39,0
· [	Aluminium as( Al)	mg/l	0.03	APHA 3500 ALB	BDL
28.	Boron (as B)	mg/J	0.5	V F) 1 1 3 4 7 (V/) 3 5	·•
ne : Ni	D: Not Detected, BDL (Bel	ow detection lin	nit)	APPLA 4500 B	0171

For Visiontek Consultage

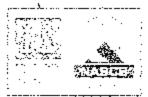
Services Pvt.Ltd

Compatible Proofless, Technologic



### Visioniek Consultanet Services Pva. Lad.

(An Enviro Engineering Consulting Cell)



ISO 8001 : 2008 ISO 14001 : 2004 OHSAS 18061 : 7007

Ennfal 18 1 R-9307

GROUND WATER QUALITY ANALYSIS REPORTate:

05/07/18

1. Name of Industry

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

Sampling location

GW-3: Ash Pond area Bore well

3. Date of sampling

12.06.2018

4. Date of analysis

13.06.2018 TO 16.06.2018

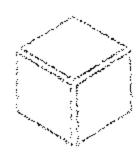
5. Sample collected by

VCSPL Representative

SI.	Parameter	Unit	Standard as per	Testing Method	Analysis Results
No.	1 at ameter	**************************************	IS -10500:2012	resting wiethou	DW-3
ì.	pH Value	<u>-</u> -	6.5-8.5	APHA 4500 H <sup>+</sup> B	7.2
2.	Turbidity	NTU	5	APHA 2130B	0.2
3.	Conductivity	μs/cm		APHA 2510 B	252.6
4,	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	10.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0.09
6.	Chloride (as Cl)	mg/l	250	APHA 4500 CF B	34.98
7.	Dissolved Solids	mg/l	500	APHA 2540 C	115.7
8.	Calcium (as Ca)	mg/l	75	APHA 3500 Ca B	10.8
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	0.5
10.	Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	BDL
11.	Sodium (as Na)	mg/l		APHA 3500Na B	BDL
12.	Potassium (as K)	mg/l		APHA 3500 K B	BDL
13.	Manganese (as Mn)	mg/i	0.1	APHA 3111 B	BDL
14	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO <sub>4</sub> E	3.0
15.	Nitrate (as NO <sub>3</sub> )	mg/l	45	APHA 4500 NO <sub>3</sub> B	0.31
16.	Fluoride (as F)	mg/l	1.0	APHA 4500 F D	0.38
17.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	BDL
18.	Mercury (as Hg)	mg/i	0.001	APHA 3112B	BDL
19.	· Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	BDL
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	BDL
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BDL
<u> 22.</u>	: Cyanide (as CN)	mg/l	0.05	APHA 4500 CN C,D	BDL
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	BDL
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	BDI.
<u>25.</u>	Chromium (as Cr)	mg/l	- 0.05	APHA 3500 Cr B	0.008
<u> 26.</u>	Alkalinity	mg/l	200	APHA 2320 B	32.0
<u> 27.</u>	Aluminium as( Al)	mg/l	0.03	APHA 3500 AFB	BDL
28.	Boron (as B)	mg/l	0.5	APHA 4500 B 人名 # V/	BDL

Note: ND: Not Detected, BDL (Below detection limit)

For Visiontek Consuffancy Services Pvt.Ltd



## Visiontek Consultancy Services Pyt. Lei.

ISO 14001 : 2009 OHSAS 18001 : 2007

(An Enviro Engineering Consulting Cell)

-aujab/12/2-9307(1)

### GROUND WATER QUALITY ANALYSIS REPORTate:

31/40/30

1. Name of Industry

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

Sampling location

GW-4: Ash Pond area Bore well

3. Date of sampling

12.06.2018

4. Date of analysis

13.06.2018 TO 16.06.2018

5. Sample collected by

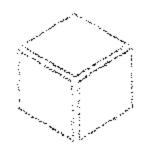
VCSPL Representative

Si.	<b>D</b>	Timis	Standard as per	Testing Method	Analysis Results
No.	Parameter	Unit	IS -10500:2012	iciting irretaiva	DW-4
1 _	pH Value		6.5-8.5	APHA 4500 H* B	7.0
2.	Turbidity	NTU	5	APHA 2130B	0.22
3.	Conductivity	μs/cm		APHA 2510 B	256.6
4.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	12.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	80.0
6.	Chloride (as Cl )	mg/l	250	APHA 4500 CFB	37.2
7.	Dissolved Solids	mg/l	500	APHA 2540 C	110.7
8.	Calcium (as Ca )	mg/l	75	APHA 3500 Ca B	7.4
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	9.6
10.	Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	BDL
11.	Sodium (as Na)	mg/l		APHA 3500Na B	BDL
12.	Potassium (as K)	mg/l		APHA 3500 K.B	BDL
13.	Manganese (as Mn)	mg/l	0.1	APHA 3111 B	BDL
14	Sulphate (as SO <sub>3</sub> )	mg/l	200	APHA 4500 SO <sub>4</sub> E	3.2
15.	Nitrate (as NO <sub>3</sub> )	mg/l	45	APHA 4500 NO <sub>3</sub> B	0.30
16.	Fluoride (as F)	mg/l	1.0	APHA 4500 F D	0.24
17.	Phenolic Compounds (as C <sub>2</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	BDL
18.	Mercury (as Hg)	mg/l	0.901	APHA 3112B	BDL
19.	Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	BDL
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	BDL.
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BDI.
22.	Cyanide (as CN)	. mg/l	0.05	ΛΡΗΑ 4500 CN <sup>+</sup> C,D	BDL
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	BDL
24.	Zinc (as Zn)	. mg/l	5.0	APHA 3111 B	BDL
25.	Chromium (as Cr)	mg/I	. 0.05	APHA 3500 Cr B	0.007
26.	Alkalinity	mg/l	200	APHA 2320 B	31.0
27.	Aluminium as( Al)	mg/l	0.03	APHA 3500 Al B	BDL.
28.	Boron (as B)	mg/l	0.5	APHA 4500 B	BDL

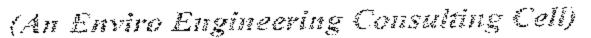
Note: ND: Not Detected, BDL (Below detection limit)

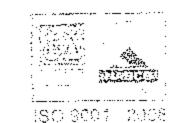
For Visiontek Consultancy Services Pvt.Ltd

Classification by Repair applications



### Wiskontek Consultancy Services Pvs. Lid.





180 14001 : 2004 OHSAS 18001 : 2007

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### GROUND WATER QUALITY ANALYSIS REPORT

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

Name of Industry :
Sampling location :

GW-1: Ash Pond area (Bore Well)

3. Date of sampling

15.03.2018

4. Date of analysis

16.03.2018 TO 21.03.2018

5. Sample collected by

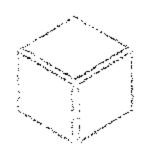
VCSPL Representative

G. 1.			Standard as per	Testing Method	Analysis Results
SI, No.	Parameter	Unit	IS -10500:2012	(CATING OFFICE	GW-1
1.	pH Value		6.5-8.5	APHA 4500 H <sup>+</sup> B	7.5
2.	Turbidity	: NTU	5	APHA 2130B	0.32
3.	Conductivity	µs/cm		APHA 2510 B	256.4
<u>.</u>	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	21.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0.092
<del></del>	Chloride (as C1)	mg/i	250	APHA 4500 CF B	37.2
7.	Dissolved Solids	mg/l	500	APHA 2540 C	167.0
8.	Calcium (as Ca.)	mg/l	75	APHA 3500 Ca B	22.3
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	5.2
10.	Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	< 0.001
11.	Sodium (as Na)	mg/i		APHA 3500Na B	< 0.001
12.	Potassium (as K)	mg/l		АРНА 3500 К В	< 0.001
13.	Manganese (as Mn)	mg/l	0.1	APHA 3111 B	< 0.005
1:4	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO <sub>3</sub> E	6.76
15.	Nitrate (as NO <sub>3</sub> )	mg/l	45	APHA 4500 NO <sub>5</sub> B	0.59
16.	Fluoride (as F)	mg/l	1.0	APHA 4500 F D	0.47
17.	Phenolic Compounds (as CoHisOH)	mg/l	100.0	APHA 5530 C	<0.001
18.	Mercury (as Hg)	mg/l	0.001	APHA 3112B	100.05
19.	Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	100.0>
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	<0.004
23.	Arsenie (as As)	l mg/l	0.01	APHA 3114 B	<0.001
2.2.	Cyanide (as CN)	mg/l	0.05	APHA 4500 CNTC.D	ND
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	100.0%
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	<0.005
25.	Chromium (as Cr)	mg/l	0.05	APHA 3500 Cr B	< 0.005
26.	Alkalinity	mg/l	200	APHA 2320 B	45.0
27.	) Aluminium as( Al)	mg/l	0.03	APHA 3500 Al B	100.0>
28.	Boron (as B)	mg/l.	0.5	APHA 4500 B	< 0.001

Note: ND: Not Detected

For Visiontel Consultancy Services Pvt.Ltd

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(An Enviro Engineering Consulting Cell)

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

Encertact 118/R-9304

### GROUND WATER QUALITY ANALYSIS REPORT

1. Name of Industry

: M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

2. Sampling location

GW-2: Ash Disposal Site inside the plant Dug well

3. Date of sampling

15.03.2018

4. Date of analysis

16.03.2018 TO 21.03.2018

5. Sample collected by

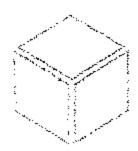
VCSPL Representative

SI.	Parameter	Unit	Standard as per	Testing Method	Analysis Results
No.			IS -10500:2012		GW-2
1.	pH Value	7.5	6.5-8.5	APHA 4500 H B	7.2
2.	Turbidity	NTU	5	APHA 2130B	0.18
3.	Conductivity	μs/cm		APHA 2510 B	241.36
4.	Total Hardness mg/l		200	APHA 2340 C	12.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fc B	0.081
6.	Chloride (as Cl.)	mg/l	250	APHA 4500 Cl. B	36.2
7.	Dissolved Solids	mg/l	500	APHA 2540 C	106.2
8.	Calcium (as Ca )	mg/l	75	APHA 3500 Ca B	9.46
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	0.81
10.	Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	BDL
11.	Sodium (as Na)	mg/i		APHA 3500Na B	BDL
12.	Potassium (as K)	mg/l		APHA 3500 K B	BDL
13.	Manganese (as Mn)	mg/l	0.1	APHA 3111 B	BDL
1:1	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO <sub>4</sub> 25E	2.42
15.	Nitrate (as NO <sub>3</sub> )	mg/l	45	APHA 4500 NO <sub>3</sub> B	0.28
16.	Fluoride (as F)	mg/l	1.0	APHA 4500 F D	0.46
17.	Phenolic Compounds (as C <sub>5</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	BDL
18.	Mercury (as Hg)	mg/l	0.001	- APHA 3112B	: BDL
19.	Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	BDL
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	BDL
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BDL
22.	Cyanide (as CN)	mg/l	0.05	APHA 4500 CN C,D	ND
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	BDL
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	BDL
25.	Chromium (as Cr)	mg/l	0.05	APHA 3500 Cr B	0.006
26.	Alkalinity	mg/l	200	APHA 2320 B·	44.0
27.	Aluminium as( Al)	mg/l	0.03	APHA 3500 ALB	BDL
28.	Boron (as B)	mg/l	0.5	APHA 4500 B	BDL

Note: ND: Not Detected, BDL (Below detection limit)

For Xisiontek Consultancy Services Pvt.Ltd

Plot No.-M-22&23. Chandka Industrial Estate. Patia. Bhobaneswar-751024. Dist-Khurda. Odisha Tel.: 91-674-6451781. 7752017905 E-mail: visiontekin@yahoo.co.in, visionteki@gmail.com. Visit us att [1777-1777]



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#### GROUND WATER QUALITY ANALYSIS REPORTate:

0cf04/18

1. Name of Industry

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

2. Sampling location

GW-3: Ash Pond area Bore well

3. Date of sampling

15.03.2018

4. Date of analysis

16.03.2018 TO 21.03.2018

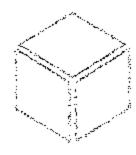
5. Sample collected by

VCSPL Representative

SI.	Parameter	Parameter Unit Standard as per		Testing Method	Analysis Results
No.	1 alametei	<b>4.73316</b>	IS -10500:2012	DW-3	
1.	pH Value		6.5-8.5	APHA 4500 H B	7.2
2.	Turbidity	NTU	5	APHA 2130B	0.2
3.	Conductivity	μs/cm		APHA 2510 B	252.6
4.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	10.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0.09
6.	Chloride (as Cl.)	mg/l	250	APHA 4500 CFB	34.98
7.	Dissolved Solids	mg/l	500	APHA 2540 C	115.7
8.	Calcium (as Ca )	mg/l	75	- APHA 3500 Ca B	8.01
9.	Magněsium (as Mg)	mg/l	30	APHA 3500 Mg B	0.5
10.	Copper (as Cu)	mg/l	0.05	APHA 3111Cu B	BDI.
11.	Sodium (as Na)	mg/l		APHA 3500Na B	BDL
12.	Potassium (as K)	mg/l	M-4	APHA 3500 K B	BDL
13.	Manganese (as Mn)	mg/l	0.1	APHA 3111 B	BDL
14	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO <sub>4</sub> E	3.0
15.	Nitrate (as NO <sub>3</sub> )	mg/l	45	APHA 4500 NO₁ B	0.31
16.	Fluoride (as F)	mg/l	1,0	APHA 4500 F D	0.38
17.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	BDL.
18.	Mercury (as Hg)	mg/l	100.0	APHA 3112B	BDI.
19.	Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	BDL
20	Sclenium (as Se)	mg/l	0.01	APHA 3114 B	BDL
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BD1.
22	Cyanide (as CN)	mg/l	0.05	APHA 4500 CN C.D	BDI.
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	BDL.
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	BDI.
<u> 25</u>	Chromium (as Cr)	mg/J	0.05	APHA 3500 Cr B	800.0
26.	Alkalinity	mg/l	200	. APHA 2320 B	32.0
27.	Aluminium as( Al)	mg/l	0.03	APHA 3500 ALB	BDL
28.	Boron (as B)	mg/l	0.5	APHA 4500 B	BDL

Note: ND: Not Detected, BDL (Below detection limit)

For Visiontek Consultaticy Services Pvt.Ltd



Ref.:

# Visiones Consultanty Services Pva. Lud. (An Enviro Engineering Consulting Cell)

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#### GROUND WATER QUALITY ANALYSIS REPORTate:

M/s Hindalco Industries Limited (Unit-Aditya Aluminium), Sambalpur

2. Sampling location : GW-4: Ash Pond area Bore well (Bamaloi)

B. Date of sampling : 15.03.2018

Name of Industry

4. Date of analysis
 5. Sample collected by
 16.03.2018 TO 21.03.2018
 VCSPL Representative

SI.	Parameter	Unit	Standard as per	Testing Method	Analysis Results
No.	FAIAMETEL	1/811	IS -10500:2012	resung wickson	DW-4
1.	pH Value		6.5-8.5	APHA 4500 H B	7.1
2.	Turbidity	NTU	5	APHA 2130B	0.21
3.	Conductivity	μs/cm	-+	APHA 2510 B	262.6
4.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	APHA 2340 C	11.0
5.	Iron (as Fe)	mg/l	0.3	APHA 3500 Fe B	0.08
6.	Chloride (as Cl.)	mg/l	250	APHA 4500 Cl. B	33.4
7.	Dissolved Solids	mg/l	500	APHA 2540 C	113.5
8.	Calcium (as Ca.)	mg/l	75	APHA 3500 Ca B	7.08
9.	Magnesium (as Mg)	mg/l	30	APHA 3500 Mg B	0.6
10.	Copper (as Cu)	ıng/l	0.05	APHA 3111Cu B	BDL
] .	Sodium (as Na)	mg/l		APHA 3500Na B	BDL
12.	Potassium (as K)	mg/l		APHA 3500 K B	BDL +
13.	Manganese (as Mn)	mg/i	0.1	APHA 3111 B	BDL
14	Sulphate (as SO <sub>4</sub> )	mg/l	200	APHA 4500 SO <sub>4</sub> E	3.5
15.	Nitrate (as NO <sub>3</sub> )	mg/l	45	APHA 4500 NO <sub>3</sub> B	0.28
16.	Fluoride (as F)	mg/l	1.0	APHA 4500 F D	0.34
17.	Phenolic Compounds (as C <sub>o</sub> H <sub>5</sub> OH)	mg/l	0.001	APHA 5530 C	BDL
18.	Mercury (as Hg)	mg/I	0.001	APHA 3112B	BDL
19.	Cadmium (as Cd)	mg/l	0.003	APHA 3111 B	BDL
20	Selenium (as Se)	mg/l	0.01	APHA 3114 B	BDL
21.	Arsenic (as As)	mg/l	0.01	APHA 3114 B	BDL
22.	Cyanide (as CN)	mg/l	0.05	APHA 4500 CN C.D	BDL
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	BDL
24.	Zinc (as Zn)	mg/l	5.0	APHA 3111 B	BDL.
25.	Chromium (as Cr)	mg/l	0.05	APHA 3500 Cr B	0.007
26.	Alkalinity	mg/l	200	APHA 2320 B	31.0
27.	Aluminium as( Al)	mg/l	0.03	APHA 3500 ALB	BDi.
28.	Boron (as B)	mg/l	0.5	APHA 4500 B	BDL

Note: ND: Not Detected, BDL (Below detection limit)

For Visiontek-Consultancy Services Pvt.Ltd

#### **ACTION PLAN FOR ACHIEVING 33% GREEN BELT DEVELOPMENT**

Besides the bio-aesthetic value, the objective of greenbelt development is to reduce the effects of pollutants, arresting movement of dust. A composition of fast growing tall, medium, small trees will make the greenbelt functionally viable.

#### Land description:

	Area in Hectare	Area in Acre
Total area:	1347.35	3327.95
Greenbelt area	444.62	1098.21
Total area covered so far	217.04	536.3
Remaining area for green belt development	227.58	562.35

Year	Area (Ha)	Area (Acres)	No of sapling to be
			planted
2019-20	40	98.8	1,00,000
2020-21	45	111.2	1,12,000
2021-22	45	111.2	1,12,000
2022-23	45	111.2	1,12,000
2023-24	52.58	129.9	1,30,000
Total	272.58		5,66,000

#### Selection of species:

Species which have proven ability to withstand the factory premises & suggested by the Divisional Forest Office, Sambalpur. A guideline for developing greenbelt by Central Pollution Control Board has also been considered. The fast growing species are:

1. Albizzia lebbeck	(Siris)
<ol><li>Azadirachta indica</li></ol>	(Neem)
<ol><li>Dalbergia sissoo</li></ol>	(Shisham)
<ol><li>Pongamia pinnata</li></ol>	(Karanj)
<ol><li>Peltophorrum ferrugineum</li></ol>	(Radhachuda)
6. Delonix regia	(Gulmohar)
7. Samanea saman	(Bada chakunda)
8. Casia seamia	(Rani chakunda)
9. Bauhinia sp.	(kanchana)
<ol><li>Tecoma gaudichaudi</li></ol>	(Tecoma)
11. Thevetia nerifolia	(Kaniara)
12. Nerium oleander	(Karabira)
13. Ceasalpinea puchirima	(ceasalpinea

### COMPLIANCE TO CREP GUIDELINES FOR SMELTER

#### Compliance Status up to September 2018

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	Fluoride consumption (as F) is 9.28 kg/ton of aluminium production.
4	The fluoride in forage should be limited to  Average of 12 consecutive months - 40 ppm  Average of 2 consecutive months - 60 ppm  One month - 80 ppm  Regular monitoring data to be submitted to SPCB and CPCB.	Forage fluoride is being monitored on quarterly basis as a part of post project monitoring activities. The monitored data is being regularly submitted to SPCB and CPCB. (Please Ref: Annexure-4)
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 plant is designed for longer life of pots. SPL generated is being supplied (carbon part) to authorised reprocessors. The trial has been completed for disposal of Refractory part of SPL and we understand that Protocol has been issued to M/s Ramky for safe disposal in secured landfill area. M/s Ramky is establishing its facility for treatment and disposal of SPL Refractory part in its CHW-TSDF. Till that time we have stored it under covered shed.
6	The SPL should be disposed in secured landfill.	The spent pot lining generated from the smelter is having two parts. 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.  Refractory part will be disposed to CHW-TSDF.
7	Achieving particulate matter limit of 50 mg/Nm3 in anode baking furnace	It is being Complied

### COMPLIANCE TO CREP GUIDELINES FOR CPP

#### Compliance Status upto Sept 2018

Sr.	Conditions	Compliance
No.	Implementation of Environmental Standards (emission & effluent) in non-compliant* Power	Not Applicable
	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	
2	For existing thermal power plants, a feasibility study shall be carried out by Central Electricity Authority (CEA) to examine possibility to reduce the particulate matter emissions to 100 mg/Nm3. The studies shall also suggest the road map to meet 100 mg/Nm3. The studies shall also suggest the road map to meet 100 mg/Nm3 wherever found feasible. CEA shall submit the report by March 2004.	Not Applicable
3	New / expansion power projects to be accorded environmental clearance on or after 1.4.1.2003 shall meet the limit of 100 mg/Nm3 for particulate matter.	Complied. SPM emission well below stipulated limit of 50 mg/Nm3
4	Development of SO <sub>2</sub> & NO <sub>X</sub> emission standards for coal based plants by December 2003.  - New/ expansion power projects shall meet the limit of SO <sub>2</sub> & NO <sub>X</sub> w.e.f. 1.1.2005.  - Existing power plants shall meet the limit of SO <sub>2</sub> & NO <sub>X</sub> w.e.f. 1.1.2006.	Standard for SO <sub>2</sub> & NOx has been published.
5	Install/activate opacity meters/ continuous monitoring system in all the units by December 31, 2004 with proper calibration system.	J ,
6	Development of guidelines/ standards for mercury and other toxic heavy metals emissions by December 2003.	Standard for Hg emission has been published by MOEF&CC.
7	Review of stack height requirement and guidelines for power plants based on micro meteorological data by June 2003	Guideline has been published for stack height by MOEFCC in this regard.
8	Implementation of use of beneficiated coal as per GOI Notification: Power plants will sign fuel supply agreement (FSA) to meet the requirement as per the matrix prepared by CEA for compliance of the notification as short term measure. Options/mechanism for setting up of coal washeries as a long term measure	Not Applicable

Annexure-10

	· · · · · · · · · · · · · · · · · · ·	
	* Coal India will up its own washery  * Sate Electricity Board to set up its own washery  * Coal India to ask private entrepreneurs to set up washeries for CIL and taking washing charges  * SEBs to select a private entrepreneur to set up a washery near pit- head installation of coal beneficiation plant	
9	Power plants will indicate their requirement of abandoned coal mines for ash disposal & Coal India/MOC shall provide the list of abandoned mines by June 2003 to CEA.	Not Applicable
10	Power plants will provide dry ash to the users outside the premises or uninterrupted access to the users within six months.	It is being Complied with.
11	Power Plants should provide dry fly ash free of cost to the users	Dry fly ash is being provided to the users 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 recirculation system depending upon site specific environmental situation.	It has been installed as part of the Ash Handling Package.
13	Existing plants shall adopt any of the systems	Implemented
(ii) 14	mentioned in 13(i)by December 2004  Fly ash Mission shall prepare guidelines/manuals for fly ash utilization by March 2004.	Noted
15	New plants shall promote adoption of clean coal and clean power generation technologies  * Units will submit bank guarantee to respective SPCB	Noted





## ENVIRONMENT POLICY

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

To achieve this, we shall:

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

This policy shall be made available to all employees, suppliers, customers, community and other stakeholders, as appropriate.

Satish Pai

Managing Director

19th November 2016

HINDALCO INDUSTRIES LIMITED

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

Sl.	POINTS RAISED	COMPLIANCE
No.		
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 proposed to upgrade the existing ITI at Rengali to facilitate the training programme for the project affected people for the technical jobs.
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.	[
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.	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	public about the peripheral developmental works to be carried out in future.	Panchayat and villagers as per the CSR guideline.
6	The industry should make necessary arrangements for provision of drinking water in the affected area.	by tankers, into the project affected villages in coordination with district Administration and Gram Panchayats
7	The industry should make necessary arrangement to provide round the clock doctors for better medical service in the Lapanga area.	received free treatment by reputed doctors till date. We have already opened First Aid Centre at Lapanga for 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.	f Reservoir to meets its requirement and Govt. of Odisha has approved for the same.
9	The industry should give financial suppor	t The industry has assured to give support to grow

	localities.	the livelihood of the villagers as per their CSR policy. However, many training programs have been conducted for self-employment such as Mushroom cultivation, Vegetable farming, Phenol making, Tailoring, Poultry, Kitchen garden & various social/health awareness programs, Money saving programs, etc., are being imparted to DP families.
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.	
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	in village pitapali & community tollets in village

#### Expense incurred under Enterprise Social Commitment till Sept 2018:

SI. 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 Sept 18	1.85	
	Total Expense	43.81	

## 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.
- Development of Schools in the State of Odisha.

The remaining 5% amount for Phase-1 capacity (i.e., Smelter of 0.36 MTPA and CPP of 900 MW) is proposed to be spent over a period of 39 years from the year 2017.



### CSR INITIATIVES (FY 2018-19)

UNIT: ADITYA ALUMINIUM

#### **Key Focus Areas of CSR**



#### Reaching

• • •

- Villages 22
- Population 22500
- Blocks 2
- District Sambalpur

#### **Expenses Status of Aditya Aluminium CSR**

Ad	Aditya Aluminium CSR Expenses Dash Board 2005 - 2018				
SI. No	Year	Total CSR Expenses (Rs in lakhs)	Remarks		
1	2005	2.4	Completed		
2	2006	2.826	Completed		
3	2007	1.1	Completed		
4	2008	3.585	Completed		
5	2009-10	654.19	Completed		
6	2010-11	128.09	Completed		
7	2011-12	91.29	Completed		
8	2012-13	165.49	Completed		
9	2013-14	114.455	Completed		
10	2014-15	182.65	Completed		
11	2015-16	626.18	Completed		
12	2016-17	236	Completed		
13	2017-18	325	Completed		
14	2018-19	141	Ongoing		
Gra	and Total	2674.256			

#### **CSR ACTIVITIES**









#### **RURAL EDUCATION:**

There are 7 nos of periphery village poor students got scholarship for higher education.

#### **RURAL EDUCATION**

- There are 214 nos of student got school bags in 5 Govt. schools
- There are 5 nos of periphery village Anganwadi have got benefitted with assets and play materials









#### **RURAL EDUCATION**

There are 638 nos of student got school bags in 11 Govt. schools

There is one of periphery village Anganwadi have got benefitted with assets and play
materials



FREE COACHING CENTERS AT LUDHPALI AND PONDALOI



FOUR STUDENTS JOINED ITI FOR DIPLOMA ENGINEERING AT KIIT UNIVERSITY, BHUBANESWAR

#### **CSR ACTIVITIES**

Free Treatment at Lapanga First AID





#### **RURAL HEALTH:**

There are 112 nos patients have availed first aid service at Lapanga First Aid center and Cataract Eye Camp at Lapanga GP

#### **RURAL EDUCATION**

- There are 94 nos of patients have been examined this month first Aid center at Lapanga.
- Program on Malaria, Dengue and Diarrhea at Thelkoloi.









#### **RURAL LIVELIHOOD**

- There are 51 nos of SHGs comprising of 559 nos of members in 18 villages
- There are programs for exposure to District marketing of SHGs products by DSMS, DRDA Sambalpur.







#### **RURAL LIVELIHOOD:**

- There are 51 nos of SHGs comprising of 559 nos of members in 18 villages
- There are training programs for exposure to District marketing of SHGs products by DSMS, DRDA Sambalpur.





MEGA TRAINING PROGRAM ARRANGED FOR SELF HELP GROUP AT DRDA SAMBALPUR AND IN VILLAGES





TWO DAY MARKETING AND PRODUCT DEVELOPMENT TRAINING PROGRAM OF SHG WOMEN AT KBK CHIPLIMA

#### RURAL INFRASTRUCTURE DEVELOPMENT

- There are 7 nos of Pond excavation was done in this year Rs 83 Lakhs.
- There are 6 nos of bathing steps have been constructed in village ponds
- Connecting road to Gopkani village and Hadumunda to Rohidashpada village Rs 99 lakh
- Lapanga to Khadiapali CC Road repairing.









#### **SOCIAL ISSUES**





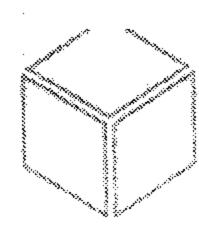




SWEETS DISTRIBUTION ON 15<sup>TH</sup> AUGUST-INDEPENDENCE DAY



## Thank You.



OHSAS (800) - 7007

Date: 06 (54) 18

(SU 1400) 200H

(An Enviro Engineering Consulting Cell)

# Ref.: Enwlab / 18 / R - 9812 AMBIENT AIR QUALITY MONITORING REPORT

M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga Name of Industry

Monitoring Station No.- AAQMS-1 (Gumkarama) Sampling Location

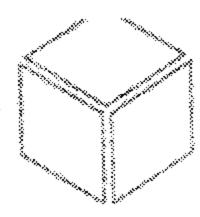
RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler Monitoring Instruments

VCSPL representative in presence of Aditya Aluminium representative Sample collected by

	ooks. Assanta da <b>da da da da ana</b> angangan ya madadada	and the second s		· · · · · · · · · · · · · · · · · · ·			PARAME	TERS	alan da ang ing ing ang ang ang ang ang ang ang ang ang a		en personale de la companya de la companya de la companya de la companya de la companya de la companya de la c		
Date	PM <sub>10</sub> (µg/m³)	PM <sub>1.5</sub> (µg/m²)	SO <sub>2</sub> (μg/m³)	NO, (μg/m³)	O; (pg/m²)	CO (mg/m²)	NH <sub>3</sub> (µg/m³)	(µg/m²)	BaP (ng/m³)	Ni (ng/m <sup>1</sup> )	Ph (µg/m²)	As (ng/m²)	(ug/m²)
04.04.2018	52.3	18.3	4.6	10.2	<del></del>	0.26	<20.0	<0.001	<0.002	<0.01	<0.00i	<0.001	<0.01
08.04.2018	51.4	17.2	5.1	8.6	<4	0.34	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.04.2018	49.3	23.3	4.8	9.7	<4	0.36	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<(),())
15.04.2018	53.7	17.6	5.2	8.9	<4	0,29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.04.2018	54.1	21.2	4.6	7.6	<4	0.34	<20.0	< 0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22,04,2018	56.1	22.8	5.3	9.7	<4	0.36	<20.0	<(),(%)	<0.002	<0.01	<0.001	<0.001	<u> 40.01</u>
26.04.2018	49.7	23.3	5.2	10.1	<4	0.33	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
29.04,2018	54.7	21.8	4.7	112	<4	0.32	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.(1)
02.05.2018	56.2	27.1	4.4	10.9	<4	0.38	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<601
05.05.2018	55.4	28.2	4.9	8.8	×4.	0.31	<20.0	<0.001	<0.002	<0.01	<0.001	<(),()()1	<0001
09.05.2018	•47.2	23.4	6.4	30,0	<4	0.34	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.05.2018	51.4	24.3	4.7	93	4	0.47	<20.0	<0.001	<0.002	<0.01	<0.001	<(),(%)}	<0.01
16.05.2018	47.1	25.9	5.3	8.9	×4	0.37	<200	<0.001	<0.002	<0.01	<0.001	<0.001	<0.61
19.05.2018	53.5	212	5.1	9.2	<4	0.51	<20.0	40.001	<0.002	<0.01	<0.001	<0.001	<0.01
23.05.2018	38.4	26.4	4.7	18.7	<4	0.49	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2018	55.3	24.2	· 5.1	18.6	<4	0.45	<20.0	<0.001	< 0.002	<0.01	<0.001	<0.001	<() () (
30.05.2018	54.4	26.6	5.9	17,4	<4	0.43	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<00
31.05.2018	573	294	4.6	19.1	<4	0.46	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
04.06.2018	56.4	212	5.4	114	<4	0.36	<200	<0.00	<0.002	<0.01	<() (%) }	<0.00)	*30
07.06.2018	61.2	27.5	51	16.7	<.4	0.44	<20.0	<0.000 k) i	<0.002	<0.01	50 (0) (	SI) ()()	< 0.01
10.06.2018	498	292	4.7	5.4	<.4	0.37	<200		<0.002	<0.01	<0 (881	< (1) (3(1)	+365·
14.06.2018	53.3	31.5	5.3	14.8	<b>×4</b>	0.39	<200	40 (00)	<0.002	<0.01	<0.001	<()(%)1	<.() () )
17.06.2018	52.6	27.2	4.1	12.7	<4	0.43	<20.0	<0.001	< 0.002		<0.001	<1) j() [	<001
21.06.2018	54.2	29.3	5.2	15.7	<4	0.47	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0)))
24.06.2018	51.2	32.1	4.6	16.3	<4	0.52	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	4) ();
28.06.2018	57.2	33.2	5.1	14.8	<4	0.48	<20.0	<0,001	<0.002	<0.01	<0.001	<0.001	<0.01
NAAQ Standard	100	60	80	80	100	4	400	<b>U</b> 5	01	20	0, 1	(16	
Quarterly Average	53.59	25,05	5.0	12.51	. <4	0.40	< 20.0	<0.001	<0.002	<(),())	<0.001	<0.001	< (),() 1
Testing method	Gravimet	Gravim etric	Improve d West and Gaeke method	Modifie d Jacob & Hochhei ser (Na- Arsenite	Chemical Method	NDIR Spectros copy	Indo phenoi blue method	Absorpt ion & Descript ion followed by GC analysis	Solvent extraction followed by Gas Chromato graphy analysis	AAS method after samplin g	AAS method after sampling	AAS method after sampling	Zirconia m SPADNS Method

BDL Values: SO<sub>2</sub>< 4 μg/m<sup>2</sup>, NO<sub>2</sub>< 9 μg/m<sup>2</sup>, O<4 μg/m<sup>2</sup>, Ni<0.01 ng/m<sup>2</sup>, As< 0.001 ng/m<sup>2</sup>, C<sub>2</sub>H<sub>2</sub><0.001 ng/m<sup>2</sup>, BaP<0.002 ng/m<sup>2</sup>, Pb<0.001 μg/m<sup>2</sup>, F<0.01 μg/m<sup>2</sup>, F<0.01 ng/m<sup>2</sup>

For Visigntek Consultancy Services Pvt. Ltd.



(An Enviro Engineering Consulting Cell)

ISO 14001: 2004 OHSAS (X001: 2007

Ref.: Ennlabire 18 18 - 9813

Date: 76 07-18

## AMBIENT AIR QUALITY MONITORING REPORT

I. Name of Industry

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

2. Sampling Location

3. Monitoring Instruments

RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler

4. Sample collected by

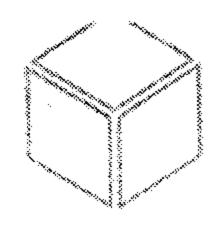
VCSPL representative in presence of Aditya Aluminium representative

	yang dagan september 19 sebah ganggapan sebah dapah dari dari dari dari dari dari dari dari	<u></u>	<del>, (() )                                  </del>	,		P	RAMETE	RS				and the second s	and the second s
Date	PM <sub>10</sub> (μg/m³)	PM <sub>2.5</sub> (μg/m <sup>3</sup> )	SO <sub>2</sub> (μg/m <sup>3</sup> )	NO <sub>x</sub> (μg/m³)	O <sub>3</sub> (ug/m <sup>3</sup> )	CO (mg/m³)	NH <sub>3</sub> (µg/m²)	CaHa (ug/m²)	BaP (ng/m²)	Ni (ng/m³)	Pb ( <u>нц/m²</u> )	As (ng/m³)	(mā\m <sub>\</sub> )
04.04.7010	39.2	21.2	<40)	8.4	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
$\frac{04.04.2018}{08.04.2018}$	41.2	23.1	<4.0	6.8	<4.0	0.10	<20 ()	<0.001	<0.002	<0.01	<()()())	<0.001	<0 ()1
	45.2	19,4	3 1	10.2	<4.0		<200	<0.001	<0.002	<0.01	<0.001	< 0.001	<0.01
12.04.2018	51.3	22.3	42	9.4	<40	0 ]4	<200	<0.001	<0.002	<000	<0.001	1000	<u> </u>
	<del></del>	20.3	51	68	<4.0	0.19	<200	<0,001	<0.002	< 0.01	<0.001	<0.001	<()()
19,04.2018	44.4	5 Antonio de la companya de la companya de la companya de la companya de la companya de la companya de la companya	**************************************	72	<4.0	0.17	<20.0	-00.001	<0,002	<001	<0.001	40.001	<a>0</a> )
22.04.2018	51.2	22.2	5.3	8.3	<4.0	0.15	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	(1) (1)
26.04.2018	493	238	0.1	7.3	<4.0	0.13	<20.0	<0.00	<0.002	<0.01	<0.001	<0.001	<() () }
29.04.2018	51.8	26.1	8.7.	nanakan dari dari dari <del>dari dari dari dari dari dari dari dari </del>	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.0)
02.05.2018	56.3	29.1	7.5	8.6	<4.0	0.18		(0.00i	<0.002	<0.01	<0.0001	<0.001	<u.))< td=""></u.))<>
05.05.2018	54.3	25.4	0.1	8.2	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<(),(%)	<0.001	<.)();
09.05.2018	51.2	22.4	5.3	10.1	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0();
12.05.2018	534	312	3.8	7.2	<4.0	0.14	<20.0	1 30.00 i	<0.002	<0.01	<0.001	<0.001	<0001
16.05.2018	48.1	29.3	4.8	8.4	<4.0	0.16	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0 ():
19.05.2018	47.6	26.4	6.2	5.6	<4.0	0.13	<20.0	<0.001	<0.002	<0.01	<()()())	<0.001	<0.01
23.05.2018	53.2	27.4	5.4	8.2	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	40()
26.05.2018	59.6	26.2	4.6	9,4 8,5	<4,0	0.20	<20.0	<0.000	<0.002	<0.01	<0.001	<0.001	<0.0
30.05.2018	52.6	31.7	6.9	9.3	<4.0	0.17	<20.0	<0.001	< 0.002	<0.01	<0.001	<0.001	<0.01
31.05.2018	57.2	39.8	5.3	8.1	<40	014	<200	\$ <(/ )0)	<0.002	<0.01	SU.001	. KO 001	< () ;);
04.06.2018	59.3	325	62 71	7.9	<4.0	0.16	<20.0	×0.001	< 0.002	<0.01	<()()()	<1001	
07.06.2018	49.8	28.2	***************************************	11.2	<4.0	0.15	<20.0	1 <0.001	<0.002	<0.01	<0.601	40.00	<0.00
10.06.2018	56.2	29.8 34.2	6.4 5.6	10.1	<4.0	0.16	<20.0	< 0.001	<0.002	< 0.01	<0.001	<0.001	<0.01
14.06.2018	53.6	<del></del>	48	123	<4.0	021	<20.0	1 <0.001	< 0.002	<0.07	<0.001	<0.001	43).(I)
17.06.2018	57.4	38.3	6.9	112	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<() i) }
21.06.2018	56.3 54.5	31.2	71	122	<4.0	017	<201	<0.001	<(+00)]	<0.0%	<0.001	[ <0000]	
24.06.2018	36.4	33.7	5.7	9.7	<40	0.17	<20.0	<0.001	<0.002	<0.01	<((0))	<0000i	(0.0)
28.06.2018 NAAQ Standard	100	60	80	80	1(00)	4	400	0.5	() 1	20	1.0	06	
Quarterly Average	51.95	27.78	5.80	8.87	<4.0		<20.0	<0.001	<0.002	<(1,0)	<0.001	<0.001	<0.01
Testing	Gravimet ric	Gravimet	Improve d West and Gaeke method	Modified Jacob & Hochheis er (Na- Arsenite)	Chemical Method	NDIR Spectrosc opy	Indo phenol blue method	Absorpti on & Desorpti on followed by GC analysis	Solvent extraction followed by Gas Chromato graphy analysis	AAS method after sampling	AAS method after sampling	AAS method after sampli 112	Zirconiu m SPADNS Method

BDL Values: SO: < 4 µg/m², NO: < 9 µg/m², O: < 4 µg/m², Ni<0.01 ng/m², As< 0.001 ng/m², CoH. < 0.001 µg/m², BaP<0.002 ng/m², Pb<0.001 µg/m², F<0.01µg/m², CO-<0.1 mg/m²

For Visioniek Consultangy Services Pvt. Ltd.

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(An Enviro Engineering Consulting Cell)

180 9001 : 2008 180 (400) : 2004 OPSAS 18001 - 2007

# Ref.: frufold to TR - 9314 AMBIENT AIR QUALITY MONITORING REPORT Date: 56 07 18

M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga Name of Industry

Monitoring Station No. Sampling Location

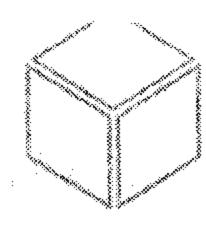
RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler Monitoring Instruments

VCSPL representative in presence of Aditya Aluminium representative Sample collected by

	ann an amh airth agus fall an deann ann an an t-in an	75.15.15.19.19.19.19.19.19.19.19.19.19.19.19.19.	ng ng ng ng ng nguyang ti dadak katalak da ta ta ng ng ng ng ng ng ng ng ng ng ng ng ng	and a supplied the second section of the section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of the section of the second section of the	, es a a comprese de la del proposa de la completa de la del	PA	RAMETER	S	, , , , , , , , , , , , , , , , , , ,				<u> </u>
Date	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m³)	SO <sub>2</sub> (µg/m³)	NO, (µg/m³)	O <sub>3</sub> (µg/m³)	CO (mg/m³)	NH <sub>3</sub> (µg/m³)	C,H, (pg/m²)	BaP (ng/m²)	Ni (ng/m³)	(µg/m³)	(ng/m <sup>3</sup> )	(118/11) <sub>2</sub>
64843610	38.2	21.2	4.3	8.2	<4.0	021	<20.0	<0.001	<0.002	<0.01	<u> 40 001</u>	<0.001	<00
04.04.2018 08.04.2018	41.2	17.6	5.8	9.3	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<u> </u>
	39.2	103	6.4	8.5	<4,0	0.25	<204)	<0.001	< 0.002	<0.01	<0.601	<0.001	<000
12.04.2018	41,1	17.2	<4.0	7.6	<4.0	0.22	<20.0	<0.001	< 0.002	<0.01	<0.001	<0.00	<0.01
15.04.2018	37.4	214	<4.0	6.4	<4 ()	0.17	<200	<(),()()	< 0.002	<001	<0.001	(0.00)	<(() () ()
19.04.2018	36.4	201	5.9	9.1	<4.0	0.21	<20.0	<0.001	< 0.002	<0 ()	<0.001	<0.000	
22.04.2018	42.5	22.3	4.8	8.1	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	\$0.001	
26,04.2018	********* <del>****************************</del>	24 1	<40	77	<4 ()	0.23	<300	<0.004	4.0 (90)2	<(),().	40.001	1 -0(3)	
29.04.2018	37.2	274	5.	8.4	(4 t)	0.19	<200	(1) [11]	<0.000	<0 (1)	<0.001	3000	400
02.05,2018	423	25.3	4.8	6.4	<4(1	11.21	< 200	* () ()()()	<0.002	<33()]	SO (X)	[ (3) (10)	
05.05.2018	452	24.7	7.3	8.4	<4.0	0:7	<200	<0.001	<0.000	<0.01	<()((i))	<0.001	[ <();)}
09.05.2018	38.4		4.3	3.9	<40	0.21	4 <u>2</u> 8) ()	<0.001	<0.002	<0.01	<(()()()	<u> </u>	() () <u>.</u>
12.05.2018	412	22.5	6.2	4.8	<4 ()	0.22	<200	<0.001	<0.002	<0.01	<0.001		
16.05.2018	44.2	215	7.5	9.8	<4.0	0.23	<300	<0.001	<0.002	<0.61	40.001	(40.00)	
19.05.2018	43,4	28.4	<4.0	8.7	<4.0	0.24	<20.0	< 0.001	<0.002	<0.01	<0.001	<0.001	
23.05.2018	42.8	29.2 *	4.7	9.1	<4,0	0.18	<20.0	<0.001	<0.002	<() (1)	<0.001	<u> </u>	. ()(1)
26.05.2018	57.4	32.2	· · · · · · · · · · · · · · · · · · ·	9.2	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	40001	(0.0)
30.05.2018	43.4	256	<4.0.	8.8	<4.0	0.22	<200	40001	<0.002	<0.01	<0.001	<() (%)!	
31.05.2018	57.4	31.2	5.9	6.9	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	<0001 -	<:)(1)
04.06.2018	411	29.6	<u> </u>	7.8	<4.0	0.21	<20.0	T <0.001	<0.002	<0.01	<0.001	( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	: <()(:)
07.06.2018	43.2	25.1	43	6.4	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	KU 001	-40 (C) i	( ×y!)!
10.06.2018	44.5	27.4	5.7	5.9	<4.0	0.27	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	) 4 () () () () () () () () () () () () ()
14.06.2018	471	28.4	<del>{</del>	10.2	<4.0	0.21	<20.0	<0.001	< 0.002	< 0.01	<() ()() [	<u>  &lt;0.001</u>	
17.06.2018	39.7	21.2	6.4	112	<4.0	0.22	<20.0	< 0.001	<0.002	< 0.01	<0.001	<0.001	<;) () (
21.06.2018	43.2	27.3	6.1	1 12.1	<4.0	0.25	<20.0	<0.001	<0.002	<0.01	KU (00)	4000	
24.06.2018	45.2	21.3	5.6	9.6	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	() ()
28.06.2018 NAAQ	42.8 100	60	80	80	100	4	400	0.5	01	20	1.0	06	
Standard	Company of the Compan	A CONTRACTOR OF THE CONTRACTOR			and property of the common control of the common of the co		***************************************	~10 (bit 8	<0.002	<0.01	<0.001	<().()() (	<(1.1)
Quarterly	42.91	31.23	5.48	8.25	<4.0	0.21	<20.0	<0.001	32,1131.2	7 13, 17 2	* * * * * * * * * * * * * * * * * * *	*** ** ** ** *** *********************	continues of the second of the
Average Testing method	Gravimet ric	Gravimetri	Improved West and Gaeke method	Modified Jacob & Hochheis er (Na- Arsenite)	Chemical Method	NDIR Spectrosc opy	indo phenoi blue method	Absorption & Description followed by GC analysis	Solvent extraction followed by Gas Chromatog raphy analysis	AAS method after sampling	AAS method after sampling	AAS method after sampli ug	Arcon on SPAD Netho

BDL Values: \$0.25 4 µg/m², NOx5 9 µg/m², Ox54 µg/m², Nis0.01 ng/m², As5 0.001 ng/m², C.H. <0.001 µg/m², BaP<0.002 ng/m², Pb<0.001 µg/m², Pb<0.001 µg/m², F<0.01 µg/m², F<0.01 µg/m².

For Visionite Consultynes Services Pvt. Ltd.



(An Enviro Engineering Consulting Cell)

ISO 14(0)) : 2004 OHSAS 18001 : 2007

Date: 06/04/18

Red: Envlob/10/R-9315

Name of Industry

### AMBIENT AIR QUALITY MONITORING REPORT

: M/s Hindalco Industries Ltd (Unit- Aditya Aluminium); Lapanga

2. Sampling Location : Monitoring Station No. - A Monitoring Station No. -

3. Monitoring Instruments : RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler

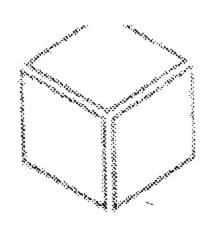
4. Sample collected by : VCSPL representative in presence of Aditya Aluminium representative

***************************************			*************************	***************************************		}	'ARAMETI	ERS		· · · · · · · · · · · · · · · · · · ·	<u> </u>		***************************************
Date	PM <sub>m</sub> (µg/m³)	PM <sub>2.5</sub> (μg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m²)	NO <sub>x</sub> (µg/m³)	O <sub>3</sub> (112/111 <sup>3</sup> )	(mg/m <sup>3</sup> )	NH <sub>3</sub> (ug/m <sup>3</sup> )	Califa (µg/m³)	BaP (ng/m³)	Ni (ng/m³)	Pb (μg/m³)	As (ng/m³)	(ug.m²)
04.04.2018	42.1	18.2	6.5	124	<4.0	0.11	<20.0	<0.001	<0.002	<0.01	<0.00	S0.001	(10)
08.04.2018	40.4	24.5	7.2	15.3	<40.	0.23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.04.2018	43.1	21.4	8.4	17.5	<40	0.25	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2018	44.6	24.3	5.7	10.4	<4.0	0.26	<200	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.04.2018	39.2	21.2	9.3	11.2	K4.0	0.21	<2000	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
22.04.2018	38.2	17.8	8.2	12.7	<4.0	0.23	<20.0	<0.001	<0.002	<001	<0.001	<0.001	
26.04.2018	47.6	20.2	6.4	10.4	<4.0	0.29	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	X (1)
29.04.2018	56.4	21.9	7.6	116	<4.0	0.22	<20.0	<0.001	< 0.002	<0.01	<0.001	<0.001	<0.11
02.05.2018	44.2	16.1	8.3	10.5	~4.0	0.18	<20.0	<() (x) 1	<0.002	<0.01	<0.001	1 <0.001	(4) [1]
05.05.2018	39.5	15.4	6.7	11.6	<4.0	0.21	<20.0	<0.001	<0.002	T <0.01	<0.001	<0.001	**************************************
09.05.2018	51.4	21.2	7.6	12.9	<4.0	0.29	<20.0	100.03	< 0.002	(()())	<b>1</b> <0.001	(A) (N)	CHIL
12,05,2018	62.7	26.2	5.7	13.4	<4.0	0.31	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	T digi
16,05,2018	59.2	25.6	6.2	15.6	<4.0	0.26	20.0	<0.001	<0.002	<del>  &lt;0.01</del>	<0.001	<0.001	(001
19.05.2018	46.6	23.4	7.6	10.4	<40	0.28	<20.0	< 0.001	<0.002	<0.01	<0.001	<0.001	<(),0)1
23.05,2018	49.2	21.2	8.1	12.6	<4.0	031	<20.0	<0.001	<0.002	<001	<()()()()	- <0.001	
26.05.2018	45.2	19.7	5.8	113	<43	0.25	<20.0	<b>1</b> 30001	<0.002	<:0.01	<0 DO	4000	
30.05.2018	39.7	16.2	8.4	10.2	<4.0	0.22	<200	<0.001	<0.002	(0.01	< 40.00%	i <000)	. 001
31.05.2018	51.3	246	7.5	[ 4.6	<4.0	0.27	<20.0	<0.001	<0.002	<0.01	<()(i())	<00 (K)	483.01
04.06,2018	48.5	197	7.2	104	<4()	0.21	<200	<0.001	<0 (x)2	<0.01	<(1(K))	<0.001	0(11)
07.06.2018	46.2	21.2	6.6	12.2	<4.0	0.23	<20.0	<0.001	<0.002	(0.01	<0.001	<01 (H)	400:
10.06.2018	45.5	18.6	7.2	13.6	<4.0	0.27	<20.0	<0.001	<0.002	<0.01	<0.00	40 ()()	50.91
14.06.2018	49.3	26.4	6.4	12.7	<4.0	0.29	<200	<0.001	~ 0.002	<0.01	<0.001	40.001	S4231
17.06.2018	58.2	29.2	61	13.5	<4.0	0.24	<20.0	<0.001	<0.002	<0.01	(0.001	<0.001	V() ())
21.06.2018	37.3	24,5	5.6	14.6.	<4.0	0.25	<20.0	<0.001	< 0.002	<0.01	<0.001	< 0.001	40.93
24.06.2018	44.6	21.5	6.8	11.8	<4.0	0.22	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	Madi
28.06.2018	48.9	20.7	7.4	12.5	<4.0	0.20	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	(0,0)
NAAQ Standard	100	60	80	80	100	4	400	05	01	20	1.0	06	~~
Quarterly Average	,46.89	21.57	7,10	12.53	<4.0	0.24	<20.0	<0.001	<0.002	1 0.0>	<0.001	<0.001	<0.01
Testing	Gravimet ric	Gravimetri	Improved West and Gaeke method	Modified Jacob & Hochheis er (Na- Arsenite)	Chemical Method	NDIR Spectrosc	Indo phenoi blue method	Absorption & Descrption followed by GC analysis	Solvent extraction followed by Gas Chromatog raphy analysis	AAS method after sampling	AAS method after sampling	AAS method after sampli ng	Zircomic m SPADN: Method

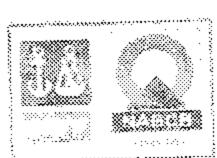
BDL Values: SOz 4 µg/m², NOx 5 µg/m², Oz 4 µg/m², Ni<0.01 ng/m², As 5 0 0 01 ng/m², CaHa < 0.001 µg/m², BaP < 0.002 ng/m², Pb < 0.001 µg/m², F < 0.01 µg/m² CO < 0.1 mg/m²

For Visioniek Consultancy Services Pvi. Lul.

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(An Enviro Engineering Consulting Cell)



OHSAS (800): 2007

Ref.: Enverale/18/4-9316

Dute: 06/07/18

## AMBIENT AIR QUALITY MONITORING REPORT

Name of Industry

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

Sampling Location

Monitoring Station No.- AAQMS-5 (Kapulas)

Monitoring Instruments

RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler

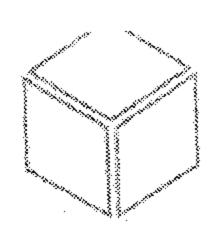
Sample collected by

VCSPL representative in presence of Aditya Aluminium representative

and the second s			<u>agrapo como e propose a como en esta de la comoción</u> de esta de la comoción de l		ووه ۱۳۰۰ ویونده منطقه وانتشانی به پیرین به نام به در در به به به به به به به به به به به به به	PA	RAMETE	RS					
Date	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub> (μg/m³)	NO <sub>s</sub> (ug/m³)	O <sub>3</sub> (μg/m³)	CO (mg/m³)	NH <sub>3</sub> (µg/m <sup>3</sup> )	C.H. (ug/m³)	BuP (ng/m³)	Ni (ng/m²)	(ug/m³)	(ng/m²)	( <u>na/m²</u> )
Extra Control of the Control	(µg/m²)	(µg/m²) 21.4	4.8	13.2	<4.0	0.34	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<(1)); 
04,04,2018	45.6 47.2	25.2	3.6	11/4	<4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<u> </u>
08.04.2018	<del></del>	21.6	5.7	10.1	<4.0	0.28	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
12.04.2018	459		5.1	99	< 4.0	0.26	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
15.04.2018	53.4	19.5	5.2	12.4	< 40	0 36	< 20.0	<0.001	<0.002	<0.01	<0.001	<0.001	×0.01
19,04,2018	516	26.4 27.9	4.9	16.7	<40	0.28	<20.0	<0.001	<00002	<0.01	<0.001	<0.001	40.01
22.04.2018	49.7	*************	6.4	11.5	<40	0.27	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.03
26.04.2018	54.4	26.4	5.7	12.3	<4.0	0.29	<20.0	<0.001	<0.002	<0.03	<0.001	<0.001	
29.04.2018	56.7	216		12.6	< 4.0	0.38	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	40.0
02.05.2018	2 2	19.8	<u> </u>	11.2	< 4.0	0.33	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<.p>
05.05.2018	47.9	26.7	5.8	·	< 4.0	0.36	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<001
09.05.2018	> 56.1	22.7		10.6	< 4.0	0.38	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	(4) (1)
12.05.2018	49.2	218	6.4	13:4		0.30	<20.0	<0.001	<0.002	<0.01	<0.00	<0.001	\$ (0,0)
16.05.2018	51.7	22.5	5.8	11.3	< 4.0	0.34	<20.0	<0.001	<0.002	<9.01	30 (30)	<0.000 L	
19.05.2018	46.2	23 7	5.1	127	< 40	0.41	<200	<0.001	<0.002	<0.01	<0.001	<0.001	(3) (1)
23.05.2018	52.8	26.5	6.4	113	< 4.0	<u></u>	<20.0	<0.001	<0.002	·()(0)	<0.001	<0.001	
26.05.2018	47.9	22.8	5.8	10.3	< 4.0	0.36	<200	<0 (W)	<0.002	<0.01	< 0.00	<0.00	(0.01)
30.05.2018	53.2	26.8	6.1	111	< 4.0	0.35	<200	<0.001	<0.002	<:0.01	<0.00;	<0.001	( (()1))
31.05.2018	52.4	27.9	4.8	12.3	<4.0	0.22	<20.0	<(0.00)	<0.002	<0.03	<0.001	<0.001	<0.03
04.06.2018	47.7	21.6	5.3	9.9	<4.0	0.27	<200	<0.001	<0.002	<0.01	<0.001	<0.001	S0.01
07.06.2018	52.4	26.7	5.9	11.3	< 4.0	0.28	<200	<0.001	<0.002	<0.01	<000	<0.003	. 3001
10.06.2018	47.9	23.4	6.2	10.7	< 4 ()	0.31	<200	<0.001	<0.002	<0.01	<() (h) !	3).001	(O) (II)
14.06.2018	53.4	246	5.8	12.4	< 4.0	0.36	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	(4) (1)
17.06.2018	488	22.7	4.9	10.5	<4.0	0.34	<30.0	<u> </u>	<0.002	<0.01	<0.001	<0.001	<4) (c)
21.06.2018	56.6	25.6	94	11.3	< 4.0	0.28	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<i)(ii)< td=""></i)(ii)<>
24,06.2018	55.3	22.7	7.3	12.2	< 4.0	0.22	<20.0	(2) (0) 1	< 0.002	<0.01	<0.001	<0.001	<001
28.06.2018	49.7	27.3	8.4	<u> </u>	< 4.0	0.26					and the second section of the second section is a second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of	4) 5	
NAAQ	100	60	80	80	100	4	400	05	01	20	1.0	06	**
Standard	100				A CONTRACTOR OF THE CONTRACTOR		skeek er oar besteel een een de een teksteel.		Approximation constraints		A 403	-33 (147) 8	<(1,111
Quarterly	50.96	24.07	5.98	11.76	< 4.0	0.31	< 20.0	<0.001	<0.002	<0.01	<0.001	<0.001	~ (8, (8)
Average	~357.FV	A					Andrew or a second second		Solvent				; ;
Testing method	Gravimet ric	Gravimetri c	Improved West and Gaeke method	Modified Jacob & Hochheis er (Na- Arsenite)	Chemical Method	SDIR Spectrosc	Indo phenol blue method	Absorption & Desorption followed by GC analysis	extraction followed by Gas Chromatog raphy analysis	AAS method after sampling	AAS method after sampling	AAS method after sampli ng	SPADN Method

BDL Vulues: SO: < 4 μg/m², NOx < 9 μg/m², O; < 4 μg/m², Ni<0.01 ng/m². As< 0.001 ng/m², CaHa<0.001 μg/m². BaP<0.002 ng/m², Pb<0.001 μg/m². F<0.01 μg/m². F<0.01 μg/m². CO < 4 μg/m². Ni<0.01 ng/m². As< 0.001 ng/m². CaHa<0.001 μg/m². BaP<0.002 ng/m². Pb<0.001 μg/m². F<0.01 μg/m². F<0.01 μg/m². CO < 4 μg/m². Ni<0.01 ng/m². As< 0.001 ng/m². CaHa<0.001 μg/m². BaP<0.002 ng/m². Pb<0.001 μg/m². F<0.01 μg/m². F<0.01 μg/m². F<0.01 μg/m². CO < 4 μg/m². Ni<0.01 ng/m². As< 0.001 ng/m². CaHa<0.001 μg/m². BaP<0.002 ng/m². Pb<0.001 μg/m². F<0.01 μg/m². F<0.01 μg/m². F<0.001 μg/m². CO < 4 μg/m². Ni<0.01 ng/m². As< 0.001 ng/m². CaHa<0.001 μg/m². BaP<0.002 ng/m². Pb<0.001 μg/m². F<0.001 μg/m². F<0.001 μg/m². Co < 4 μg/m². Ni<0.001 μg/m². Ni<0.001 ng/m². As< 0.001 ng/m². CaHa<0.0001 μg/m². BaP<0.002 ng/m². Pb<0.001 μg/m². F<0.001 μg/m². F<0.001 μg/m². Co < 4 μg/m². Ni<0.001 μg/m². Ni<0.001 ng/m². As< 0.0001 μg/m². CaHa<0.0001 μg/m². BaP<0.0002 ng/m². Pb<0.0001 μg/m². F<0.001 μg/m². F<0.001 μg/m². CaHa<0.0001 μg/m². CaHa<0.00

For Visiontek Consultance Vervices Pvt. Ltd.



ISO 9001 : 2008

ISO 14001 : 2004 OHSAS 18001 : 2007

(An Enviro Engineering Consulting Cell)

Ref.: 6 Walle 12 R - 984

Date: 56 /57-198

## 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

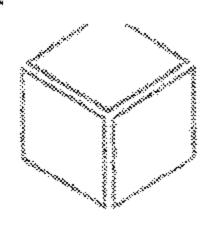
4. Sample collected by

VCSPL representative in presence of Aditya Aluminium representative

	nanda kalanda manana da kalanda		<del></del>	mana kananan kan <u>anggan kanan</u> kanan kanan kanan kanan kanan kanan kanan kanan kanan kanan kanan kanan kanan kana	PA	RAMETER	S	2.20.000.000.00000000000000000000000000		235.	<u>*</u> 22	A	
Date	PM <sub>10</sub>	PM25	SO <sub>2</sub>	NO.	O <sub>3</sub> (µg/m³)	CO (mg/m³)	NH <sub>3</sub> (μg/m <sup>3</sup> )	C6H6 (µg/m³)	BaP (ng/m²)	(ng/m³)	(ug/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ue/m²)
	(ng/m²)	(ug/m²)	<u>(μg/m°)</u> 4.2	( <u>mr/m</u> *)	<u> </u>	0.19	<20.0	< 0.001	<1) ()()2	<0.01	<0.001	<0.001	<0.01
04.04.2018	49.2	213	6.1	9.5	<4.0	0.18	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	The same of the sa
08.04.2018	48.5	19.4	***************************************	7.5	<4.0	0.12	<200	<0.001	< 0.002	s() () [	<0.001	<0.001	v.(1 () <u>1</u>
12.04.2018	47.9	18.4	5.3	6.9	<4.0	0.14	<20.0	<0.001	< 0.0002	<0.01	<0.001	<u> &lt;0.001 j</u>	<u> </u>
15.04.2018	49.5	212	<u> </u>	11.2		0.13	<20.0	<0.001	<0.002	<0.01	<u> </u>	<0.001	< 0.01
19.04.2018	48.8	19.7	<u> </u>	8.5	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001   	<0.01
22.04.2018	50.7	16.4	<u> </u>	10.1	~4.0°	0.12	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01 <0.01
26.04.2018	52.1	24.}	49	113	<4.0	0.14	<200	<0.001	<0.002	<0.01	<0.001	<0.001	411,074
29.04.2018	42.5	21.3	5.3	9.6	<4.0	0.20	<20.0	<0.001	<0.002	<u> </u>	<(0.000)	<0(01	< () x) }
02.05.2018	49	224	b.i	12.4	<4.0	0.21	< 200 (3	<()()()	<0.002	<u> </u>	<0.001	<0.001	<u> (0,01</u>
05.05.2018	52.6	27.		(1997) (1997) in the state of the state of the state of the state of the state of the state of the state of the	<4.0	022	<200	<(0.001	<().(102	<001	<0.001	<0.001	×0.88
09,05.2018	53.4	29	4.9	10.5	<40	0.22	~ <u>~ 20</u> 0		-(1002	<001	< () ()() [	<000000	703) 
12.05.2018	515	31.1	5.3		<40	0.29	<20.0	<0.00H	70 002	<u> </u>	*410K)	5 (5 (5))	*(***/) 
16.05.2018	492	27.5	6.4	9.4 12.1	<4.0	0.21	<200	<0.001	<0.002 ;	<0.01	<00 ( <b>X</b> ) j	<0.001	Annual production of the produ
19.05,2018	49.8	26.1	7.2	والمرابط والمواوية والمناف والمصافية والمواوية والمنافية والمانية والمراوية والمانية والمراوية والمواوية	<4.0	0.27	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<(() :))
23.05.2018	51.6	33.4	6.5	8.6 7.6	<4.0	() 23	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
26.05.2018	56.7	316	5.8	6.9	<4.0	0.31	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
30.05.2018	62.7	27.2	5.6		<4.0	0.28	<20.0	<0.001	<0.002	<001	<0.001	<0.001	
31.05,2018	59.1	25.4	4.6	9.5	<4()	0.29	<20.0	<(0.00)	< 0.002	<0.01	, <0.001 <u> </u>	<0.001	<0.01
04.06.2018	394	22.4	6.1	12:1	<40	0.26	<200	₹0 <b>0</b> 01	<0.002	<001	<0.001	<()(%)!	
07.06.2018	442	26.7	7.2	10.5	<40	031	<200	(0.00)	<0.002	<u> &lt;0.01</u>	<u> </u>	<0.000 kg	(100)
10.06.2018	49.4	7.4	5.9	129	<4.0	0.24	<20.0	<0.00	<0.002	<();)!	3000	<(1001	1 (49)
14.06.2018	43.7	19.4	6.2	116	<4.0	0.19	2. ( ) ( )	<0.001	<3),002	<0.01	(100)	< (1 ()(1)	< 0.01 ***********************************
17.06.2018	474	21.8	4.9	16.4	<4.0	0.21	<20.0	<0.001	<0.002	<0.01	<0,00	i <(i (3))	
21.06.2018	46.2	22.4	6.7	13.1	£	0.22	<20.0	<0.001	<0.002	<0.01	<u> </u>	30.001	
24.06.2018	45.9	19.7	7.3	11.2	<4.0	0.26	20.0	<0.001	<0.002	<0.01	<0.001	<0.00	4,87,133
28.06.2018	492	21.4	6.9	12.8	<4.0	V. Z.	paragan aggi en est an an anna ag e de tarantes anna	And the second	\$ \$	20	1.0	06	
NAAQ Standard	100	60	80	80	100	4	4(0)	(15	01	The second secon	<0.001	<0.001	<0.01
Quarterly Average	47.93	23.61	5.84	10.45	<4.0	0.22	<20.0	<0.001	<0.002 Solvent	<0.01		7600	
Testing method	Gravimet ric	Gravimetri c	improve d West and Gaeke method	Modified Jacob & Hochheise r (Na- Arsenite)	Chemical Method	NDIR Spectrose opy	Indo phenoi bive method	Absorption & Desorption followed by GC analysis	extraction followed by Gas Chromatog raphy analysis	AAS method after sampling	AAS method after sampling	AAS method after sampli ng	Zirem m SPAD Meth

BDL Values: SO<sub>2</sub>< 4 μg/m², NO<sub>8</sub>< 9 μg/m², O<sub>3</sub><4 μg/m², Ni<0.01 ng/m², As<0.001 ng/m², C.H.<0.001 μg/m², BaP<0.002 ng/m², Pb<0.001 μg/m², Pb<0.001 μg/m², F<0.01 μg/m² (CO.<0.1 mg/m²)

For Visiontek Consultance Services Pvt. Ltd.



(An Enviro Engineering Consulting Cell)



ISO 14001 : 2004 OHSAS IXMII : 2007

Ref.: frujabji8/R-9318

Date: 06 (37) 13

### AMBIENT AIR QUALITY MONITORING REPORT

I. Name of Industry

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

2. Sampling Location

Monitoring Station No.- AAQMS-7 (Khadiapali)

3. Monitoring Instruments

RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler

Sample collected by

VCSPL representative in presence of Aditya Aluminium representative

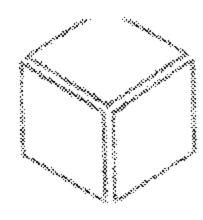
		w	and the state of t	<u></u>	tarininkasin alkan marajainin joja juurin kinistin joja kan aksista ajaj		ARAMETE	ars —	(a d) del su e spece				
Date	PM <sub>16</sub> (μg/m³)	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (μg/m³)	NO <sub>x</sub> (μg/m³)	(µg/m³)	CO (mg/m³)	NH, (µg/m²)	(µg/m³)	BaP (ng/m³)	Ni (ng/m³)	Pb ()(g/m³)	As (ng/m³)	(ug(m))
04.04.2018	42.3	21.2	4.3	8.5	<4.0	0.10	<20.0	<0.001	< 0.002	<0.01	<0.001	<0.001	<001
08.04.2018	49.1	22.5	5.8	9.1	<b>4.0</b>	0.13	<2011	<0.001	<0.002		<0.001	<0.001	<u> </u>
12,04,2018	31.2	22.7	6.5	10.2	<4.0	0.14	<20 0	<0.001	< 0.002	<0.01	<0.001	<0.001	<001
15,04,2018	46.5	26.4	6.1	11.5	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.01
19.04.2018	51.2	21.2	6.3	12.1.	<4.0	0.12	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	< jill
22,04.2018	49.3	19,8	5.6	13.2	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<0.00
26.04.2018	43.5	19.6	4.9	12.4	<4.0	0.11	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	<u> </u>
29.04.2018	48.7	21.6	6.7	9.2	<4.0	0.14	<20.0	< 0.001	<0.002	< 0.01	<0.001	<() (x) !	SU (1)
02.05.2018	39.5	22.5	5.9	11.2	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	<0.001	<0.00	<:)(0)
05.05.2018	55.4	27.3	7 1	13.4	<4.0	0.12	<20 0	<0.001	<0.002	<001	<0.001	<0.001	<u>*001</u>
09.05.2018	· 46.5	23.4	5.9	11.2	<4.0	0.15	<200	<0.001	< 0.002	<0.01	<u> </u>	<0.001	< O (H
12.05.2018	38.5	22.1	5.2	10.4	<40	0.10	<20.0	<0.001	< 0.002	<0.01	<0.001	<0.001	< 30 / 31 / 31 / 32 / 32 / 32 / 32 / 32 / 32
16.05.2018	46.5	21,2	68	118	<4.0	0.17	<20.0	<0.001	<0.002	<0.01	<0.001	1.5000	<0.00
19,05,2018	48.8	22.5	5.4	12.1	<4.0	0.13	<20.0	<0.001	<0.002	SU.01	<0.001	<0.001	401
23.05.2018	49,9	27 7	4,9	10.4	<40	0.12	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	
26.05.2018	49.1	31.4	6.5	9.3	<4.0	0.12	<20.0	<0.001	<0.002	<0.01	<0.001	<0.001	
30.05.2018	33.2	29.1	5.4	11.4	<4.0	0.14	<200	<0.001	<0.002	<0.01	<()(x)1	<() (8)1	<u> </u>
31.05.2018	59.2	24.6	5.9	10.4	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	] <0.00 <b>1</b>	<0.001	<u> </u>
04.06.2018	41,9	26.7	6.6	11.5	<4.0	0.12	<20.0	<0.001	< 0.002	<001	<0.001	<0 (001	(i)_(i)
07.06.2018	48.2	24 7	6.2	10.7	<4.0	0.11	<20.0	<0.001	< 0.002	<0.01	<0.001	<0.001	<u> </u>
10.06.2018	42.5	27.8	7.1	11.9	<4.0	0.14	<20.0	< 0.001	< 0.002	<0.01	<0.001	<()(),();	A()()}
14.06.2018	51.2	26.7	8.2	13.4	<4.0	0.13	<20.0	<0.001	<0.00Z	<0.01	<0.001	<0.001	<u> </u>
17.06.2018	46.2	25.7	6.2	13.5	<4.0	0.12	<2(),()	<0.001	<0.002	<0.01	< 0 (6)	<0.001	
21.06.2018	45,8	29.1	7.1	10.7	<4.0	0.19	<20.0	<0.001	<0.002	<0.01	<u>  &lt;0.001</u>	<0.001	<0.01
24.06.2018	43.2	27.3	6.7	11.6	<4.0	0.14	<20.0	<0.001	<0.002	<0.01	<u>] &lt;0.001</u>	40.601	<u> </u>
28.06.2018	46.8	25.6	7.3	12.7	<4.0	016	<20.0	40 001	<0.002	<0.01	<u> </u>		<u>[&lt;00]</u>
NAAQ Standard	100	60	80	80	100	4	400	Üħ	1) [	20	1.0	06	
Quarterly Average	47.47	24.63	6.18	11.30	<4.0	0.13	<20.0	<0.001	<0.002	<0.01	<1),001	<0.001	<0.01
Testing	Gravimet ric	Gravimetri	Improved West and Gaeke method	Modified Jacob & Hochheis er (Na- Arsenite)	Chemical Method	NDIR Spectrosc opy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatog raphy analysis	AAS method after sampling	AAS method after sampling	AAS method after sampli ng	Zirconin m SPADA: Method

Arsenne)

BDL Values: SO: < 4 μg/m², NO; < 9 μg/m², O: < 4 μg/m², Ni<0.01 ng/m², Δs< 0.001 ng/m², C.H.<0.001 μg/m², ΒαΡ--0.002 ng/m², Ρε--0.001 μg/m², F<0.01μg/m², CO-<0.1 mg/m²

For Visionitek Consultang Services Pvi. Lid.

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(An Enviro Engineering Consulting Cell)

ISO 9001 : 2008 ISO 14001 : 2004 OHSAS ISO01 : 2007

Ref.: Envelab/10/R-9319

Date: 56/04/18

### AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry

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

2. Sampling Location

Monitoring Station No. - AAQNIS-8 (Thelkolai)

3. Monitoring Instruments

RDS(APM-460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler

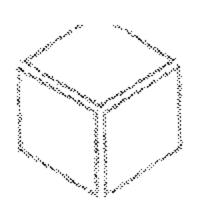
4. Sample collected by

VCSPL representative in presence of Aditya Aluminium representative

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f baka	PM <sub>in</sub>	PNI25	SO <sub>2</sub>	NO,	$O_3$	CO	NH3	C,H,	BaP	Ni	Ph	As	
Date	(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)	$(\mu g/m^3)$	(mg/m²)	(hā/m,)	(ug/m²)	(ng/m³)	(ng/m²)	(NE/M)	(ng/m²)	(ug/m <sup>*</sup> )
04.04.2018	42.1	25,4	5.1	11.3	4.2	0.41	2.4.3	<0.001	<0.002	<0.01	<0.001	<0.001	< 0.01
08.04.2018	39.5	26.1	4.3	128	41	0.36	24	<u>  &lt;0.001</u>	<0.002	<() (?)	<0.001	<0.001	
12.04.2018	546.2	24.8	4.9	11.9	4,3	044	222	<0.001	<0.002	<0.01	<0001	<0.001 	43.01
15.04.2018	43.1	29.4	5.3	17.5	5.2	0.38	24.1	<0.001	<0.002	<0.01	<0.001	<0.001	
19.04.2018	38.7	22.5	4.9	16.4	6.1	0.33	22.7	<u>  &lt;0.001</u>	<0.002	<0.01	<0.001	<0.001	<0.01
22,04.2018	38.7	26.4	5.2	12.4	4.3	0.41	21.4	<u> </u>	< 0.002	<0.01	<0.001	<0.001	< 0.01
26.04.2018	39.5	214	4.9	12.6	4.7	0.47	22.8	<u> </u>	<0.002	<0.01	<0.001	<0.001	-4101
29.04.2018	42.7	27.5	6.8	11.5	6.1	0.29	25.1	<0.001	< 0.002	<0.01	<0.001	<0.001	
02.05.2018	42.6	23.4	6.1	12.4	5.3	0.33		<0.001	<0.002	<0.01	< 0.001	<0.001	
05.05.2018	417	26.7	5.8	9.8	4.7	0.27	27	<0.001	<0.002	<0.01	<0.001	<u> </u>	<u>;                                    </u>
09.05.2018	38.7	25.4	4.9	11.5	5.3	0.23	23.7	<0.001	< 0.002	<0.01	<0.001	(0.00)	
12.05.2018	39.2	31.8	5.4	16.2	4.8	0.31	24.2	<0.001	<0.002	<0.01	<0.001	<0.001	(0.01
16.05.2018	40.2	28.7	4.7	13.4	4.2	0.32	25 1	<0.001	<0.002	<0.01	<0.001	. <0.001	400
19.05.2018	38.7	26.4	4.8	12.2	6.4	0.28	24.7	<0.001	<0.002	<0.01	_ <0.001	<u>  &lt;0.00;</u>	* () () ()
23.05.2018	48.4	27.2	6.1	11.7	4.9	0.27	26.1	<0.001	<0.002	<() () [	<(),(%)1	<0.001	
26.05.2018	39.2	25.4	5.9	14.2	5.1	0.24	22.9	<0.001	< 0.002	<0.01	<0.001	<0.001	
30.05.2018	53.2	26 7	4.8	12.3	5.3	0.34	22 4	<0.001	<0.002	<0.01	< 0.001		
31.05.2018	45.4	29.1	8.2	11.4	5.7	0.27	236	<0.001	<0.003	<0.01	<0.001	( -(0 () <del>))</del> ) (	) -44) (AL
04.06.2018	36.4	31.5	64	10.7	4,9	0.29	23.1	<0.001	0.002	<() () )	-3 (M):		
07.06.2018	42.5	26.7	6.7	15.8	5.1	0.31	247	<9101	-0.002	<0 (r)	(3)(3)	-0000	. (00)
10.06.2018	312	23.7	5.9	11.6	5.7	0.32	260	<()()())	<0.002	400l	<0.001	<0.001	4 (144)
14.06.2018	46.2	312	6.2	12.7	6.1	0.33	21.7	<0.001	<0.002	<0.01	<0.001	<0401	
17.06.2018	43.1	26.4	5.5	12.6	3.3	1 031	26.7	<0.001	<0.002	<0.01	<0 (0)1	<0.08H	
21.06.2018	42.7	31.4	67	12.4	4.7	0.35	, 271	<0.001	<0.0002	<() () [	<0.00°	KUNUL	410
24.06.2018	45.4	27.5	7.2	10.5	0.1	0.31	25.4	<0.001	<0.002	<0.01	7030	<0.0001	(1) (1)
28.06.2018	39.1	29.6	6.3	12.6	5.3	033	27.3	<0.001	<0.002	<0.01	<0(0):	<0.001	<0.01
NAAQ Standard	100	60	80	80	100	4	400	0.5	()	20	*.()	06	or or
Quarterly Average	61.32	27.09	5.73	12.71	5.15	0.33	24.38	<0.001	<0.002	<0.01	<0.001	1000.0>	<0.01
Testing	Gravimet ric	Gravimetri	Improved West and Gacke method	Modified Jacob & Hochheis er (Na- Arsenite)	Chemical Method	NDIR Spectrosc opy	indo phenoi blue method	Absorption & Desorption followed by G( analysis	Solvent extraction followed by Gas Chromatog raphy analysis	AAS method after sampling	AAS method after sampling	AAS method after sampli og	Zarcomi m SPADN Methox

BDL Values: SO: <4 µg/m², NOx < 9 µg/m², O; <4 µg/m², Ni<0.01 ng/m², As< 0.001 ng/m², C.H. <0.001 µg/m², BaP<0.002 ng/m², Pb<0.001 µg/m², F<0.01µg/m² (O-<1) 1 mg/m²

For Visiontel Consulancy Services Pvt. Ltd.



OHSAS 18001:2007

(SO 9001 : 2008 ISO 14001 : 3004

(An Enviro Engineering Consulting Cell)

Ref: Erulab 19/1 - 9321

Date: The At 18

### METEOROLOGICAL DATA FOR JUNE-2018

I. Name of Industry

: M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga.

2. Sampling Location

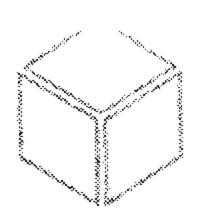
Near Raw Water Reservoir

3. Sample collected by

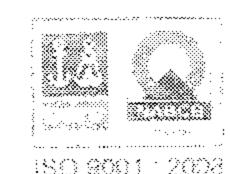
VCSPL representative in presence of Aditya Aluminium representative.

							Wind	Rain fal
	Temper	ature(°C)	Relative H	umidity (%)	Wind Spe	ed m/sec	Direction	(mm)
Date	Max	Min	Max	Min	Max	Min		
01-06-2018	36,60	26.20	80.10	32.40	1.2	0.0	SE	Ģ
02-06-2018	36.70	25.90	80.10	28.70	1.4	0.0	NE	G
03-08-2018	37.80	23,30	83.30	26.00	1.3	0.0	NE	4.8
04-06-2018	36.70	23.60	84.00	27.50	1.4	0.0	NNE	0.2
05-06-2018	37.90	27.30	79.70	27.60	1.2	0.0	£.	<u>.</u>
06-06-2018	37.30	26.80	81.80	32.00	1.43	0.0	EME.	ij
07-06-2018	36.60	27.60	81.80	35.00	1.1	0.0	NE	Õ
08-05-2018	34.30	24 70	88.00	44.20	1 3	0.0	NW	<u> </u>
09-06-2018	32.00	25.40	91.70	50.80	2.50	0.0	N	2.1
10-06-2018	33.10	23.70	97.20	50.40	1.11	0.0	NWN	30.4
11-06-2018	33.30	24.80	96.40	37.20	1.11	0.0	NE NE	24.3
12-06-2018	33.80	23.70	95.50	44.50	1.11	0.0	NNE	20.2
13-06-2018	31.30	23.90	90.70	51.20	1.67	0.0	E	10.1
14-06-2018	36.10	25,40	76.90	39.40	2.20	0.0	W	Ü
15-06-2018	37.80	27.90	64.70	23.0	3.06	0.0	NE NE	0
16-06-2018	38.00	28.40	55.10	26.00	3.06	0.0	NW	()
17-06-2018	38.80	28.50	55.70	19.00	2.5	0.0	SW	0
18-06-2018	38.70	28.60	50.30	26.00	3.06	0.0	58	Ç
19-06-2018	36.90	27.60	64.70	33.20	2.32	0.0	NE	9
20-06-2018	38.00	29.00	58.10	30.10	3 08	0.0	NE	Ĵ
21-06-2018	38.00	26.40	83.80	34.20	3.06	0.0	NE NE	0
22-06-2018	33.80	25.80	86 70	42 70	2.22	0.0	NNE	Ü
23-06-2018	35.90	26.50	82.80	34.60	3.33	0.0	NNE	••••••••••••••••••••••••••••••••••••••
24-06-2018	34.90	28.30	67.20	38.00	1.11	0.0	N	<u></u>
<b>25</b> -06-2018	35.00	27.80	72.70	40.00	1.67	0.0	N	<u> </u>
26-06-2018	31.10	25.20	86.00	51.20	1.33	0.0	SE	9
27-06-2018	27.60	25,00	87.30	71.20	0.83	0.0	NE NE	(),4
28-06-2018	29.80	25.10	88.70	56.00	0.00	0.0	W	2,4
29-06-2018	30.70	24.20	95.80	48.30	0.00	0.0	NNE	0.7
30-06-2018	34.40	25.60	88.70	39.40	18	0.0	W	4.5

For Visiontely Consultancy Services Pvt. Ltd.



(An Enviro Engineering Consulting Cell)



ISO 14001:2004 CHSAS 18001:2007

Ref.: Envilabo 18/R-9328

Date: 56/07/18

#### METEOROLOGICAL DATA FOR APRIL-2018

Name of Industry

M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga .

2. Sampling Location

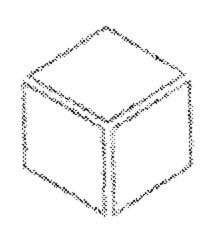
Near Raw Water Reservoir

3. Sample collected by

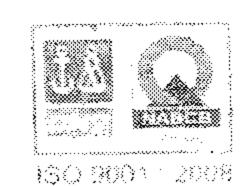
VCSPL representative in presence of Aditya Aluminium representative.

		~					Wind	Rain fall
	Temper	rature(°C)	Relative H	umidity (%)	Wind Spe	ed m/sec	Direction	(mm)
Date	Max	Min	Max	Min	Max	Min		
01-04-2018	35.20	23.40	79.60	9.40	2.2	0.0	SW	0.2
02-04-2018	35.30	14.10	79.60	19.00	1.67	0.0	SW	3
03-04-2018	36.60	22.50	82.00	16.40	1.67	0.0	SW	0
04-04-2018	36,30	23.40	76.50	19.00	3.8	0.0	NE	46.9
05-04-2018	36.80	21.50	61.20	19.00	1.4	0.0	W	0
06-04-2018	37.10	23.20	74.10	27.60	2.1	0.0	WSW	5.9
07-04-2018	35,70	22.60	75.90	19.00	3.1	0.0	WSW	<u> </u>
08-04-2018	34.10	23.90	60.90	26.00	1.2	0.0	WSW :	0
09-04-2018	35,20	24.10	82.70	28.30	1,4	0.0	V	1, 4
10-04-2018	35.60	22.90	77.30	26.00	1.1	0.0	NE	0
11-04-2018	36.60	25.50	72.50	19.00	3.3	6.0	SVV	Ú
12-04-2018	36.20	25.20	62.80	5.90	1.3	0.0	SW	Ü
13-04-2018	36,30	24.40	65.00	19.00	2.8	0.0	\$	Û
14-04-2018	36.80	24.80	\$1.40	19.00	2.1	0.0	SW	0.2
15-04-2018	37.20	23.20	62.10	18.20	1.3	0.0	SWS	Ũ
16-04-2018	38.00	25.60	51.50	19.00	1.8	0.0	SE	0
17-04-2018	38.40	22.00	95.50	19,00	2.2	0.0	SE	8.4
18-04-2018	39.70	23.30	83.20	17.30	1.3	0.0	£	0
19-04-2018	40.7	25.80	85.60	11.20	1,1	0.0	SW	Ĵ
20-04-2018	40.40	26.40	68.20	9.40	2.2	0.0	5	0
21-04-2018	40.80	9.50	68.20	10.30	1,2	0.0	5	0
22-04-2018	41.10	26.80	49.10	9,40	1.4	0.0	SW	0
23-04-2018	40.40	26.20	46.00	14.70	2.7	0.0	W	0
24-04-2018	38.70	25.10	56.30	10.30	2.4	0.0	\$W	G
25-04-2018	39.30	24.90	52.70	5.90	3,1	0.0	W	()
26-04-2018	40.90	24.70	57.90	5,90	1.8	0.0	SE	0
27-04-2018	37.30	25.70	55.20	19.00	2.1	0.0	W	Ü
28-04-2018	37.60	22.90	78.20	27.00	1.5	0.0	SW	÷
29-04-2018	36.10	21,90	80.80	29.70	2.2	0.0	SW	19.6
30-04-2018	38.00	20.20	98.90	28.00	15	0.0	and the second second	145

For Visiontek Ednsuftancy Sarkices Pvt. Ltd.



(An Enviro Engineering Consulting Cell)



180 (400) : 3004 OHSAS (800) : 2007

38.57

57.79

53.08

Ref.: Enwall to [R-9312.

Date: 06/57-18

#### NOISE MONITORING REPORT

Name of Industry

:M/s Hindalco Industries Ltd (Unit-Aditya Aluminium); Lapanga

2. Monitored By

52.59

Average

Standard as per

CPCB

CPCB

: VCSPL representative in presence of Aditya Aluminium representative

60.7

Day	time Noise monito	ring results (Noise	Level in dB (A))	June-2018		www.commonder.com/delectrics/dele	N7:Lapanga	
TIME. (6.00AM to 10.00PM)	N1:Gumkarma (07.06.2018)	N2:Ghichamura (07.06.2018)	N3:Bomaloi (09.06.2018)	N4:Tileimal (09.06.2018)	N5:Thelkoli (11.06.2018)	N6:Lapanga (11.06.2018)	Railway Station (16.06.2018)	N8:Jangaia (16,06,2018)
06.00am	42.1	29.6	33.1	36.2	57.4	47.6	53.4	31.2
07.00am	44.6	32.4	42.3	42.1	61.3	45.8	52.1	33.5
08.00am	50.9	36.1	43.1	41.7	62.7	51.2	63.1	42.1
09.00am	53.4	39.2	52.4	42.3	66.8	57.6	62.6	47.2
10.00am	60.2	41.2	53.2	45.2	67.4	53.8	612	41.7
11.00am	54.8	38.4	52.1	43.7	62.7	52.4	57.6	41.2
12.00 noon	44.2	39.2	49.6	39.6	58.4	49.4	53.2	39.2
01.00pm	41.7	33.5	44.8	36.7	51.3	47.8	51.2	33.6
02.00pm	47.2	31.4	46.2	38.5	52.4	46.7	48,3	33.1
03.00pm	51.3	33.2	46.7	37.3	51.5	51.2	51.7	31.6
····	58.9	41.2	51.4	52.1	60.4	51.8	63.2	33.4
04.00pm	64.3	41.9	53.4	53.2	63.7	61.3	64.1	42.3
05.00pm		50.4	57.1	51.7	66.5	60.2	61.7	51.5
06.00pm	62.1	57.2	53.1	51.7	66.1	63.1	65.2	42.4
<u>07.00pm</u>	57.2	and the second s	kija ja  46.4	61.3	56.7	60.7	39,2	
08.00pm	56.3	44.1	52.7	<del>~</del>	61.3	52.7	55.4	33.9
09.00pm *	52.2	40.3	49.2	413	01.3	24.	<b>3776</b>	₹8 ₹7

TIME: (10.00PM to 6.00AM)	N1:Gumkarma (07.06.2018)	N2:Ghichamura (07.06.2018)	N3:Bomaloi (09.06.2018)	N4:Tileimal	N5:Thelkoli (11.06.2018)	N6:Lapanga (11.06.2018)	N7:Lapanga Railway Station (16.06.2018)	N8:Jangalu (16.06.2018)
10.00pm	42.2	32.1	28.1	28.7	51.2	413	46.4	25.1
11.00pm	35.7	27.2	30.3	27.5	47.1	37.2	43.1	23.1
12.00 midnight	33.9	24.1	27.1	25.1	44.1	29.5	37.6	20.3
01.00am	31.4	21.7	23.4	23.7	40.2	29.2	32.3	20.2
02.00am	33.8	27.1	24.5	24.5	38.1	27.1	31.2	20.4
03.00am	36.7	23.5	23.1	23.1	33.5	25.2	33.1	20.1
04.00am	35.2	24.2	23.5	27.4	37.1	23.2	32.1	20.3
05.00am	36.5	23.1	24.1	25.4	41.3	24.1	33.1	22.3
Average	35.68	25.38	25.51	25.68	41.58	29.60	36.11	21.50
Standard as per				<b>ን</b> ቀየ' ሪ'ኒ				

43.73

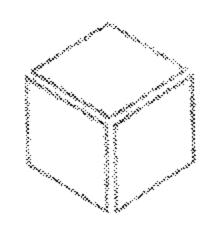
75

70

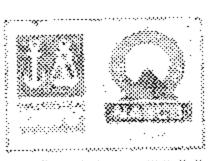
48.78

39.33

For Visionek Consultancy Sprices Pvt. Ltd.



(An Enviro Engineering Consulting Cell)



150 9001 12008 150 14001 (2004

OHSAS (8001: 2007

Ref.: Envelab/18/R-9393

Date: OS OF 18

## SOIL QUALITY ANALYSIS REPORT

Name of Industry

M/s Hindako Industries Ltd (Unit-Aditya Aluminiam): Lapanga

Date of Sampling

06,06.2018

3. Sampling Location

S-1: Project Site; S-2: Thelkoloi; S-3: Ghichamura, S-4: Lapanga:

S-5; Bamloi, S-6; Tileimal, S-7; Jangala, S-8; Gurupali, S-9; Gumkarama,

S-10: Bhadarpali.

Date of Analysis

: 07.06.2018 to 13.06.2018

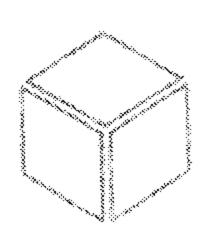
5. Sample Collected By

VCSPL representative in Presence of Aditya Aluminium representative

27.4 % 1	***	<u> </u>	S-2	S-3	S-4	5-5	S-6	<b>S-7</b>	5-8	S-9	S-10
SLNo.	Parameters Di	<u>~</u> 1	3 7	3.9	5.6	5.7	5.8	5.9	3.8		3.7 
<u>`</u>	Conductivity	102.8	91.2	38.6	96.7	97.1	893	79 1	78.8		78.1
		Sandy	Clay	Cay	Sandy	Sandy	Clay	Sandy Loamy	Sandy Loamy	Sandy Loamy	Clay Loamy
3	Soil Texture	Loniny	Loamy	Loamy	Loamy	Loamy	Loamy	34.3	33.2	414	19.2
4	Sand	37.1	17.8	31.2	40.2	41.2	17.1		and the second s		en en en en en en en en en en en en en e
5	Siit	10.1	21.4	17.9	18.2	13.4	17.6	114	17.8	16.7	(4.)
<u></u>	Clay	41.5	60.2	44.1	36.2	45.4	(0.7	43.2		46.2	51.3
***	Bulk Density (gm/cc)	1.23	1.23	1.31	1.32	3.37	1.33		27	1.33	\$ 3.7 200 A
8	Exchangeable Calcium as Ca (%)	33,1	31.0	44.0	34.7	42.0	370	39.7	41.8	42.2	39.0
9	Exchangeable Magnesium as Mg (%)	45.1	54.3	51.2	54.3	36 B	49.2	57 )	613	62.4	58.4
(()	Available Sodium as Na(%)	0.038	0.021	0,019	9.012	0.024	9.023	0.024	0.033	0.022	0.027
11	Available Potassium 25 K (%)	0.051	0.056	0.057	0.861	0.089	0.057	0.053	0.063	0.050	0 057
12	Available phosphorous as P (%)	0.017	0.022	0.027	0.019	0.018	0.018	0.016	0.031	(),((),b	6.1823
	Available Nitrogen as N (%)	0.18	0.21	0.17	0.18	0,13	0.17	0.24	\$ 14	0.18	0.17
granden den side y opgevoore	Organic Matter (%)	2.5	2.8	3.1	2.7	2.9	2.7	3.1	3.3	31	3.3
14		1.4	1.6	1.5	1.63	1.4	1.37	1 7	1.81	79	107
35 	Organic Carbon (%)	g gangangan an daga daga daga da sa		0.19	0.26	0.21	0.19	033	3.27	924	92)
36	Water soluble Chlorides as Cl (%)	0.19	0.27		d -fysiological (1997) -	***************************************	0.27	0 19	017	9.19	
19 AY 2 A A A A A A A A A A A A A A A A A A A	Water soluble Sulphates as SO <sub>2</sub> (%)	0.18	0.24	0.27	0.30	0.29				0 166	0 149
18	Sodium Absocytion Ratio (%)	0.167	0.129	0.125	0.141	0.139	0 147	0.152	0.149		er Navar eranda eran eran eran eran eran eran eran era
}\$	Aluminium as Al (%)	0.0002	0.66007	0.00006	0,00007	0.00005	0,800086	0.00007	i a (3005 <del>i</del>	0.0(33)4	1 00(8)08
<u></u>	Total iron as Fe (%)	0.087	0.033	9,04	0.07	0.06	0.04	0.05	0.03	3.92	0.027
21	Nianganese as Nin (%)	0.005	0.0011	0.0017	0.0021	0.009	0.0017	0.0018	0.3)014	0.0016	1 000H <del>1</del>
23	Beron as B (%)	0.00005	0.00014	5.00017	0.00021	0.00019	0.00017	8,00024	11.0(0)13	0.00015	0.0001
23	Zinc as Zn (%)	0.00021	0.00019	0,00014	0.00613	0.00011	0.00012	0.460)7	0.99015	5 987913	, opens
ou <b>nce</b> , or anni ferral della	\$10, (%)	<u> </u>	<u></u>	6.1	6.2	6.2	6.3	6.7	5.7	6.2	3.7
24 25	Fe(0:(%)	0.86	0.03	0.025	0.023	0.015	0.017	0.023	0,026	0034	5,636
26	C8O (%)	24.1	24.1	26.5	25.4	26.2	24.2	30	353	20.3	27.8
27	Nig() (%)	27.1	31.4	30.1	33.2	324	38.6	31.3	310	27.)	27 4 0.668038
28	Al <sub>2</sub> O <sub>2</sub> (%)	0,00004	0.00005	0.000041	0,000045	0.000637	0.000031	0.000038	0.000079	0.0224	
24}	Fe()(%)	0.081	0.0252	0.031	. 000	0,022	0.0242	0.0251		<u></u>	582487 
3 (*) 3 (*)	Vin() (%)	10000	0.0014	0.0015	0.0022	0.0058	0.0017	9,9016	14 (46) 21 1	0.0018	1 (50010 1
31	K(0 (%)	0.04881	0.0463	0.0421	0 0473	0.052	0.8301	0.044	0.0540	0.048	0.0523
32	P <sub>2</sub> O <sub>3</sub> (%)	0,8078	0.0073	0.0101	0.0080	0.0082	9.0082	0.0091	00102	01001	0.0072
ppianasis in the contract		0.0012	0,0b036	0.00031	0.00041	0.00054	0.00036	0.00026	0.(4):027	0.00023	0.00012
33	Fluoride as F (%)	V.VV1Z	\$ \$7,87874CV	- many garanta sayanda (il) 	,,,,,	,	? 	t. 	معند	, B. sagasineces, medianes escribes recent	e di Bernardo de Arte de Carta de Carta de Carta de Carta de Carta de Carta de Carta de Carta de Carta de Cart

ND: Not Detected.

For Asignal Consultancy Services Pvt. Ltd.



(An Enviro Engineering Consulting Cell)

1SO 9001 - 2008 180 14001 : 2004 CHSAS ISHOL 3007

# Ref.: Enward R-9294 SURFACE WATER QUALITY ANALYSIS REPORT

Name of Industry

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

Sampling location

SW-1:Hirakud Reservoir SW-2:Lapanga Pond: SW-3:Matwadinadi -U/S, SW-4:Bamloi Pond:

SW-5: Shedan river

Date of sampling

06.06.2018

Date of analysis

07.06.2018 to 13.06.2018

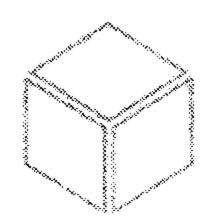
Sample collected by

VCSPL Representative in presence of Aditya Aluminium Representative

	Parameter	Testing Methods	<b>L</b> m <b>i</b> t	Standards as per IS-2296:1992 Class - C	Analysis Results					
SI. No					SW-1	SW-2	SW-3	SW-4	SW-5	
,	pH Value	APHA 4500H B	en +	6.0-9.0	7.3	7,1	7.2	7.4 CL		
	Colour	APFIA 2120 B, C	Hazen	310	C1.		and the same of th	AL	and the second s	
	TESTS	APHA 2160 C	year.		AL	AL	Al.	U/O	U/O	
4	Odour	APHA 2150 B	w.w.	w		U/O	UO į	91.4	83.1	
· · · · · · · · · · · · · · · · · · ·	Conductivity	APHA2510-B	µs/em		92.2	94.1	824	zananan karanan karanan da karanan da karan Tanan		
6	Turbidity	APHA 2130 B	NIU		2.1	3.5	2.2	4 !		
	Total Dissolved Solids	APHA 2540 C	ms/l	1500	110.0	124.0	111.0	121.0	107.0	
8	Total Hardness (as	APHA 2340 C	mg/l	***	51.0	53.0	57.0	61.0	47 () 47 ()	
9	Total Alkalinity	APHA 2330 B	mg/l		410	43.0	42.0	51.0	<del></del>	
<del> </del>	Calcium (as Ca.)	APHA 3500CaB	mg/l	4.0	10.4	[2.1]	13.2	16.4	121	
10	**************************************	APHA 3500Mg B	mg/l	*~	6.1	13	53	20 1	3.3	
11	Magnesium (as Mg) Residual, free	APHA 4500Cl, B	mç/i		ND	ND	ND	ND	ND ND	
3.25	Chlorine	APHA 4500B. B	my/l		7001		\ 0.01 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<(10)	<u> </u>	
13	Boron (as B) Chloride (as Cl.)	APHA 4500CFB	mg/l	6110	21.0	24.0	100	20.0		
******	Sulphate (as SO <sub>2</sub> )	APHA 4500 SO, E	mg/l	400	9.1	8.2	9.7	81	-8.4	
15	the state of the s	APHA 4500F C	mg/i	1.5	011	0.23	0.27	9.22	0.19	
16	Fluoride (as F) Nitrate (as NO <sub>1</sub> )	APHA 4500 NO: E	ing/i	Si	1.1	13	1.1		5.3	
3 }		APHAJ500-No	mg/l	**************************************	11.7	123	113	302	<u> </u>	
18	Sodium as No	APHA 3500-K	ing/1	en en en en en en en en en en en en en e	0.8	0.81	1.2	0.94	0.87	
	Potassium as K Phenolic Compounds	APHA 5530 B.D	mgi	U.005	- (0) (10) ]	<0.001	<0.001	-000	70,001	
	(as C. H <sub>3</sub> OH)  Cvanide (as CN)	APHA 4500 CN C.D	ms/i	0.05	ND	ND.	ND	NO	ND	
21 22	Anumic Dewreents	APHA 5540 C	mg/l	1.0	:0.2	0.2	0.3	\$ C	V0.2	
	(as MBAS) Cadmium (as Cd)	APHA 3111 B.C	1332/1	0.01	<0.003	<0.001	<0.001	<0.001	< 0.001	
23	na a na managan na managan managan managan managan managan managan managan managan sa managan managan managan m Managan managan	APHA 3114 B	T mg/l	0.2	<0.001	<0.001	<0.001	-0.001	0.001	
<u>)</u> 4	Arsenic (25 As)	APHA 3111 B.C		1.5	< 0.05	-0.05	40.05	0.05	00.05	
25	Copper (as Cu)	Control of the Contro		0.1	40.001	<0.003	<0.00 F	(A) () (C)	10000	
26	(lead (as Pb)	APHA 3111 B.C	mg/l	\$5.1	13/05	-0.308	1 -0.005	<0.005	<0.005	
27	Manganese (as Mn)	APHA 3500Mn B	mg/l	65 E	0.19	0.23	0.22	0.20	0.17	
28	Iron (as fe)	APHA 3500Fe, B	100/1	0.5	30.05	< 0.05	1 0000	40.03	<0.08	
39	Chromium (45 Cr )	APHA 3500Cr B	mg/i	. 0.05	4.0001	-0.901	70001	10001	<0.001	
30	Selemum (as Se)	APHA 3134 B	102/	15	-3) 05	-:0.63	70 Q5	< 0.03	1 0.05	
31	Zinc (as Zn)	APHA 3111 B.C	100/		40 (10)	<0.001	KD (90)	(1) ()(1)	0.001	
32	Aluminium as(Al)	APHA 3500ALB	mg/l	The Committee of the Co	(0,00)	70.001	0.001	(1) (10)	00001	
33	Mercury (as hig)	APHA 3500 Hg	ing/l		<0.001	(0.001	- 0 (8)1	(0.00)	0.001	
34	Mineral Oil	APHA 5220 B	mg/i	to the state of th	Absent	Absent	Absent	Absent	Absent	
35	Pesticides	APHA 6630 B.C	mg/l				Service Servic	Absent	Absen	
36	E.Coli	APHA 9221-F	MPN/1 00 ml		Absent	Absent	Absent		e application of the second second second second second second second second second second second second second	
37	Total Colifornis	APHA9221-B	MPN/I 00 ml	5()(3)	423		620		436	

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

For Vishmutek Consultant Services Pvt. Ltd.





150 **9**001 30

180 (400) 2004 OHSAS (800) 2007

- 1045

### SURFACE WATER QUALITY ANALYSIS REPORT

(An Enviro Engineering Consulting Cell)

Date: 05/07/18

Name of Industry

M/sHindako Industries Ltd (Unit-Aditya Aluminiam). Lapanga

Sampling location

SW-6: Bhedan river near Katikela SW-7 Manyadinadi-D/S:SW-8: Hirakud reservoir near Gurupali village.

SW-9: Salepali village: SW-10: Sanamal

6 Date of sampling

06.06.2018

Date of analysis

07.06.2018 to 13.06.2018

3. Sample collected by

VCSPL Representative in presence of Aditya Aluminium Representative

Sk No.	Parameter	Testing Methods	Unit	Standards	Analysis Results					
					SW-6	SW-7	SW-8	SW-9	SW-10	
	pH Value	APHA 4500H B	***	6.0-9.0	7.1	6.8	7.1	7.4	7.6	
2	Colour	APHA 2130 B, C	Hazen	300	CI.	CL	CL.	CL	CL.	
,	Taste	APHA 2160 C	· • • · ·	<u>u</u> .A	34	AI.	AL	AL.	AI.	
4	Odour	APHA 2150 B		w. <del></del>	UAO	U/O	UO ;	U/O	170	
3	Conductivity	APHA2510-B	µs/cm	ned?	95.1	92.7	1013	101.4	107.6	
6	Turbidity	APHA 2130 B	NTU	#c/xc	24	3.1	2.2	2.8	3.1	
	Total Dissolved Solids	APHA 2540 C	31144/1	1500	1190	121.0	136.0	124.0	136.0	
8	Total Hardness (as CaCO <sub>t</sub> )	APHA 2340 C	883 <u>8</u> /1		51.0	58.0	57.0	51.8	57.0	
5	Total Alkalinity	APHA 2320 B	mgj		46.0	\$1.0	47,0	49.0	47.0	
10	Calcium (as Ca.)	APHA 3500Ca B	mg/l	desert	14.8	16.5	17.01	[4.8	16.4	
	Magnesium (as Mg)	APHA 3500Mg B	my/i	7A-7A	4.	4.2	4.8	3.9	3.5	
	Residual, free Chlorino	APHA 4500CL B	may) i		ďУ	ND	ND .	ND	ND	
13	Boron (as B)	APHA 4500B. B	mg/l	Sec. o.	-0.01	-001	10.01	<0.01	10.01	
1.2	Chioride (as Cl.)	APHA 4500CTB	mg/l	600	17.0	(07)	21.0	23.6	210	
1.5	Sulphote (as SO <sub>x</sub> )	APHA 4500 SO <sub>4</sub> 2 E	mg/l	400	6.6	8.1	8.7	3.5	4,7	
16	Fluoride (as F)	APHA 4500F C	mg/i	1.5	0.22	0.27	0.26	0.28	0.19	
(7)	Nitrate (as NO <sub>3</sub> )	APHA 4500 NO <sub>3</sub> E	mgi	50	2.3	2.5	2,6	2.1	2.8	
38	Sodium as Na	APHA 3500-K	mg/l		101	9.9		11.4	12.4	
19	Potassium as K	APHA3500-Na	mg/l	هدرنند	0.91	0.82	3	1.3	13	
20	Phenolic Compounds (as CalloH)	APHA 5530 B,D	mg/l	0.005	<0.001	<0.001	<0.001	<0.801	-0.981	
21	Cyanide (as CN)	APHA 4500 CN C.D	mg/l	0.05	NO	ND	ND	ND	ND	
22	Anionic Deterpoots (as MBAS)	APHA 5540 C	nig/{	1.0		-0.2	-0.2	49.2	02	
23	Cadmaun (as Cd)	APHA 3111 B,C	my/I	0.01	<0.001	<0.003	-0.001	<# OUT	(d) (d)	
24	· Arsenic (as As)	APEA 3114 B	mg/l	0.2	<0.001	<0.001	<0.001	40 000 1	<b>-0.</b> 001	
23	Copper (as Cu)	APHA 3111 B.C	mig/l	1:3	<0.05	< 0.05	<0.05	<0.05	<0.05	
26	Lead (as Pb)	APHA MILL B.C	rn <sub>k</sub> /)	0.1	<0.00i	<0.001	0 (101	() <b>(1)</b>	(0.00)	
27	- Manganese (as Me)	APHA 3500Mn B	mgdi	entre proposition de la company de la compan	<0.005	<0.(8)5	<0.003	46.0us	10.00	
28	Iron (as Fe)	APHA 3500Fe, B	101§/Ì	0.5	031	17.32	0.34	0.23	0.27	
29	Chromium (as Cr *)	APBA 3500CYB	mg/l	0.05	08.03	(0.03	<0.05	< 0.05	0.05	
30	Selenium (as Se)	APHA 3114 B	mg/l	0.05	- 0.861	< 0.001	-0 (%);	10 00 1	<0.001	
31	Zinc (as Zn)	APHA 3111 B.C	me.	15	<0.05	-0.05	<0 05	- 13 (5	- 40 98	
30	Aluminium as( Al)	APHA 3500AFB	mm()	~~+	AC 001	(0.00)	+000	0.001	<0.00	
3 3	Mercury (as Hg)	APHA 3500 Hg	mg/l		0.001	< 0.501	<0.000 j	10 (00)	-000	
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Mineral Oil	APHA 5220 B	mgi	, a- w	<0.001	30 00 1	+0(0)	<u> </u>	(0.00)	
35	Posticides	APHA 6630 B.C	mgA	***	Absent	Absent	Absent	Absent	Absen	
36	E Coli	APHA 9221-F	MPN/100 ml		Absent	Absent	Abseri	Absent	Absen	
37	Yotal Coliforms	APHA9221-B	MPN/100 m	5000	317	436	488	334	file file	

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

For Visiontek Consultance Services Pvt. Ltd.